

The Tragedy of Individualizing the Commons

The Outcome of Subdividing the Maasai Pastoralist Group Ranches in Kajiado District, Kenya

by

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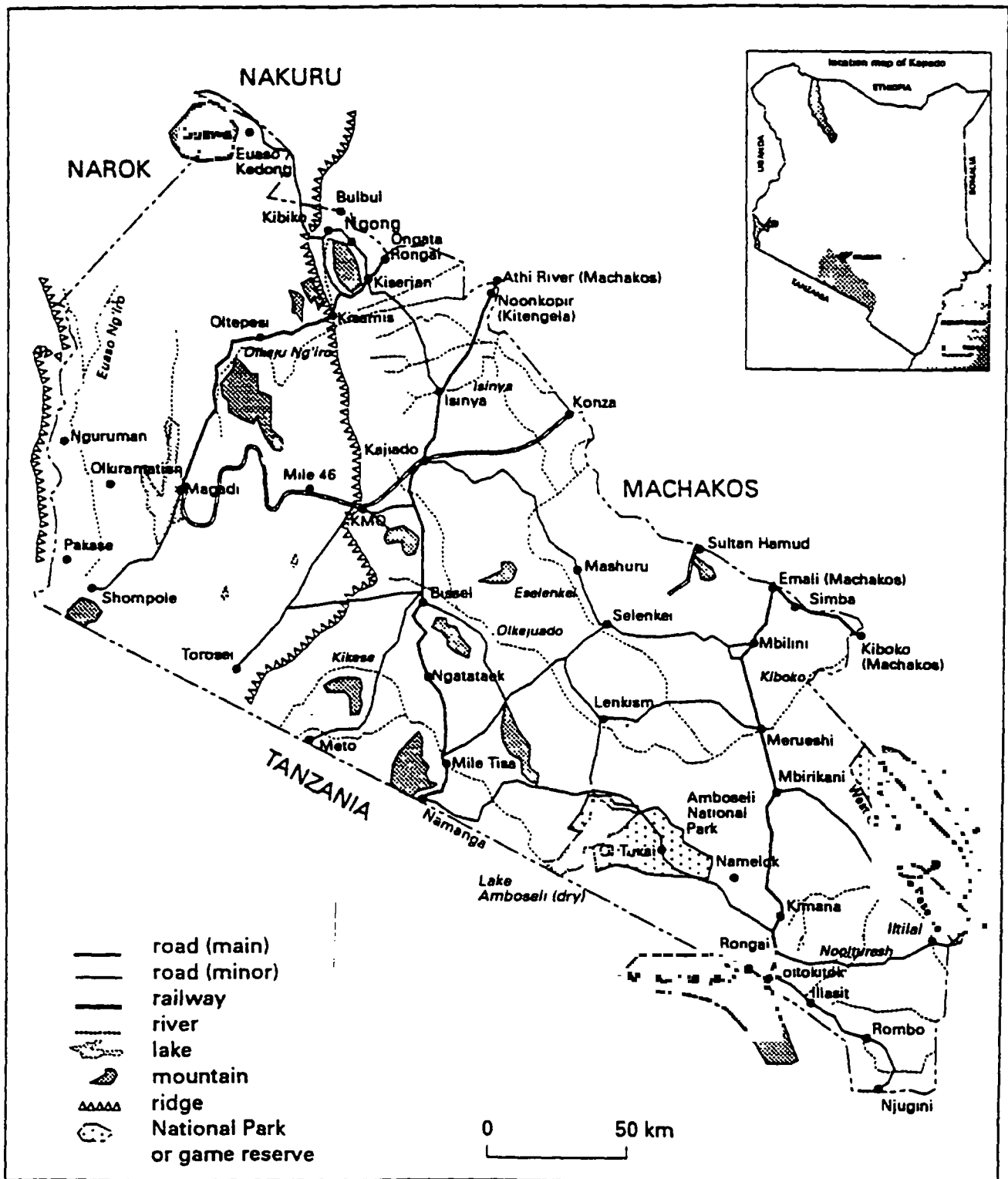


Figure 1 Location and Topography of Kajiado District

The Tragedy of Individualizing the Commons. The Outcome of Subdividing the Maasai Pastoralists Group Ranches in Kajiado District, Kenya.

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INTRODUCTION

This article is based on research carried out in early 1990 among the Maasai pastoralists of the Kajiado District, Kenya (see figure 1). The survey has foremost been a review of the Maasai pastoralists use and ownership of land from a geographer's perspective, while taking into account ecological, economical, and socio-cultural aspects. The process and consequences of the individualization of land ownership in the Maasai area as it developed over the last century has been studied and special attention has been given to the effects of the subdivision of group ranches started in 1986.

It tries to address the arguments used by opponents and supporters of this process of individualization of land tenure. In particular Garrett Hardin's view as expressed in 1968 that "each herdsman will try to keep as many cattle as possible on the commons (...) Freedom in a ruins brings ruin to all [and] the commons, if justifiable at all, is justifiable only under conditions of low-population density. The alternative (...) is the institution of private property coupled with legal inheritance" (see Hardin 1968).

The evolution of landownership will be presented chronologically, distinguishing four major periods. We will start our historic perspective at the end of the 19th century shortly after the first European, Joseph Thomson a young Scottish geologist, had been able to cross Maasailand from the Indian coast to the shores of Lake Victoria.

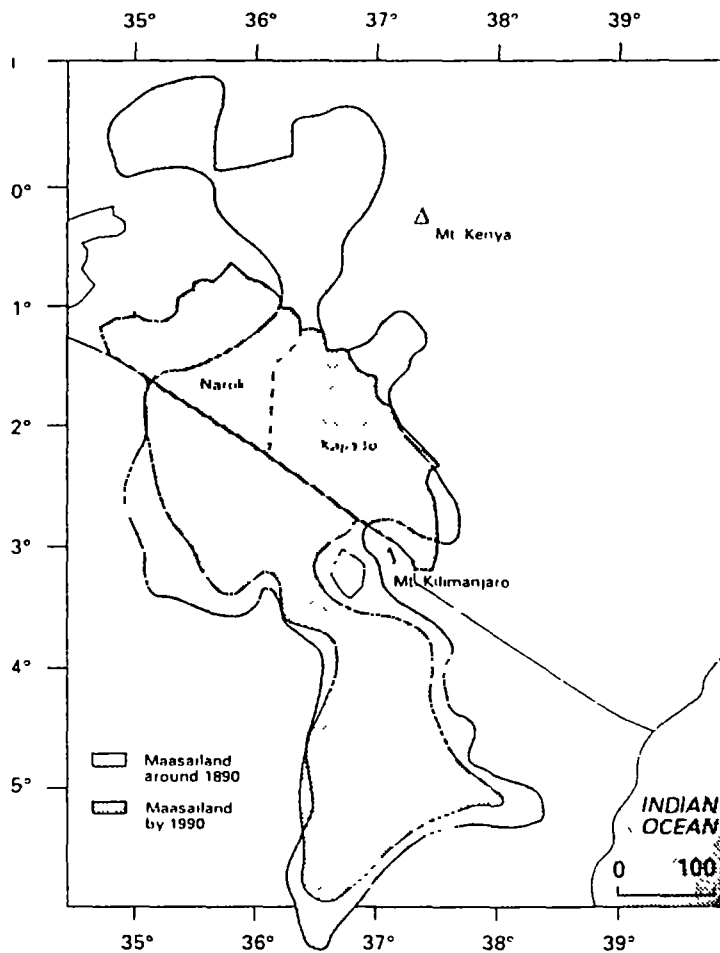


Figure 2 Maasailand around 1890 and 1990

MAASAI AND LAND: A Historical Review 1890-1980

A. 1890-1920: Arrival of the Europeans and the Formation of Maasai Reserves

Since the mid-19th century neighbouring agricultural and pastoral groups such as the Kikuyu, Kamba, Kalenjin, Pokot and Turkana had started to occupy certain patches of a vast area of some 160,000 km² which had once been firmly controlled by the pastoral Maasai. Approximately 60,000-70,000 km² of this territory was located in present day Kenya (see figure 2). Internecine wars amongst the Maasai and human and livestock diseases resulted in the death of some 90 per cent of all livestock and half of the Maasai population by 1891/92.

After the arrival of the British colonizers the pace by which the Maasai were losing their pastures was accelerated. To recover part of the high costs involved in the construction of the "Uganda Railway" linking the port of Mombasa with Lake Victoria settlers were invited to come to the East Africa Protectorate by offering large grants of land (up to 10,000 acres) at extremely low prices. African land rights were overruled and violated in every respect. As non-Europeans were excluded from acquiring land, this resulted in a segregation of the population along racial lines. The high-potential areas north of Nairobi became ultimately known as the "White Highlands".

At the turn of the century plans were made by administrators in a close though unofficial alliance with influential settlers to remove the Maasai from their best grazing areas. In 1904 a treaty was signed between the British and Maasai which meant a renewed division of Maasai territory into a northern and southern reserve totalling some 24,000 km². This was a reduction to some 35-40 per cent of their former territory. In fact the Maasai were presented with the most inferior cigars from their own cigar box, as both areas were traditional Maasai pastures, while this offer also meant the loss of their best pastures near Naivasha (see figure 3).

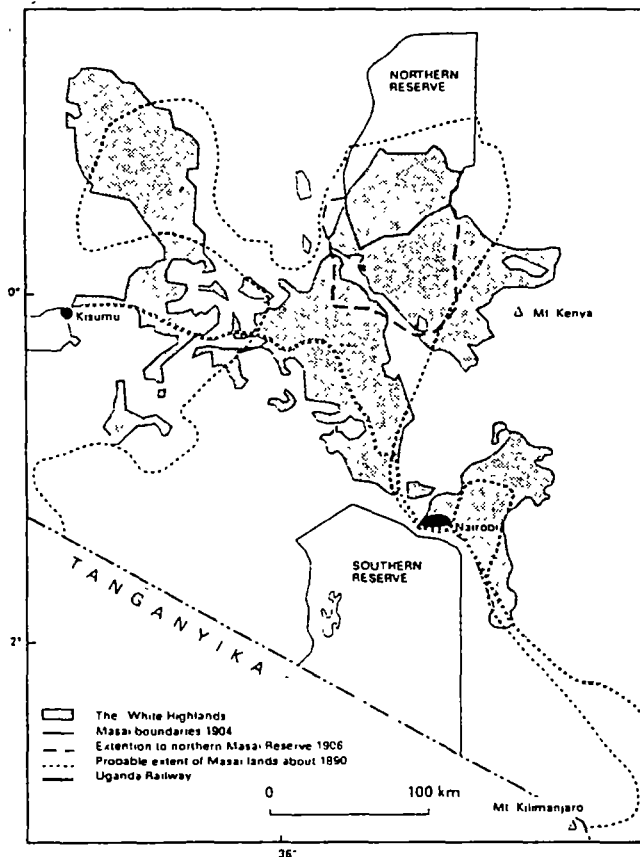


Figure 3 The Northern and Southern Maasai Reserves by 1906

In 1911 the "Second Maasai Treaty" was signed making it possible to remove the Maasai from the north to an extended southern reserve. The extended Southern Reserve totalled over 36,000 km². By April 1913 the move was complete. Approximately 10,000 Maasai, 200,000 head of cattle and 550,000 sheep had been moved since June 1912 (see Sandford 1919:36). The Maasai had bitter feelings towards their removal from the Northern grazing pastures. They felt betrayed by the British to whom they had always shown their loyalty.

The 1915 Crown Lands Ordinance allowed the extension of leases to settlers from 99 to 999 years, removed restrictions on the accumulation of land and extended the definition of Crown land to 'all lands occupied by the native tribes and all lands reserved for the use of any members of any native tribes.' This last clause allowed the Governor to extract reserve land for lease or sale to white settlers while Africans and Asians were still excluded from purchasing land outside the reserves. The new Ordinance was a victory for the settlers and the local Government officials who supported it. In the end, of the 31,000 km² of European maximum settled land area (excluding forest reserves) 18,000 km² were former Maasai lands.

B. 1921-1944: The Period of Neglect

In 1924 the Maasai Reserve was renamed Maasai Province. The total area comprises approximately 39,000 km² when including minor adjustments made since the creation of the Maasai Reserve District. In 1926, the interdistrict boundary between Kajiado and Narok District was, at its northern part, shifted to the east and the Ngong Headquarters transferred to Kajiado Township. Estimates in 1930 for the Kenyan Maasai and their livestock reached some 48,400 people, 720,000 cattle and 820,000 shoats residing in a Maasai Reserve comprising some 39,000 km². The size of herds stayed within the potential carrying capacity of the Maasai Reserve.

However, the actual carrying capacity will have been lower due to the huge numbers of wildlife sharing the Kajiado pastures at that time. Also, some localities within the Reserve were heavily infested with tsetse flies or lacked sufficient water. As we have seen the latter was (partly) the result of the Maasai Treaties and the consequent loss of watering points for the benefit of white settlers along the Maasai Reserve's northern boundary. Approximately 40 per cent of the Reserve was, as a result of these problems, considered to be useless or, at best, of low value.

In addition agricultural groups like the Kikuyu looked hungrily towards Kajiado District, in particular at the slopes of the Ngong Hills, the Ol Doinyo Orok near Namanga and Mt. Kilimanjaro, being the areas suitable for cultivation. However, a special permit was needed to enter the Maasai Reserve. The official policy was to prosecute and return all Kikuyu living in that reserve who could not claim by long residence or circumcision rights to have become Maasai. The attitude of the Masai to this problem is not easy to understand or explain. As a tribe they have been emphatic in refusing to agree to impenetration but as individuals they have welcomed the Kikuyu' (MIRMD 1936-December:6/7).

Another zone of influx was the area around Loitokitok on the slopes of Mount Kilimanjaro. Kamba labourers started some cultivation around Loitokitok which was occupied in 1921 as an administrative station. 'Certain advantages accrued to the Akamba and Masai for the area occupied was good agricultural land but useless for stock, owing to "fly". The clearing of the bush would have led eventually to the extermination of the "fly"(KDAR 1930:6). Chagga from Tanganyika employed a similar strategy as the Kikuyu in the north-west. '(..) by the 1930s individual Maasai were owning plots which were cultivated either by their Chagga wives or by Chagga labourers hired by the Maasai. A major incentive to cultivation was the frequent failure of the rains which led to losses of livestock and encouraged the Maasai to seek alternative sources of subsistence' (Campbell 1981:218).

Although the Carter Commission (see below) had established the boundaries of the Reserves for every group in Kenya the influx of Kikuyu, Kamba and Chagga in the

Maasai area continued in the late 1930s and became a major point of concern for the Maasai. They repeated their protest against the loss of land, including some minor disputed areas along the Uganda Railway and its Magadi branch, totalling some 720 km², to the Kenya (or Carter) Land Commission installed in 1932 to review African land grievances. The Maasai furthermore requested the removal of the artificial boundary between them and the Tanganyika Maasai and aired their wish to be reunited. Finally, they requested the handing back of the Laikipia area as parts of it were still available to or occupied by other ethnic groups like the Samburu.

The final report of the Kenya Land Commission reaffirmed the policy of the Administration towards pastoralists in totally opposing any extension of their land. In fact, the Commission, which had not given serious consideration to the Maasai grievances, blamed them for having so much land to the detriment of Europeans and other African groups. Following the recommendations of the Carter Commission the Maasai Province was renamed by proclamation No. 109 in 1933 as the Maasai Extra Provincial District. Its area totalled 39,291 km². Kajiado District amounted to almost 22,000 km². Other recommendations of the Carter Commission resulted in the proclamation of the new land legislation by way of the Native Lands Trust Ordinance 1938 and the Kenya (Native Areas) Order in Council 1939. The Crown Lands (Amendment) Ordinance, 1938, defined the various categories of land: 1) 'Native' instead of 'Crown' land in the case of the original reserves, 2) Temporary Native Reserves and 3) Native Leasehold Areas (see Sorrenson 1965:689).

C. 1945-1963: Grazing Scheme Experiments in Land Management and Development

After the War the African population, mainly Kikuyu, started an active opposition which ultimately resulted in a struggle for freedom. The winds of change had also swept through British Colonial policy resulting in less sympathy for the dominance of Kenyan affairs by settlers.

These congruent developments resulted in an erosion of the influence of settlers by the beginning of the 1950s. African groups began to gain some influence in the National parliament. Economic reform programmes were proposed for the African Reserves, including the semi-arid rangelands to develop the economic potential they were "discovered" to possess.

Much attention was also given to the question of land consolidation and the change of land tenure in the high-potential zones. In 1945 Senior District Commissioner Lambert wrote a memorandum on the topic of Land Tenure policy in the native Lands of Kenya. He recommended the acceptance of an interim policy of individual rights subject to community control. The indigenous system of control should be preserved, recognised and used. Still this should not be regarded as the final stage in the evolution of the African system of land tenure in Kenya (see KNA/PC/NGO/1/3/14).

In spite of Lambert's ideas on making use of indigenous systems of land control, in the opinion of the British Administration, traditional grazing control among the Maasai in their semi-arid areas had been inadequate and become even more difficult to implement with the abolition of section boundaries which allowed free grazing for the Maasai pastoralists throughout the whole of Maasailand as had been decided by their Joint Local Native Councils of Narok and Kajiado District in June 1946. This decision conflicted with the British aim to implement a grazing control plan for each Maasai section by restricting the movement of stock from one section to another so as to enforce an economic limit within the boundaries of each section. So far the Maasai had only agreed to allow a specific number of animals in the vicinity of a borehole. If this number was exceeded the borehole would be closed in order to give the area a "rest". A request by the Officer in Charge of Maasailand in 1947 to reintroduce the section boundaries was not honoured. Nevertheless, in 1948, the Kaputiei attempted to exclude the Maasai of other sections from grazing in their area.

Despite opposition from the Loitokitok-Kisonko an agreement was reached in principle to reintroduce the section boundaries. However, in spite of intensive propaganda by the British Administration, they were never implemented. Throughout the first half of the 1950s, co-operation between different *il-oshon* was excellent. The above average rainfall of the 1950s, particularly of 1951, 1954 and 1957, resulted in an abundance of grass and water all over the district and must have reduced tension between several sections. The Maasai did co-operate with the Colonial Administration by accepting more comprehensive grazing control measures. To guide this process it was decided to opt for a phased programme.

Firstly, a selection was to be made of a limited number of stockowners who were allowed to water their cattle at each borehole. A maximum of 2,000 cattle were permitted around one borehole. Borehole permits were issued to stockowners selected by their section councils. Secondly 'with the number of stock using the boreholes limited and with the owners paying for the privilege of use by subscribing to a renewals fund, each area served by a borehole should, with guidance and control, eventually become a form of ranch unit' (KDAR 1952:1). A few years earlier the Maasai had already agreed to a ranching experiment near Konza.¹

By late 1952 a drought had hit the whole of the district and it continued into 1953 and resulted in the death of a considerable proportion of the Maasai stock. This experience affected a change in the ultimate objective of the Kajiado development plan which had originally envisaged the division of the district into ranch units. 'Further investigation has shown that whereas this may, in conjunction with heavy stock reduction, be feasible in the Kaputei Section south of the Mombasa railway line, a large area of the district is, by reason of climatic and geological conditions, unsuitable for a static form of ranching' (KDAR 1953:1).

However, the Plan to Intensify the Development of African Agriculture in Kenya of 1954 by the assistant director for Agriculture R.J.M. Swynnerton stated that 'In general it may be said that any land naturally suited to settlement has already been occupied, often very densely. There are certain exceptions, e.g. in Masai, Mau-Narok and Trans Mara, not fully or agriculturally occupied for political reasons. Of the remainder of the colony three-quarters is semi-arid and, except in limited areas, occupied by pastoral tribes' (Swynnerton 1955:7).²

Still the Plan also "discovered" the semi-arid regions to be a potential asset to Kenya's economy. 'The bulk of the 6,000,000 cattle in Kenya lie in the pastoral areas, in the main semi-arid. If the value of the bulk of the necessary annual take-off of 650,000 head can be raised from £2 to £10-£15 apiece, that gives some idea of the potential value of stock in

¹ In 1949, the pilot Konza grazing scheme went ahead with 12 (selected) families entering the scheme, bringing along approximately 1,285 head of cattle who had been in quarantine for some time. The 36 square miles area, completely fenced, was divided into 4 paddocks of 9 square miles each. Two boreholes were installed and a cattle dip and a manager and a veterinary assistant were posted to Konza. The scheme proved to be an unqualified success in a year which had brought drought and rinderpest to Kajiado District. The only problem seemed to be the maintenance of the fence which had been broken into several times by game (especially zebra and larger buck).

The abundant rains of 1951 led to a sudden transformation of the district into a land of plenty. This made the Maasai less receptive towards propaganda concerning the planned development of their land based on the reduction of stock and controlled ranching. Moreover, it had become clear that the better condition of the Konza stock in a favourable year had only been due to dipping. Grazing management which included fencing and other costly measures or restrictions did not therefore seem to be as necessary as had been propagated.

By mid-1961 all residents had left the Scheme and the area was closed for grazing. The Konza Ranch was not to open again. The Scheme was subdivided into 8 individual ranches of varied sizes in 1964.

² The British Government eventually provided £16 million for this Five-Year programme of land consolidation and registration. The idea of communal land ownership had been dropped unofficially as early as 1950 by the Department of Agriculture. Neither the Land Bank nor the commercial banks were interested in lending money to African farmers without individual security provided by way of a land title. Traditional land tenure had to be removed as it was considered as blocking the way towards the intensification of African agriculture. In future, the creation of a landless class was predicted, but considered to be a normal step in the evolution of a country. Together with a lifting of the ban on the growth of cash crops by African farmers, provision of security of tenure, technical assistance, water improvement, agricultural education, credit and marketing facilities, the income and standards of living of the people should be raised, while at the same time a substantial increase in the resources and economy of the Colony would take place.

these areas' (Swynnerton 1955:62). To improve the productivity of the semi-arid pastoral areas five measures had to be taken:

1. limitation of the number of livestock to the carrying capacity of the land
2. provision of regular outlets for the absorption of all excess stock
3. construction of an adequate system of permanent water supplies.
4. maintenance of the grazing areas at a productive level
5. eradication of tsetse

Activities and finances of ALDEV were integrated into the Swynnerton Plan. The main concern remained the limitation of stock numbers, as it was thought that without this no satisfactory development could be achieved. Disease control had the lowest priority, marketing and grazing management the highest. Field abattoirs, Grazing Schemes based on groups using a certain borehole, creation of schoolfarms to teach the children modern practices of husbandry, and pasture research were the major means initiated to reach the above mentioned objectives.

Although the Swynnerton Plan mentioned the high potential value of the pastoral areas, all in all only marginal attention was given to these areas as compared with the other more fertile areas on which the main and strongest opposition to the British Colonial Government was to be found. Money invested in Grazing Schemes should be recoverable, so for the semi-arid areas loans were preferred above grants some of which were nevertheless provided.

Grazing schemes were established with funds released through the African Land Development Programme (ALDEV). 'More than £43,000 [of the £800,000 available for the whole of Kenya] has been spent in the Kajiado district on grazing scheme development since 1947, much of which has been raised by the Masai through self-tax levies' (Fallon 1962:22).³

The first scheme was established in the Kisonko area located in the eastern part of Kajiado District in 1954 and included three traditional clan areas making a total of 5,265 km². £25,000 was set aside by ALDEV of which £10,000 was a loan. Grazing principles were based on the traditional use of the area which was then extended by means of strict grazing controls enforced on a clan basis by Grazing Committees. For this the committees made detailed plans for the use of several areas as soon as the wet season started. The main aim of this scheme was the lengthening of the time in which wet weather grazing areas could be used by staying as long as possible in the dry weather zone. Tanks and dams were constructed, a Livestock Officer installed to supervise grazing management and new roads were opened up in the section area.

The prolonged drought of 1956 was a difficult challenge to the Grazing Committees. Areas which it had been agreed should be rested for a year or even longer had, in the end, to be reopened to grazing owing to force of circumstances and public opinion. It was proposed to give the 18 Grazing Elders powers under section 13 of the Masai Land Usage By-Laws to take cases of orders before the African Court in the hope that they would become more fully aware of their responsibilities. However, the Administration fully realized that 'owing to the vagaries of the rains it cannot be expected that an even pattern for grazing control will ever be achieved in Il Kisongo' (KDAR 1957:16). This was proved in 1959 when any controls had to be abandoned as cattle based on the scheme had to go far afield in search of grazing even trespassing into Taveta, Tsavo and Tanganyika.

Other Schemes started in the 1950s were the Matapato Grazing Scheme (1957, 880,000 acres, £4,956 grant) and the Loodokilani Sectional Scheme (1959, 1,920,000 acres, £3,639 grant). Both schemes had a bad start due to drought and to a lack of officials. The

³ The "Masai African District Council (Grazing Control) By-Laws, 1955" conferred broad powers upon the Livestock Officer in charge of a scheme, including: 1) determination of those approved to graze livestock in the scheme; 2) the number of animals each is to be allowed to graze; 3) the area to be grazed (see Fallon 1962:25). These rules allowed the levying of fines up to Ksh. 1,000 and/or 6 months imprisonment. However, when setting up the Scheme it was agreed that co-operation should be on a voluntary basis and should be without recourse to the imposition of grazing fees for individual cattle. As with Konza, the alternative would have been to have had no scheme at all.

Konza grazing experiment and other surveys had made clear before the introduction of the Grazing Schemes that an idea to divide the district into a specific number of ranches was unsound from an ecological point of view.

By 1960 all Maasai sections had applied for better water supply schemes such as rock catchments, dams and sub-surface dams. Government officials, however, combined their possible approval of such schemes with the requirement of grazing control. Nonetheless, it should be realized that: '(..) much of the incentive for these new schemes was political in nature. Sensing the winds of change that would sweep independent African governments into power in a few years time (..) most of the schemes initiated in Maasailand during the 1950s were hastily conceived, poorly designed, improperly implemented, and, above all, essentially planned for rather with them. There generally was no provision in the plans for innovations in human organizations to accompany the introduction of new technology and grazing techniques. (..) And not surprisingly, virtually all of these schemes failed within a few years' (Jacobs 1980:294). Indeed by the end of 1961, the Kisonko Scheme had been suspended and was never re-activated.

Local level Maasai politicians in Kajiado District had started acquiring large individual ranches without the legal means to do so since 1954. Support for these individuals was, however, provided by the Local County Council, not infrequently because of private interests. It is exactly this link between Local Councils that had made Lambert state that land should be controlled by an independent Land Control Board based on indigenous structures.⁴

The Colonial Administrators expressed their concerns, but did not actively oppose this development. Two thousand acres were the maximum allowed for every individual ranch. By 1959 interest in individual ranching, especially in the Kajiado and Dalalekutuk area, had increased. However, in 1960 the authorities concluded that 'There will obviously have to be some re-planning with regard to ranches. Few of the applicants have the desire or the capital to make any serious attempt to ranch' (KDAR 1960:20).⁵

Nonetheless, by 1960, grazing schemes, individual ranchers and non incorporated Maasai were suffering alike from the severe drought.⁶ The drought did not stop other, mostly

⁴ The Reverend Daudi Mokinyo, a progressively minded Maasai who had been working with the Ngong Veterinary Station, got permission from the Loodokilani section to start his own individual ranch, keeping cattle on modern lines under the strict supervision of the Veterinary Department. Permission was granted because of a recommendation by the Kajiado Development Committee. The 4,000 acre ranch, named Oloisur, was located approximately 10 kilometres south of Toroka Station on the Magadi branch railway. A loan of £1,000 was obtained to install a borehole and a handpump and for the acquisition of an improved bull from the Ngong Livestock Improvement Centre. However, water could not be found by boring on the Oloisur ranch and, in 1956, an alternative ranch of 2,000 acres was offered, named Asembokeke, by the Loodokilani Section Council in the upper reaches of the Toroka river.

In spite of this difficult start another application by Mr. Oladaru ole Kordede for an individual ranch of 800 acres in the neighbourhood of Kajiado Township was supported by the African District Council in December 1956. In 1957, the Dalalekutuk section set aside twelve square miles of land near Kajiado for ranching by progressive Maasai, primarily from that section. However, the terms of entry, including the sale of stock to produce 50 per cent of the initial capital required for water restricted the number of applicants to only two. Meanwhile Reverend Daudi Mokinyo succeeded in finding water on his new ranch. He bought six more breeding animals from Ngong and put up a thorn barricade round the perimeter.

⁵ Whatever the main reason for *purchasing* an individual ranch, one needed to be wealthy person to *develop* it. It was necessary to have an area with good grazing, trees and water, to fence it properly and put something back into the soil. It was estimated that at least £10,000 (or the sale of approximately 1,000 cattle) per ranch would be required to make anything of the ranches near Kajiado. The Reverend Daudi Mokinyo had severe difficulties in meeting his loan repayments at a rent of 6.5 per cent per annum. Fallon writes: 'I am unable to see how the settlers can meet high interest rate - short term loan requirements. (...) There appears to be little likelihood of success for the ranching program unless long term loans with low interest rates (2 to 3 per cent per annum) can be made available for necessary ranch and farm developments and livestock purchases (..) Individual ownership or control should be encouraged. It must be remembered, however, that individual ownership alone can not guarantee proper land use' (Fallon 1962:28).

⁶ The Annual Report 1960 reveals how Reverend Mokinyo was able to meet the terms of his loan. 'The Rev Daudi Mokinyo has not made much progress but he is making a living though he tends to depend on charcoal burning and sale of zebra skins to make ends meet. The former is to be discouraged if he does not replace each tree cut down. He also wishes to open a butchery in Kajiado and a shop on his ranch' (KDAR 1960:21).

young and educated, Kaputiei Maasai from obtaining individual ranches. Initially it was the Kaputiei Development Committee who proposed registering the Kaputiei area under one title deed in possession of the Kaputiei section. This idea was not accepted by the authorities as it would not stimulate commercial changes. It seems as if the Kaputiei region in general and the high-potential Ngong area in particular were thought to be suitable for commercial ranching purposes needing the prerequisite of individual or cooperative forms of land tenure. Advice given by various researchers such as Jacobs, Heady and Fallon in the early 1960s, however, pointed to the risk of subdivision leading to unviable small units. But in the high-potential Ngong area the phenomenon of individual landownership expanded rapidly. A programme of land consolidation, enabling the division of the area into individual ranches, was set up in the Ngong area in 1961. This development, though opposed by the elders, was favoured by the young and educated Kaputiei and backed by the Kajiado County Council.

Several authors (Hedlund 1971 and 1979, Muranja 1973/74, Peron 1984) have mentioned a number of reasons for the acceptance and growth of individual landownership in the Kaputiei region: the formation of a buffer of individual ranches at the fringes of the Maasai area to stop the illegal intrusion; the strong position of young influential Kaputiei politicians who created a political clientele by handing out title deeds to supporters and who tried to reduce the social and economic dominance exerted in daily life by the elders; the wish to settle down and start commercial enterprises as shown by neighbouring groups; the group of Kikuyu-Maasai, who had been accommodating their landless brothers from Kikuyu land, also strongly supported the land consolidation programme. By 1963 approximately 24 individual ranches existed, located in all parts of the District.

In addition to the grabbing of land from within the land resource base available for Maasai livestock herding started to dwindle as more agriculturalists started to infiltrate and occupy the high-potential dry season grazing pastures.

In an effort to control the ever increasing infiltration of aliens a special Committee of the Kajiado Local Native Council was installed in August 1949 to examine individual applications and to check on the credentials of recent arrivals. The policy was that each prospective immigrant had to be approved by a Section Committee and by the Local Native Council before he could be permitted to reside in the District.

In 1951 the Maasai Council passed the Land Usage By-Laws empowering section councils to control the spread of cultivation in their areas. This and the Local Native Council Immigration Committee resulted in the reduction of agricultural activity in Kajiado District by 1952. During the Emergency, the only possible way to enter was by acceptance of the Maasai Committee or by the acquisition of a special pass for residence in the district issued by the local authorities. Nonetheless, in a letter from the DO Ngong addressed to the PC Southern Province, 6th June 1954, it was concluded that 'The area is fast becoming "defacto" a Kikuyu reserve. The Masai must consider who are allowed to bring aliens into the area. The term "accepted by the Masai" is far too loosely interpreted' (KNA/PC/NGO/1/1/16).

In 1957 it was recorded that the Kikuyu continued to come into Kajiado District without legal documents and despite the imposition of heavy fines. When, by 1959, the Emergency was ended, administrative action had to be undertaken to control the huge influx of Kikuyu into the Ngong area in particular. In 1960 1,200 acres were surveyed and distributed to twenty selected Maasai farmers. Pressure had arisen among the Kaputiei to start land consolidation along the line of individual ownership (see above). This development was warmly welcomed by the Kikuyu, who had learned through experience that once land is consolidated and land titles issued it was possible to carry out land transactions through the instituted Land Boards' (Muranja 1973/74:58).⁷

The instalment of the Amboseli Game Reserve and Nairobi National Park, partly in response to an international conservationist lobby, put a further strain on the availability of

⁷ Supported by a £3,000 ALDEV grant land consolidation began in Ngong in August 1961. In the same year Ngong was gazetted under the Land Registration (Special Areas) Ordinance. This measure was taken to prevent people from outside the area coming to claim land. The 1962 population census of Kajiado District showed 53,219 Maasai and 15,192 non-Maasai of which 6,233 were Kikuyu, most of them living in the Ngong region.

land for livestock.⁸

Moreover, with negotiations begun at the 1961 Lancaster House Conference to handover power to the African population in an independent Kenya, the Maasai feared that the influx of outsiders into their area would grow into enormous proportions. Indeed, spokesmen of the agricultural Kikuyu, the most powerful African group at the time, repeatedly said that an Independent Kenya should be a country where every person was free to live. The Maasai feared that Independence would end the Maasai Treaties of 1904 and 1911 which gave them exclusive rights to occupy Kajiado and Narok Districts.⁹

After organizing themselves into their own political party the Maasai went as far as to request the United Nations to recognize a Maasailand which comprised of Tanzanian and Kenyan Maasai. This proposal was as much condemned to fail, as the Maasai request to the British Government to hand back the former "White Highlands". A claim for £5,800,000, to be paid by the British as compensation for the use of Maasailand since 1904 was also rejected.

At the Lancaster House Conference KANU, headed by the first president of the Republic of Kenya, Jomo Kenyatta, expressed the view that the present provincial boundaries should be retained and simply renamed regions. 'Regionalism will promote tribalism and result in chaos. (...) There should be freedom of movement in the Kenya of the future and the people should not be insulated by tribes' (RBC 1962:45). The Masai United Front was incorporated into the Kenya African Democratic Union (KADU), a political party containing mainly the smaller ethnic groups of Kenya as opposed to the Kenya African National Union representing the influential Kikuyu, Luo and Kamba. KADU proposed the creation of one big Rift Valley Province which would include the Maasai, Kalenjin, Samburu, Turkana, Pokot and other mainly semi-nomadic groups. This proposal was honoured by the Commission.

D. 1963-1980: The Formation of Group Ranches

Discussions concerning the status of Maasailand reached a height in the early 1960s. Among the Kaputiei Maasai, in particular, the land tenure debate was significant. A wide variety of propositions such as the registration of the section under one title deed or the creation of a fringe of individual ranches near the northern boundary to stop illegal infiltration were discussed. The Colonial Authorities disagreed with the one title deed option. Young and formally educated Maasai supported by the Kajiado County Council suggested the idea of individual ranches. Elderly Maasai opposed the move to individualization. Support for the latter was given by the Lawrance Mission of 1965 that criticized the haphazard approach of the government to the Maasai land question and the illegal approval of the creation of individual ranches. In the end, all of the Maasai sections accepted the group ranch concept as introduced by the Kenya Livestock Development

⁸ By December 1946 Nairobi National Park (117 km²) was officially proclaimed and the Maasai totally lost access to it. In 1947 the 3,260 km² Amboseli National Reserve was created, the boundaries being arbitrary and not prohibiting Maasai movement. In later years Ngong National Reserve (1949/512 km²) was gazetted, while West Chyulu (1961/373 km²) and Kitengela (1965/530 km²) became Game Conservation Areas where hunting was prohibited. The Southern Game Reserve, enclosing a large part of Kajiado District, was degazetted in July 1952. In 1958 a first agreement was reached whereby the Maasai agreed to restrict human beings and cattle numbers from 20,000 to 7,000 head of cattle only. By 1959 Governor Baring had to assure the worried Maasai that the land at Ol Tukai was theirs and would not be taken from them (see KDAR 1959:4). In 1961 the administration of Amboseli was handed over to the Kajiado County Council. Soon afterwards the Council set aside a 78 km² stock-free area which would protect the council's wildlife assets (see Western 1982:304). Amboseli National Reserve was renamed Masai Amboseli Game Reserve.

⁹ African Delegates from Nyanza and Nyeri, both densely populated areas, had protested as early as 1959 against the closed status of the Maasai districts and had called for the integration of the land and all the ethnic groups in Kenya. It was wrong to talk in terms of Masailand. "it is African land, Kenya land" (EAS 05/09/59). Their appeal was not successful as it was by the late 1960s before the status of closed district was withdrawn.

Project sponsored by the World Bank in 1969 (see figure 4).¹⁰

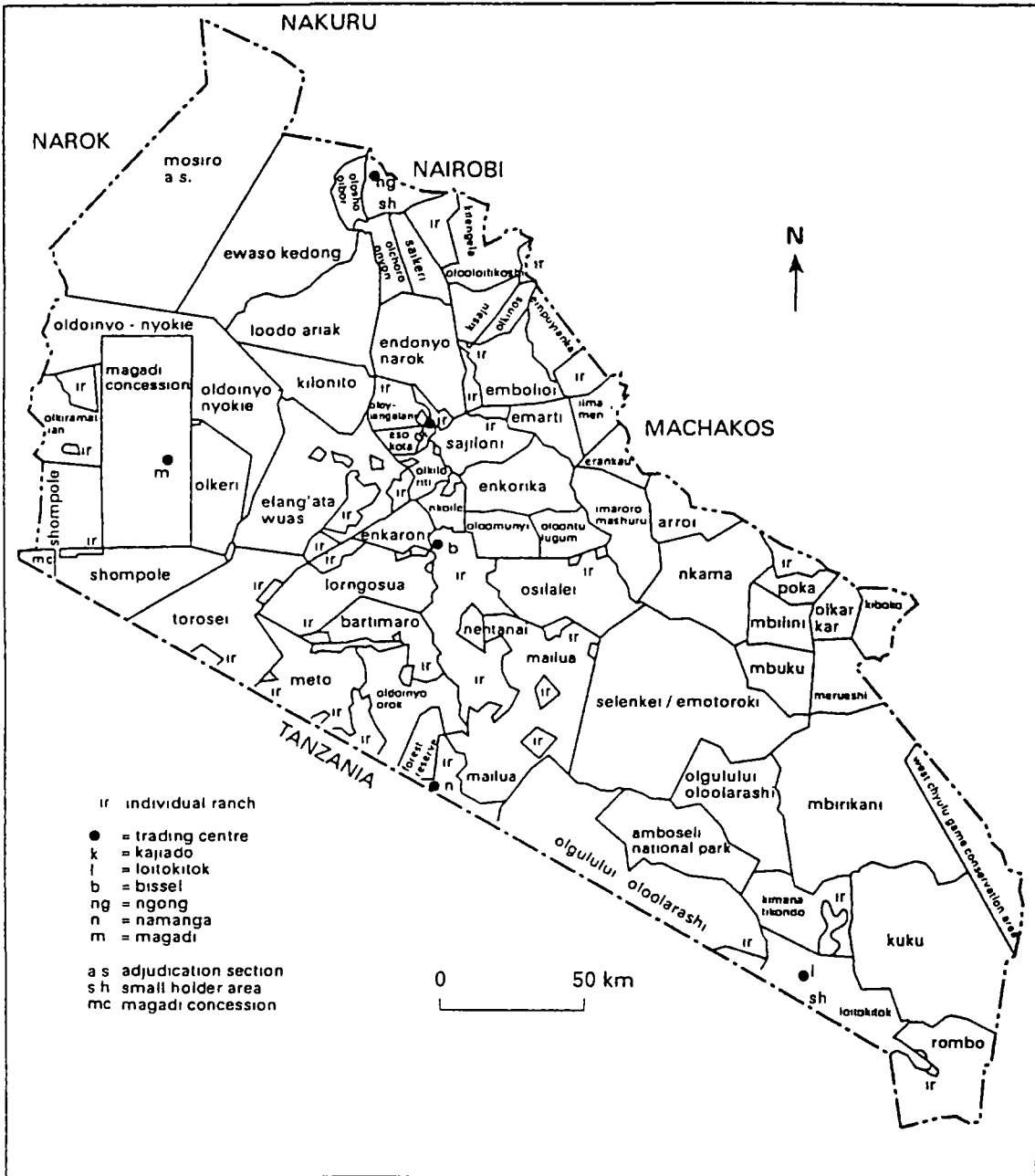


Figure 4 Kajiado District group ranches

In short the idea of a group ranch meant the setting aside of a certain piece of land to be communally owned by a group of people who were recorded and registered as the legal owners through membership of the particular ranch. Unlike in the past, livestock movements would be restricted within the group ranch's specific boundaries and non-members would be forbidden to bring their animals to graze. Through the provision of loans for infrastructural development and steer fattening an attempt was made to radically transform the nomadic subsistence-oriented production of the Maasai pastoralists into a

¹⁰ In some regions of northern Kaputiei and the better-watered parts of the Ngong area individualization was preferred and opposition to the formation of a group ranch persisted. In these ranches the group ranches, though officially registered, never functioned as such.

sedentary, more commercial system. This market-oriented production was to bring about a destocking of the Maasai pastures while at the same time providing meat for the national market and international market.

Besides welcoming the idea of water provision, veterinary care, improved livestock breeds and the like, a major rationale for accepting the group ranch proposal was the increase in the number of Maasai acquiring individual ranches and the fears of the encroachment of non-Maasai into the District. Also the fear that even more land could be lost to game Reserves or National Parks played a role.¹¹

The performance of the Kajiado group ranches has been eagerly followed by several scholars and review missions. The introduction of the group ranch had organizational, juridical and economical consequences. The Kajiado District group ranches were effective in stopping an educated elite of Maasai allocating huge chunks of former communal land to themselves that had been set aside as individual ranches.

Likewise the feared massive influx by non-Maasai was hampered.¹² Only land from individual ranchers could be acquired, as in the Ngong and Loitokitok areas. Secondly, the group ranches initiated livestock management techniques and the construction of facilities such as boreholes, dams, troughs, tanks, pipelines and cattle dips. Thirdly, group ranches stimulated the building of schools, shops and health centres. A last achievement of the group ranch development is said to have been to allow wildlife to continue roaming freely over large parts of Kajiado District.

Besides these accomplishments the problems and failures of the group ranch project have also been mentioned by several scholars; delays and problems in project implementation; disappointing rates of investment and difficulties in loan repayment; continuing trespassing of group ranch boundaries; refusal to de-stock ranches; no real transformation to a market-oriented livestock production and corruption among several group ranch committees.

Overall it can be concluded that in many respects, the group ranch concept as proposed by outsiders was an artificial creation which lacked a firm traditional sociological as well as an ecological basis. The implementation of this change in land tenure was moreover overambitious in aiming at the destocking of the pastures and the commercializing of production, while they took hardly any account of pastoralists strategies and household needs.

The final outcome of these problems and the resulting frustrations was a growing wish among many Maasai for the subdivision of the group ranch into individually owned shares.

THE DISSOLUTION OF GROUP RANCHES AND THE INDIVIDUALIZATION OF LAND OWNERSHIP

Introduction

In the early 1980s no clear position was taken by Government in response to the call for the subdivision of group ranches - apparently because the Administration itself had doubts and individual departments were in dispute with each other.

In general, those opposing subdivision claimed that the ultimate result would be the alienation of land to the non-Maasai, the creation of severe erosion in areas where cultivation was to start, the loss of Maasai culture and the restriction of the movement of wildlife and livestock to the detriment of the meat producing and tourist attracting functions

¹¹ In 1964 the pilot Poka group ranch had already been started in the south Kaputiei location. In 1969 phase one of the Kenya Livestock Development Project (KLDP I) was officially started. By 1970, 14 group ranches, covering over 10 per cent of the district's area were recorded in the Kaputiei area. KLDP II, which had started in late 1974 had added 16 ranches comprising another 25 per cent of the Kajiado District area. Finally, by 1980, 20 more ranches had been incorporated. These are often referred to as "phase three group ranches" but no World Bank funds were provided for them. This brought the total number of group ranches to 51 covering some 15,200 km² or some 75 per cent of the Kajiado District area.

¹² By the late 1960s the status of closed district was removed. From now on non-Maasai, very well represented at the national level, were able to enter the Maasai districts much more easily. The installation of group ranches, however, excluded outsiders from legally buying land.

of the district.

Supporters of group ranch subdivision said that it would help self advancement and raise standards of living, boost the ability to procure a loan using the freehold title deed as collateral, minimize the exploitation of the poor by rich households, promote Maasai engagement in agricultural and industrial enterprises and facilitate better maintenance of the existing infrastructure.

All of these arguments have been studied among a group of 500 Maasai households, but in the following we will restrict ourselves foremost to a review of the monetary and juridical effects of the individualization of landownership: the selling, buying and mortgaging of land. The threat of and the actual sale of land is the most highly debated topic of today in Kajiado District (see e.g. Pasha 1986, Tobiko 1989, Dietz & Rutten 1990, Kajiado Focus 1991).

Olkinos and Emboloi: the earliest subdivided group ranches

By 1990 a total of 40 group ranches had made the decision to dissolve their ranches. Seven had already gone through the procedure and the members had obtained their private titles (Olkinos, Emboloi, Kitengela, Empuyiankat, Poka, Saikeri, Olchoro-Onyori). Only 4 group ranches opposed the idea of subdivision, while another 7 ranches had not yet decided. In other words, at that time 78 per cent of the ranches, had ceased existing or were soon about to do so. Alongside this process a whole range of other difficulties arose including disputes over ranch boundaries, corruption in plot allocation and conflicts between registered and non-registered group members.

Our analysis is based on the post-subdivision developments as they occurred in Olkinos and Emboloi group ranches since late 1986 until the beginning of 1990. A total of 183 households was interviewed. In addition Land Control Board files for these two ranches have been analyzed. Relating the official land transactions with the characteristics of the households also helped to gain a better understanding of this process of subdivision. Finally, Land Control Board files of three others subdivided group ranches (Empuyiankat, Kitengela and Poka) were reviewed.

The outcome of the group ranch subdivision process

An overall positive attitude towards the process of subdivision and allocated plots was recorded among the Olkinos and Emboloi ranchers. Approximately 1 out of 5 households, however, had mixed to negative feelings concerning the size of the plots allocated.

After subdivision the former Olkinos members possessed a 46.7 ha mean size ranch within a range from 11.0 to 132.0 ha per parcel (see figure 5). In Emboloi the average plot size was 93.4 ha varying from 30.0 to 225.0 ha. The process of subdivision had been most favourable to the most powerful within the Maasai group ranch constellation. In both ranches former committee members had obtained above average plot sizes (Olkinos: 81.8 ha as compared to 42.5 for ordinary members and Emboloi 130.7 ha versus 86.8 ha).

Landownership per person decreased over the 1986-90 period due to natural population growth and the sale of land. The average availability of land for Olkinos ranchers was reduced from 8.4 ha/person in 1986 to 7.1 ha/person in 1990, a 16 per cent fall. Emboloi figures for these years are 15.5 ha/person and 14.3 ha/person, respectively. The Olkinos gini-coefficient, expressing the inequality of the distribution of plot sizes, increased from 0.26 to 0.33.

We dealt exclusively with the outcome of the group ranch subdivision in Kajiado District with respect to transfers of land and improvements made. An analysis was made of the fragmentation, sale or mortgage of the subdivided lands of Olkinos, Emboloi, Empuyiankat, Kitengela and Poka group ranches by February 1990. A total of 757 Maasai had received their privately owned parcel of land by this time. Already by February 1990 36.7 per cent of these ranchers had applied for further subdivision of their newly acquired parcels (see appendix A). Of this group 78 Maasai or 10.3 per cent of all former group members had obtained authority to transfer 1,728 ha of land. This is 2.4 per cent of the five former group ranch territories (see appendix B).

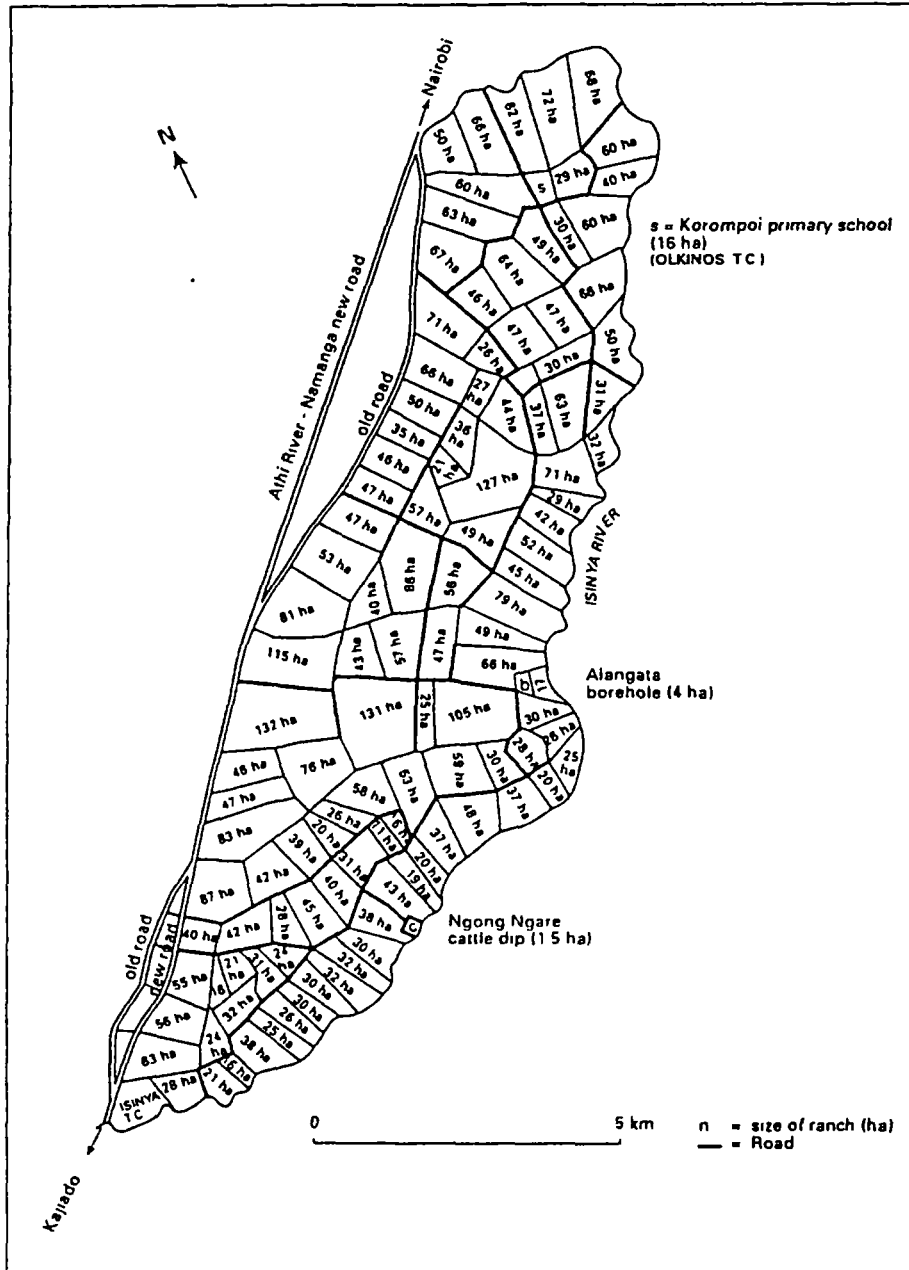


Figure 5 Olkinos subdivided group ranch

No specific set of characteristics could be perceived for the group of sellers. Nonetheless, the group of Olkinos former committee-members turned out to be foremost among the group of non-sellers. Those committee-members who did sell had bought their land previously and apparently for speculative reasons. Furthermore, a correlation was seen in the plot size per person and the selling of land. The more land available the more will be sold, except by the most well-off land holding households who are not engaged in selling at all. This of course reflects the fact that the group of former committee-members are very much aware of the value of the land they possess as well as the shortcomings this amount of land still poses for fenced ranching livestock production.

Obtaining loans from financial institutions by offering land as collateral does not appear to have developed significantly among the Maasai new land owners. Only 17 applicants (2.2 per cent) of all former group members intended to or actually mortgaged 1,195 ha or 1.6 per cent of the former group territory (see appendix C). It was stated that the selling of

land is a much faster, less obstructive and more comprehensible way of obtaining money than is mortgaging one's plot. Financial institutions (especially the Agricultural Finance Corporation) also seem to be somewhat reluctant to provide loans, except in the case that the prospective borrower has been formally educated to a high level and has other more important sources of income besides livestock keeping. Only Emboloi seems to part somewhat from this rule. The individualization of land as such seems therefore not to have resulted in a boom in loans obtained by the ranchers. Other factors such as the level of education, the main occupation, experiences or lack of it with financial institutions seem to be of more importance.

The group of land buyers in Olkinos group ranch was also analyzed in order to obtain information concerning their area of origin, main occupation, residence, education, age and the like. The foremost motives and objectives for buying land in Kajiado District were dealt with. In addition to the 9 buyers that had settled in the area or resided nearby, key-informants gave information about as many buyers as possible and this revealed that, out of a total of 37 plots sold in Olkinos area, all but 6 were acquired by non-Maasai. Rich business men, civil servants and less wealthy people were among the Kikuyu buyers. Maasai buyers were mainly former Olkinos committee-members, individual ranchers, civil servants and politicians. Another special group of informal buyers found were Indians who were practising strip gypsum mining on Emboloi group ranch.

Evaluating the actions taken so far by the buyers of land showed a preference for mortgaging land instead of reselling it. The inclusion of pending partition, transfer and mortgage applications shows that the frequency of selling or mortgaging seems to be more or less equal. This is in great contrast to the Maasai preference for selling rather than mortgaging land.

Information was also gathered concerning the utilization of the proceeds of the sale of land and loans taken. On Olkinos the percentage of people who made infrastructural improvements rose from 21 to 56 per cent of all Olkinos ranchers. The Emboloi group ranch percentage increased from a mere 8 to 45. Lack of funds or the fact of not being settled were among the most frequently mentioned reasons for not conducting an improvement. Comparing Olkinos sellers versus non-sellers and mortgagees versus non-mortgagees shows that both groups were increasingly engaging in infrastructural improvements. However, the rise amongst the group of sellers is significantly higher. No clear picture emerged for the borrowers. Emboloi ranchers also seemed to be as much development oriented either selling or non-selling, mortgaging or non-mortgaging their land. This is also reflected in the fact that only 5 Emboloi members said that they had used the proceeds of the sale of land and no one mentioned the use of a loan. Olkinos had higher figures with 33 times the sale of land and 10 cases of loans named as the source of the finance required for the construction of infrastructural improvements.

Attention was also given to the kind of improvement made. So far, the ranches have not been fenced by the original Olkinos and Emboloi ranch owners. Like drilling boreholes, this is a costly innovation. Those Olkinos ranchers that did fence their *shamba* or *ol-okeri* were mainly found among the group of educated Maasai and land sellers. For Emboloi it is the non-pastoralists who are mostly involved in this.

In other words, most of the infrastructural improvements made seem to have occurred in non-productive facilities such as the building of a modern house. People will need to sell another part of their parcel in order to undertake real development. Other accusations about consumer behaviour by the Maasai ranchers who sold part of their land were frequently referred to the buying of cars and the drinking of beer. The marginalized Maasai who roam and who have no involvement in the former group ranch matters and the like, seem to be the most willing to sell part of their ranches and earn the salary of a lifetime all at once! Some excesses have apparently followed!

We also looked at the less capital-intensive improvements made in range management. Hardly any innovations had been undertaken since the time of subdivision. Potter (1989) has stressed the common sense nature of this attitude as these adjustments would not be economically viable anyway.

REVIEW OF EXPERIENCES OF INDIVIDUALIZATION OF AFRICAN PASTURE LAND

Analyzing the evolutionary process of the individualization of landownership among the Maasai raises questions about the causes, details and final results of similar developments of this kind of land tenure transformation among other groups such as African pastoralists in particular.

A growing number of African countries are switching to a land policy characterized by Western concepts of adjudication and registration of individual title deeds. According to Riddell (1988:39), since the early 1980s economic planning in developing countries has wholly abandoned social property concepts and embraced a planning pattern which emphasizes a form of private property rights. In spite of doubts and harsh criticisms expressed about the appropriateness of implementing this concept in the rangelands by researchers, Non-Governmental Organizations and representatives of Western Governments alike (e.g. Lawrance Mission), several pastoralist groups have been confronted with the privatization of land ownership.

One of the first experiences with the effects of changing land tenure among nomadic pastoralists in Africa has been reported by Dufour for the Bedouin pastoral society living in Tunisia. In 1935 a decree was published which contained provisions about the exploitation and fair distribution of collective lands. However, the result was that the plots of equal size allotted to each member of the group were quickly snapped up by the most enterprising and richest members. The result was a concentration of landownership in the hands of a small aristocratic group (see Dufour 1971:44-5).

At the time of Independence, similar attempts were made but failed as well; 'the plots allocated were too small; and the beneficiaries, having neither credit nor the technical advice required for rational working of their newly acquired land, either neglected it or hastened to sell their rights in it' (Dufour 1971:45). This experiment was abandoned in 1960. A new reform of agriculture was promulgated in 1969. The legislative arsenal of the Government again lacked any power to stop the concentration of holdings. A continually widening gap between "big" and "small" farmers is characteristic of the land tenure situation in Tunisia.

Ezeomah described the situation for the pastoral Fulbe (Fulani) of Nigeria. The need to provide food for a growing population resulted in the extension of cultivation at the cost of traditional grazing areas and enhanced the importance of individual landownership. The importance of communal rights decreased resulting in increased conflicts between farmers and pastoralists. Ezeomah pleaded for the establishment of grazing reserves providing facilities such as water, access roads, improved grass and other feeds (see Ezeomah 1987:43). A similar call was made by the Fulbe themselves, as early as 1970. Their newly created National Livestock Association expressed, among other things, its concern with regard to their land and herding problems, the security of cattle routes and the lack of representation at state level.

According to Milazi (1988:51), Botswana's changing rangeland tenure system is partly the result of an increased population and partly a response to government programmes aimed at increasing employment and income in rural areas. Two specific development initiatives were the World Bank Livestock Development Programme of 1972 followed in 1975 by the Tribal Grazing Land Programme (TGLP). The former was mainly oriented at fenced ranching and infrastructural development at the expense of social support while giving little attention to sociological factors (see Milazi 1988:52). The latter programme declared the subdivision of tribal land into three zones of land tenure; communal, commercial and state i.e. reserved land. The major aims of this programme were to halt the degradation of pastures that had increasingly become concentrated in the hands of a few wealthy people. Both trends had to be stopped.

Bennet et al. hold that the TGLP drew heavily upon the "Tragedy of the Commons" paradigm as formulated by Hardin in 1968, and that, in the end, most of the programme's resources went to large, commercial holders in exclusive tenure areas. Above all, most

large holders do not seem to have adopted the improved production and land use practices envisaged by the TGLP (see Bennet et al. 1986:viii). Furthermore, some ranch owners brought their cattle to the communal areas under drought conditions (see Hinderink & Sterkenburg 1987:193). To make matters worse increasing commercialization encouraged by an EEC subsidy had replaced tribal and extended family obligations and communal management with individualistic and competitive behaviour to the detriment of the ranch (see Blaikie & Brookfield 1987:195).

Another well-known project geared at the radical transformation of pastoralists into "modern" ranchers was started among the Ankole of southwestern Uganda in the mid-1960s by the United States Agency for International Development (USAID) and the Government of Uganda. The project was intended to create 125 cattle ranches of several thousand acres each, to be placed in the hands of 'competent ranchers who will be able to undertake large-scale beef production on an economically viable basis' (Doornbos & Lofchie 1971:166). By 1968 only forty ranches had been completed.

One of the major causes for this failure of implementation was the controversy between the several parties involved, especially between the USAID and the Government of Uganda. The primary point at issue was whether to allow absentee owners to acquire a ranch and this resulted in intense debates and political struggles. USAID feared that the allocation of ranches would lead to politically influential individuals acquiring ranches at the cost of the original inhabitants. Doornbos and Lofchie recalled the process of negotiations between USAID and the Uganda Government. They demonstrated a major failure of communication both between and within the sections of the two parties. The role of diplomatic considerations was also highlighted. Pressure from the American embassy resulted in a situation by which USAID could not take a strong position against the ranch tenure question. As a result top officials and influential businessmen had been able to allocate to themselves most of the 40 ranches that had been constructed (see Doornbos & Lofchie 1971:186).

Gunn (1990:156-161) for northern Somalia shows us a rather similar picture of the implementation of livestock development projects including the introduction of new land tenure legislation. By 1975 all land was secured in the name of the state making it illegal to own land privately. Only small parcels (30 ha) could be leased for 10 year periods. However, grazing land, as opposed to agricultural land, was excluded from this, leaving pastoralists without legal claims. Classifying marginal land as agricultural land enabled the creation of private rangeland "enclosures" in the intermediate zone between pastures and cultivated plots. For example, by 1982 there were 14,500 of these ranches, so densely packed around the perimeter of the grazing land that no corridors were left for transient herds to get to the town's permanent wells (see Gunn 1990:161).

The owners of these ranches were small livestock co-operatives introduced by the government as a new form of collective ownership in the pastoral areas. Although initially designed for poor pastoralists the members now included the more wealthy. In fact, these co-operatives mainly acted as a family-owned private company situated in the better-watered areas of the range and receiving outside aid for infrastructural developments. Moreover, while holding these special rights to dry season pastures and receiving assistance, many co-operative members had the majority of their livestock graze on the free ranching areas.

LAND TENURE AND LIVESTOCK DEVELOPMENT: A REVIEW OF THEORETICAL CONSIDERATIONS

The issue of land tenure in livestock herding systems in relation to overgrazing of pastures is a frequently debated and highly controversial topic among researchers from a large number of fields such as economics, anthropology, ecology and geography and amongst decision-makers, development workers and, last but not least, livestock keepers themselves. A second topic of debate is the role of land tenure versus the commercialization of livestock production systems.

Land Tenure and Land Degradation

It has recently been estimated that 15 per cent of the earth's land area has been degraded by human activities to varying degree (see UNEP 1992:42). The main causes of such degradation are overgrazing (34.5 per cent), deforestation (29.5 per cent), agricultural activities (28.1 per cent), over-exploitation (7 per cent) and bio-industrial activities (e.g. excessive manuring 1.2 per cent). We would like to remind that the total area of grazing land in the world comprises of some 24 per cent whereas land under cultivation is 11 per cent, forests and woodlands comprise 31 per cent and 34 per cent is classified as "other land". In other words the relative importance of overgrazing for land degradation is less than the figures presented above would suggest.

About 3.5-4.0 million ha of rainfed croplands are currently lost every year in the world's drylands (0.8 per cent of the total dryland rainfed area). In addition, 1.0-1.3 million irrigated ha are wasted (0.8 per cent of the world's total irrigated area in the drylands) (see UNEP 1992:43).

Percentages of rangelands within drylands most affected by desertification are highest in North America (80 per cent), South America (75 per cent) and Asia (74 per cent). Africa (73 per cent) ranks fourth.¹³ By the late 1970s estimates stated that roughly 75 per cent of the publicly held rangeland and 60 per cent of the privately held ranges in the United States were in fair to poor condition as a result of overgrazing (see Gilles & Jamtgaard 1982:1).

The link between overgrazing and land tenure was popularized by Garrett Hardin's classic article about the "Tragedy of the Commons" written in 1968.¹⁴ Hardin argued that any commonly held and collectively owned resource that is exploited by individuals will be overused. He used common ownership of rangelands as an *example* to demonstrate his point of view. Common pastures shared by individually owned herds will lead to a situation of over-exploitation as no incentive operates for individual herd-owners to reduce their number of animals. The *benefits* of reducing one's herd will be passed on to their neighbours, whereas the *costs* are a burden for the individual herder. In other words, although Hardin and others realise that land tenure is only one of the causes of ranch depletion, it is postulated that only under individual tenure is it possible to control the number of animals on a ranch as then the costs and the benefits would apply to one and the same individual.

Unfortunately, this simple and apparently straightforward idea has resulted in some kind of doctrine which perceives full individual ownership of land as the only viable option for sound livestock development (e.g. the prevention of overstocking and the increased marketing of livestock) in every region of the world. However, as Sandford (1983a:16) rightly stresses, it is seldom remembered 'that the alleged greater efficiency of private over communal-landownership was initially based on evidence in fertile northern Europe not in arid tropical rangelands, and that in Europe also the social consequences were often dire'. In Africa's drylands conditions preclude the development of individually owned ranches unless huge areas are allocated.¹⁵

Furthermore, it is often forgotten that traditional controls over the use of resources exists among the livestock communities (e.g. the Maasai *Il-oshon*). In a number of cases these traditional forms of tenure have deliberately been destroyed and this has made environmental degradation possible.¹⁶

¹³ More widespread than desertification is the gradual deterioration of agricultural soils in dryland areas. expansion of cropping, with ever-shorter fallow periods, into areas with marginal rainfall exposes the soil to wind erosion (see World Bank 1992:55).

¹⁴ As Blaikie and Brookfield point out a "common" is a resource or facility which is distinguished by three characteristics; it is subject to individual use, not to individual possession; users have independent rights of use and only as a group can users exclude others who are not members of that collective (see Blaikie & Brookfield 1987:186).

¹⁵ Rainfall varies considerably from year to year in the rangelands of the Sabel and East Africa. In parts of Kenya areas of rain storms rarely exceed five kilometres in width and on average less than one kilometre. The conversion of common rangeland into private holdings would only impede the movement of animals and increase the possibility of overgrazing (see Gilles & Jamtgaard 1982:3/4).

¹⁶ Jodha has shown how in semi-arid western Rajasthan (India) traditional controls over grazing lands (*Jagirdari system*) were removed and some 25 per cent of the pastures were transferred into private ownership for cultivation

Vittianen (1982:60) has shown that for the Kababish pastoralists of Northern Kordofan in Sudan the spread of agriculture to areas with little or uncertain rainfall was the main cause of desertification. The ploughing of dry season pastures even in times of drought resulted in desertification mainly by way of wind erosion. In addition, the loss of these pastures has led to overgrazing of the remaining wet season pastures.

As stated above the rangelands in full private ownership in the United States of America or leases such as in Australia also suffer from degradation.¹⁷ Examples presented in section 9.5 seem to underline the view held by some writers that environmental degradation is similar if not worse on private commercial ranches than it is under the traditional communal system. Individual ranchers are able to exploit communally held resources whilst preserving their own pastures for the dry season. Those ranchers who had ranches too small to provide an adequate standard of living for their families are forced to overstock them in case no other source of livelihood or communal pastures are available. In addition, if market prices are high the overstocking of privately owned ranches could become very lucrative by investing the profits in other enterprises (see Gilles & Jamtgaard 1982:3).

USAID, prompted by the disappointing performance of its livestock and range management projects decided by the mid-1980s to conduct a major review of its policies towards the livestock sector (see above for the Ankole livestock development project). Attention was primarily directed towards African land tenure problems. Planners often pointed out that communal land tenure was the major obstacle to increased animal output for urban markets and range conservation. Development projects thus embraced the "Tragedy of the Commons" paradigm as a rationale for establishing individual rights. However, experience has shown that tenure reform has often not been an effective instrument in fulfilling either growth or conservation policy objectives. The USAID study concluded that in most pastoral production areas of Sub-Saharan Africa, communal tenure makes economic and ecological sense (see Bennett et al. 1986:158). The group ranch system was viewed as being the most suitable arrangement for the better range areas, although it was recognized that in these areas ranches would need to compete with cultivation and game parks.

Close attention should be paid to the developments of regulatory and community management institutions for communal land usage. It was realized that this would be a long and difficult undertaking, especially as nowadays planning is dominated by some form of private property rights. If these new property rights undermine the sound management of marginal pastures and/or bring an end to economies of scale in the provision of certain facilities, e.g. boreholes and fencing then community ownership of land seems to be more favourable. Whenever such economies of scale do not exist and pastures are plentiful or when careful management and maintenance of numerous scattered small facilities, e.g. open wells is required, then private ownership may be preferable.

In itself private ownership is not enough to control livestock numbers at the low levels usually desired by range scientists. The occurrence of both types of land tenure within the same area could result in parasitic behaviour by individual ranchers at the cost of

in the early 1950s. Following this decline, livestock farming underwent several changes. The mean size of herds decreased, the proportion of sheep and goats increased while that of unproductive animals declined. This latter development was mainly the result of stall feeding implying higher private costs. The growing importance of smallstock was said to have resulted from the fact that these can better deal with degraded pastures and provided easier access to better-watered areas elsewhere. The increased marketability and profitability of animal products in recent years was mentioned by Jodha as being an explanation of the above mentioned changes (see Blaikie & Brookfield 1987:196-207).

According to Jodha those who were able to gain from the process of the privatization of communally owned land are now also in a better position to exploit the remaining pastures for commercial purposes. Processes that have led to the degradation of land have also resulted in a strengthened stratification of the population. Meanwhile, on the land converted from pastoral to arable use under privatization, all the consequences of using ecologically marginal land without regard for its vulnerability were seen.

¹⁷ Behnke (1983:9) describes how in Australia and in North America people started to use fences when grazing became a scarce resource in order to control land rather than cattle. The idea was not to close themselves in but to keep others out. Initially livestock production became less productive because the ranches became overstocked and overgrazed as the flexibility to handle the marginality of the area was lost.

communally owned pastures. Apart from combating overgrazing land tenure adjustments are often proposed to stimulate commercialization of pastoral livestock production.

Land Tenure and Commercialization

Commercialization within pastoral systems is an even more hotly debated topic among scientists, development planners and administrators. As with the concept of land degradation a complex set of parameters shape the process and final outcome of the commoditization of livestock production. Several theories which deal with agrarian change have looked at this process closely. Most theories stress that land tenurial adjustments are crucial in respect of transforming a subsistence-based livestock producing system to one orientated to the market. Swynnerton's plan to intensify Kenya's agricultural production and the Kenya Livestock Development Programme that introduced group ranches in Kenya both recognised this aspect.

Attempts among groups of subsistence-oriented pastoralists in other countries have almost all failed. As Behnke (1983:3) states, no ranching scheme has ever engineered a complete and abrupt reorganization of a pastoral society. Some pastoralists, however, did commercialize their herding operations all at once, frequently disregarding outside help and without fenced ranching. This recognition has led Behnke to make a threefold division among livestock producing systems: subsistence pastoralism, open-range ranching and fenced ranching. Each of these systems is thought to have its own particular rationale and characteristics of production. The most striking differences are that subsistence pastoralism depends on natural pastures in climatically unstable environments forcing animals to move in search of grazing or water or to avoid diseases. This results in high labour demands.

Open-range ranching refers to the "cowboy" type of ranching found in Medieval Spain and after the American Civil War. These operations were much less labour intensive. Ranchers were relatively rich in stock and market-oriented.

Fenced ranching is normally carried out on large stretches of land (between 1,000-100,000 ha) which carry large permanent herds of some 1,000-10,000 animals. Fencing was seen as a shift in the commercialization of cattle to one of cattle and land. But, as Behnke highlights, fences were seen as only the beginning and they were followed by the increased use of artificial watering points, fodder production, the use of irrigation, veterinary inputs and feed supplements.

In other words, when shifting from open-range to enclosed ranching, production becomes increasingly characterized by high rates of capital investment, whilst labour remains low or is even economised upon.

Behnke stresses that it should be remembered that commercial livestock systems can be organized differently and include ranchers who use traditional methods of husbandry, housing, clothing and the like. Range ranching should be included as a form of commercial ranching. The major problem facing subsistence pastoralists in Africa nowadays is that, in contrast to the western world of free resources and few people, they need to substitute an intensive system of production for an extensive system of production for exchange.

The idea of subsistence pastoralists becoming primarily market-oriented would seem to be one lacking all common sense. A relative shortage of livestock and an apparent abundance of labour should not allow these pastoralists to sell their source of livelihood, even if commercial outlets and reasonable prices exist.

Marketing and productivity have often been interchanged when evaluating different forms of livestock production. However, several writers have shown that the inclusion of subsistence milk consumption, relatively cheap inputs of land and grazing and the like places nomadic pastoralism in an equal if not even a more favourable position with respect to productivity (see e.g. Dahl & Hjort 1976, Swift 1982, Behnke 1985). Commercialization of livestock production involves a redefinition of production goals, not necessarily an increase in the level of productivity (see Behnke 1983:25). Moreover, the moment off-take channels become unreliable in time of stress, pastoralists will still be forced to keep a larger number of animals within their herds than are strictly necessary for human consumption, as a security against periods of drought. Thus commercialization could lead to even more "surplus" animals.

Lack of incentives (low prices, moderate needs) and a poor marketing structure have

been mentioned amongst the most important reasons for the relatively moderate rate of commercialized livestock production in Kajiado District. However, Maasai pastoralists certainly react to market incentives.

Research conducted by White and Meadows in the early 1980s showed that the basic profitability of individual ranches per livestock unit was not higher than that of group ranches and that higher individual ranchers' household income levels were attributable to higher livestock numbers, steer fattening operations (largely AFC financed) and to non-livestock sector activities (see White & Meadows 1981:vi). Moreover, it should be realized that group ranches and Tanzanian pastures have provided young steers for fattening on individual ranches. Subsequent marketing will be recorded in the accounts of the individual ranchers.

Evangelou (1984:260) also found no significant differences in the levels of marketing between individual ranchers and group ranch producers suggesting that the individualization of land tenure would not stimulate commercial production in Maasailand. Moreover, Evangelou states that the rates of livestock off-take among the Kajiado Maasai are as high as possible under the present circumstances. Maasai pastoralists have always been interested in selling cattle and have not avoided illegal trading if prices offered by official markets were too low.

SUMMARY AND CONCLUSION

We dealt exclusively with the outcome of the group ranch subdivision in Kajiado District with respect to transfers of land and improvements made. An analysis was made of the fragmentation, sale or mortgage of the subdivided lands of Olkinos, Emboloi, Empuyiankat, Kitengela and Poka group ranches by February 1990. A total of 757 Maasai had received their privately owned parcel of land by this time. By February 1990 36.7 per cent of these ranchers had applied already for further subdivision of their newly acquired parcels. Of this group 78 Maasai or 10.3 per cent of all former group members had obtained authority to transfer 1,728 ha of land. This is 2.4 per cent of the five former group ranch territories.

No specific set of characteristics could be perceived for the group of sellers. Nonetheless, the group of Olkinos former committee-members turned out to be foremost among the group of non-sellers. Those committee-members who did sell had bought their land previously and apparently for speculative reasons. Furthermore, a correlation was seen in the plot size per person and the selling of land. The more land available the more will be sold, except by the most well-off land holding households who are not engaged in selling at all. This of course reflects the fact that the group of former committee-members are very much aware of the value of the land they possess as well as the shortcomings this amount of land still poses for fenced ranching livestock production.

Obtaining loans from financial institutions by offering land as collateral does not appear to have developed significantly among the Maasai new land owners. Only 17 applicants (2.2 per cent) of all former group members intended to or actually mortgaged 1,195 ha or 1.6 per cent of the former group territory. It was stated that the selling of land is a much faster, less obstructive and more comprehensible way of obtaining money than is mortgaging one's plot. Financial institutions (especially the AFC) also seem to be somewhat reluctant to provide loans, except in the case that the prospective borrower has been formally educated to a high level and has other more important sources of income besides livestock keeping. Only Emboloi seems to part somewhat from this rule. The individualization of land as such seems therefore not to have resulted in a boom in loans obtained by the ranchers. Other factors such as the level of education, the main occupation, experiences or lack of it with financial institutions seem to be of more importance.

The group of land buyers in Olkinos group ranch was also analyzed in order to obtain information concerning their area of origin, main occupation, residence, education, age and the like. The foremost motives and objectives for buying land in Kajiado District were dealt with. In addition to the 9 buyers that had settled in the area or resided nearby, key-informants gave information about as many buyers as possible and this revealed that, out of a total of 37 plots sold in Olkinos area, all but 6 were acquired by non-Maasai. Rich

business men, civil servants and less wealthy people were among the Kikuyu buyers. Maasai buyers were mainly former Olkinos committee-members, individual ranchers, civil servants and politicians. Another special group of informal buyers found were Indians who were practising strip gypsum mining on Embolioi group ranch.

Evaluating the actions taken so far by the buyers of land showed a preference for mortgaging land instead of reselling it. The inclusion of pending partition, transfer and mortgage applications shows that the frequency of selling or mortgaging seems to be more or less equal. This is in great contrast to the Maasai preference for selling rather than mortgaging land.

Information was also gathered concerning the utilization of the proceeds of the sale of land and loans taken. On Olkinos the percentage of people who made infrastructural improvements rose from 21 to 56 per cent of all Olkinos ranchers. The Embolioi group ranch percentage increased from a mere 8 to 45. Lack of funds or the fact of not being settled were among the most frequently mentioned reasons for not conducting an improvement. Comparing Olkinos sellers versus non-sellers and mortgagees versus non-mortgagees shows that both groups were increasingly engaging in infrastructural improvements. However, the rise amongst the group of sellers is significantly higher. No clear picture emerged for the borrowers. Embolioi ranchers also seemed to be as much development oriented either selling or non-selling, mortgaging or non-mortgaging their land. This is also reflected in the fact that only 5 Embolioi members said that they had used the proceeds of the sale of land and no one mentioned the use of a loan. Olkinos had higher figures with 33 times the sale of land and 10 cases of loans named as the source of the finance required for the construction of infrastructural improvements.

Attention was also given to the kind of improvement made. So far, the ranches have not been fenced by the original Olkinos and Embolioi ranch owners. Like drilling boreholes, this is a costly innovation. Those Olkinos ranchers that did fence their *shamba* or *ol-okeri* were mainly found among the group of educated Maasai and land sellers. For Embolioi it is the non-pastoralists who are mostly involved in this.

In other words, most of the infrastructural improvements made seem to have occurred in non-productive facilities such as the building of a modern house. People will need to sell another part of their parcel in order to undertake real development. Other accusations about consumer behaviour by the Maasai ranchers who sold part of their land were frequently referred to the buying of cars and the drinking of beer. The marginalized Maasai who roam and who have no involvement in the former group ranch matters and the like, seem to be the most willing to sell part of their ranches and earn the salary of a lifetime all at once! Some excesses have apparently followed!

We also looked at the less capital-intensive improvements made in range management. Hardly any innovations had been undertaken since the time of subdivision. Potter (1989) has stressed the common sense nature of this attitude as these adjustments would not be economically viable anyway.

This article was concluded by presenting a review of the experience of the individualization of African pasture land and some theoretical reflections on this issue in relation to environmental degradation and commercialization as well. Examples from Tunisia, Nigeria, Botswana, Uganda and Somalia all report of the decreasing availability of land for nomadic pastoralism. All reports show features of our outline of the Maasai history of land use, land ownership and land policy in the last century. Increasing competition for the better-watered pastures by encroaching farmers, herder cultivators as well as absentee herd owners were found to varying degree.

It is Government and programmes sponsored by international donors which have mostly either by intention or not been responsible for the introduction of individually owned ranches. Dominated by the doctrine of the "Tragedy of the Commons" concept, overgrazing and commercialization would be dealt with effectively once the collective ownership of pastures was ended. In fact, the final outcome of these projects propagating privatization and the subsequent commoditization of land was often that influential and wealthy people were able to grab large parcels of land at the expense of a large group of

less wealthy and less powerful pastoralists. Furthermore, traditional rules for pasture management have increasingly been thwarted and rendered useless.

Reviewing the developments in Kajiado District in the last decade leaves one with the impression of a people under increasing pressure on their way of life. A shrinking land resource because of increasing numbers of Maasai people and the even faster-growing numbers of migrant settlers in the district, malfunctioning group ranches and the call for subdivision of these, a lack of a clear Governmental land policy and corrupt land practices threatening large groups of Maasai off the rangelands they used to control exclusively until very recently all contribute to this.

The tragedy of individualizing the commons is the result of corruption at the time of subdivision but foremost of the commoditization of the land. Land is increasingly taken out of livestock production at the expense of all Maasai pastoralists. It has, however, most hard hit certain groups within Maasai society:

- Maasai (widows and "young" Maasai mainly) who were left out of the subdivision process completely or who obtained a small parcel only;
- Poor people forced to sell part of their land;
- (Families of) Sellers who used the proceeds from the sale for consumptive purposes only;
- Maasai who took a loan, using their individual title deed as a collateral, and could not repay it in time and were forced to sell;

With losers there are also those who gain. The benefitters, nowadays are foremost:

- Former group ranch committee-members (including their friends and relatives) who allocated themselves the largest and best ranches;
- Land speculators (Maasai as well as outsiders) who bought from Maasai ranchers in the former group ranches. The mean land prices increased almost tenfold between 1986-94;
- Wealthy Kenyans, Nairobi-based (international) businessmen and politicians mainly, who were able to buy a large ranch at a throw-away price at a one hour drive from Nairobi;
- Non-Maasai immigrants looking for agricultural land and/or jobs, which are not ready available in their home areas;

In my opinion, there is no single cause of the Maasai problems of today. Rather there is a combination of factors, as mentioned above which are at the heart of the matter. Still, we would like to stress that the situation the Maasai face today cannot be understood without understanding the history of their ownership of the land. Likewise the invasion of non-Maasai in the district is mainly caused by an imbalance of the distribution of land in other parts of Kenya.

Furthermore the role of the Kenyan Government should be stressed. Central Government's initial opposition to the subdivision of group ranches seems to have changed towards a standpoint of modest support for this process. Once the dissolution of group ranches was no longer opposed by (part) of the Administration the process of subdivision began at full speed.¹⁸ In my opinion, none of those who allowed this process to start fully realised the possible negative side effects it could have for a large number of Maasai people, their children, the district's ecology, the livestock economy, wildlife and the tourism sector. If they were aware, however, then it is they who should be blamed for allowing it to happen without clear guidelines and amongst a group of people who were not yet ready to withstand the clamour for land within modern day Kenya. The best the Maasai youngsters can hope for is that their parents will value the wealth they still own.

¹⁸ In April 1989 President Moi more or less decreed that all group ranches in Kajiado District should be subdivided to avoid future problems within the group ranches. Those sections within the Government opposing subdivision, like the Range Management Division within the Ministry of Agriculture, Livestock Development and Marketing, were abandoned from the process of subdividing group ranches. Nowadays, a feasibility study, showing the individual parcels as well as areas to be set aside as public utility plots, is no longer needed. Once the group ranch members decide to dissolve their demarcation sketch a surveyor is asked to produce the final map before applying to the Divisional land Control Board to transfer the single group title into individual title deeds.

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APPENDIX A

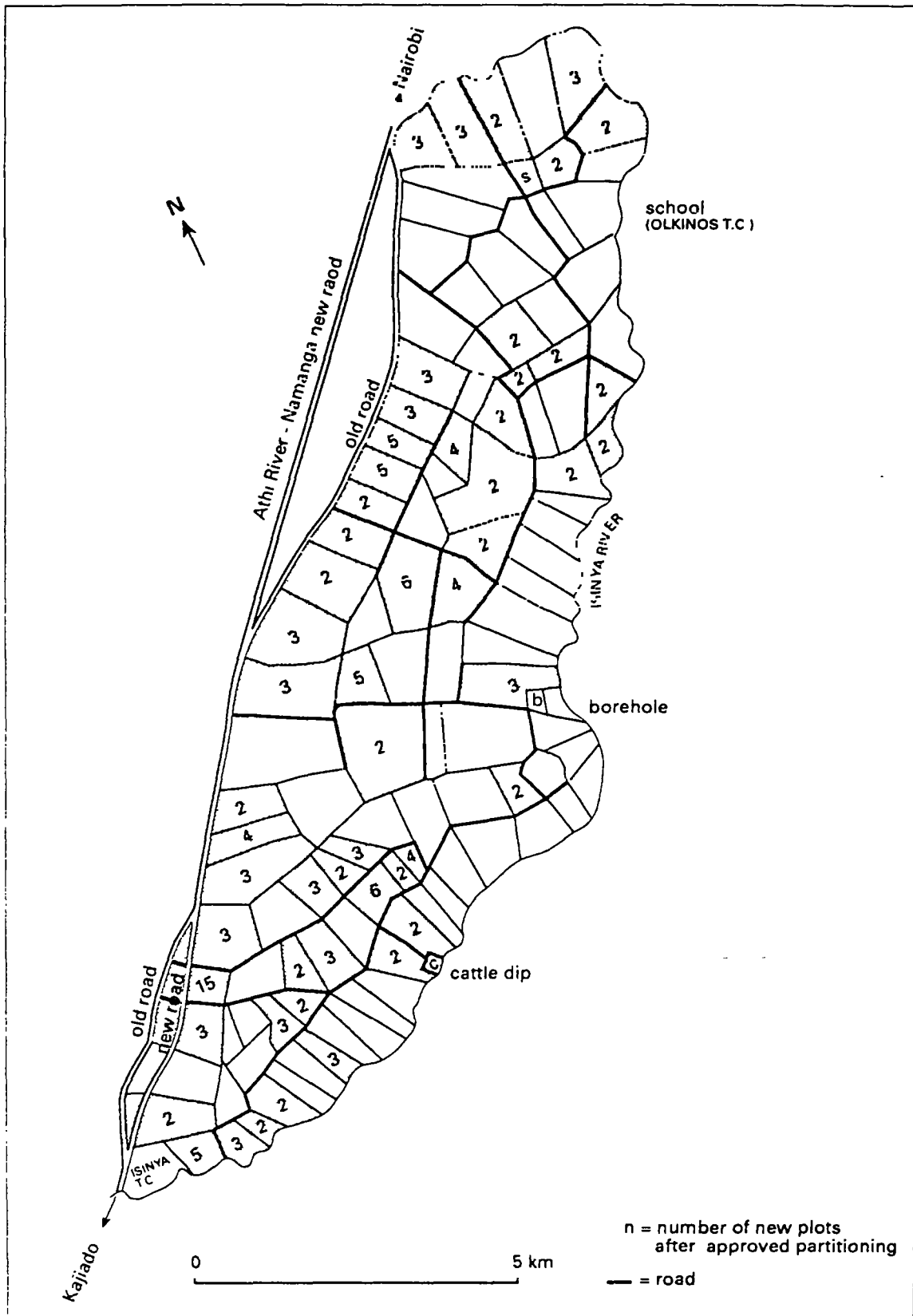


Figure 6 Olkinos Partitioned Parcels as at February 1990

Table 1. Applications for Partition of Original Parcels of New Kaputiei Individual Ranchers, February 1990

	Date ranch subdivided	Consented				Rejected				Pending				Dropped				Total applications			
		nr	%	ha	%	nr	%	ha	%	nr	%	ha	%	nr	%	ha	%	nr	%	ha	%
Olkinos	sep 1986	54	46.6	2,748	45.6	3	2.6	91	1.5	7	6.0	327	5.4	0	0.0	0	0.0	64	55.2	3,166	52.6
Embolioi	nov 1986	57	19.1	4,899	20.4	1	0.3	93	0.3	12	4.0	891	3.7	4	1.3	445	1.9	74	24.7	6,328	26.4
Empuyiankat	mar 1987	29	29.6	4,716	30.9	1	1.0	113	0.7	6	6.1	824	5.4	1	1.0	146	1.0	37	37.8	5,799	38.0
Kitengela	feb 1989	71	45.3	6,509	35.6	2	0.9	113	0.6	25	11.7	1,876	10.3	1	0.5	111	0.6	99	46.3	8,609	47.1
Poka	aug 1989	3	10.0	921	10.3	0	0.0	0	0.0	1	3.3	315	3.5	0	0.0	0	0.0	4	13.3	1,236	13.8
Total		214	28.3	19,793	27.3	7	0.9	410	0.6	51	6.7	4,233	5.8	6	0.8	702	1.0	278	36.7	25,137	34.7

Source: Rutten 1992

Note: the number of new parcels resulting from partitioned individual plots by the Maasai pastoralists range from two to seven. Some owners divided in one transaction whilst others subdivided in repeated steps to as far as into the third generation

Table 2. Applications for Transfer of Parcels of New Kaputiei Individual Ranchers to New Owners, February 1990

	Date first application	Consented					Rejected					Pending					Dropped					Total applications				
		mb	%	nr	ha	%	mb	%	nr	ha	%	mb	%	nr	ha	%	mb	%	nr	ha	%	mb	%	nr	ha	%
Olkinos	mar 1987	38	32.8	50\$	596	9.9	2	1.7	2	32	0.5	6	5.2	6@	68	1.1	1	0.1	1	10	0.2	41	35.3	59	706	11.7
Embolioi	jun 1987	24	8.0	28#	657	2.7	1	0.3	1	8	0.03	12	4.0	12^	270	1.1	3	1.0	4	43	0.2	33	11.0	45	978	4.1
Empuyiankat	jul 1987	9	9.2	9*	533	3.5	0	0.0	0	0	0.0	9	9.2	9	198	1.3	0	0.0	0	0	0.0	17	17.3	18	731	4.8
Kitengela	jun 1989	13	6.1	15~	191	1.0	1	0.5	4	4	0.02	16	7.5	24"	336	1.8	2	0.9	2	69	0.4	30	14.0	42	600	3.3
Poka	n.a.	0	0.0	0	0	0.0	0	0.0	0	0	0.0	0	0.0	0	0	0.0	0	0.0	0	0	0.0	0	0.0	0	0	0.0
Total		84	11.1	102	1,977	2.7	4	0.5	4	44	0.6	43	5.7	51	872	1.2	6	0.8	7	122	0.2	121	16.0	164	3,015	4.2

Source: Rutten 1992

\$ 4 gifts of 92 ha; @ 1 gift of 2 ha; # 2 gifts of 103 ha; ^ 1 gift of 4 ha; * 1 gift of 20 ha; ~ 3 gifts of 33 ha; " 1 gift of 40 ha; mb = member. Excluding the gifts a total of 115 members (15.2 per cent) applied to sell 2,723 ha of land (3.8 per cent) to interested buyers

APPENDIX B

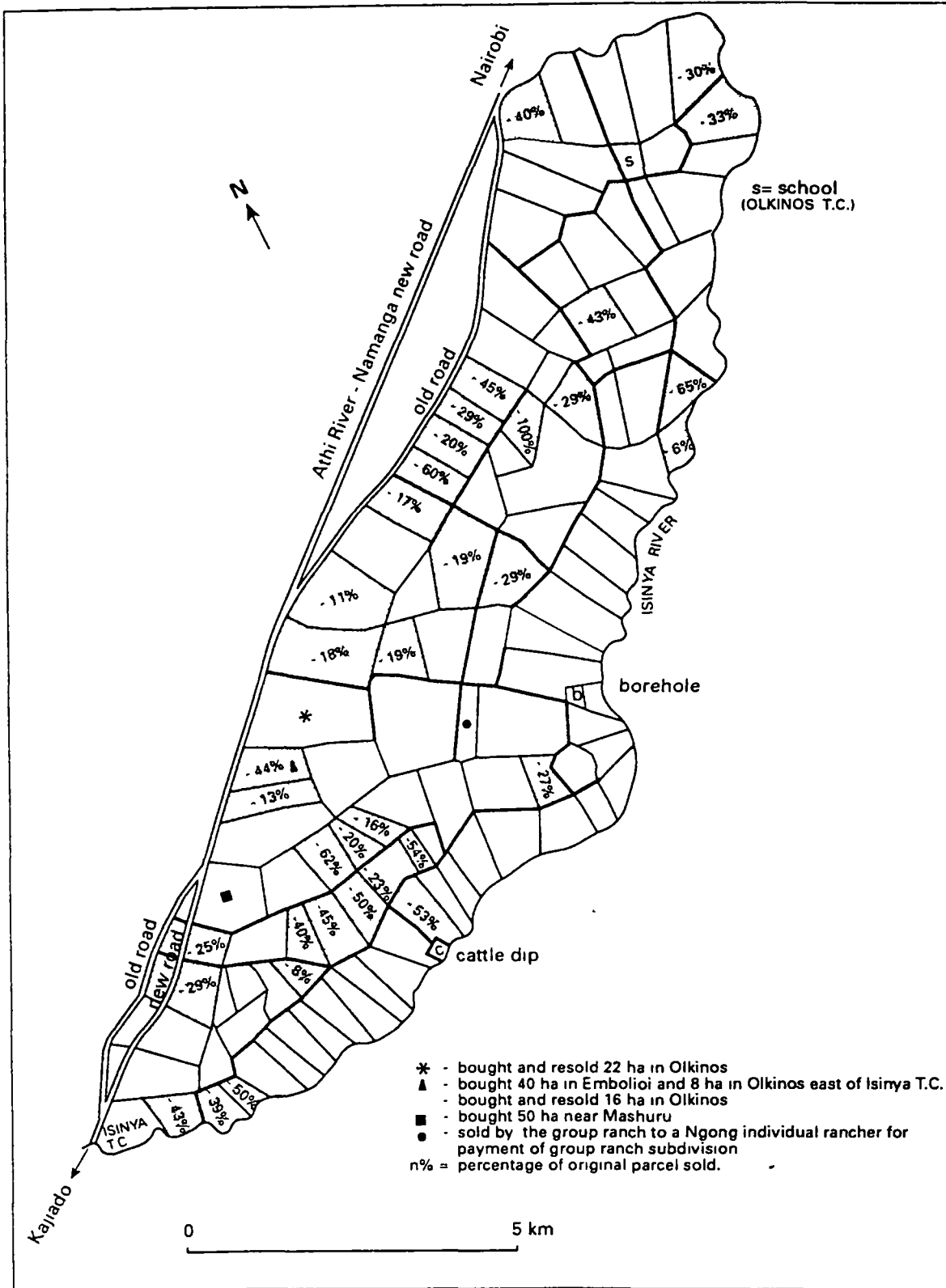


Figure 7 Olkinos Selling of Land as at February 1990

Table 3. Authorised Primary Transfers of Parcels to New Owners as at February 1990

	Total members	Ha sold		Ha sold/month		Sellers		Ksh. earned	Ethnicity of buyers				
		Total ha	abs	%	abs	%	nr		%	Maasai	ha	Non-Maasai	ha
Olkinos	116	6,020	504	8.4	14.0	0.23	36	31.0	6,497,000/-	9	136	37	368
Embolioi	299	24,000	554	2.3	15.5	0.06	23	7.7	5,728,000/-	8	259	18	295
Empuyiankat	98	15,270	512	3.3	16.0	0.10	8	8.2	3,330,000/-	2	122	6	390
Kitengela	214	18,292	158	0.9	17.6	0.10	11	5.1	2,970,205/-	5	68	7	90
Poka	30	8,926	-	0.0	-	0.0	-	0.0	-	-	-	-	-
Total	757	72,508	1,728	2.4			78	10.3	18,525,205/-	24	585	68	1,143

Source: Rutten 1992

Note: gifts are excluded. The actual number of first-time buyers lies above the 92 mentioned because this figure only refers to the number of parcels sold and the ethnicity of the buyer. Non-Maasai in particular buy in small groups of 2-10 people. In contrast only a few buyers acquired more than one parcel.

Table 4. Pending Primary Transfers of Parcels to New Owners as at February 1990

	Total members	Ha to be sold		Ha to be sold/month		Willing sellers		Ksh. to be earned	Ethnicity of buyers				
		Total ha	abs	%	abs	%	nr		%	Maasai	ha	Non-Maasai	ha
Olkinos	116	6,020	66	1.1	1.8	0.03	5	4.3	1,120,000/-	1	4	4	62
Embolioi	299	24,000	266	1.1	8.1	0.03	11	4.0	2,589,000/-	3	63	8	203
Empuyiankat	98	15,270	198	1.3	6.2	0.04	8	8.2	2,712,000/-	2	32	7	166
Kitengela	214	18,292	293	1.6	32.5	0.18	15	7.0	3,486,000/-	2	8	20	285
Poka	30	8,926	-	0.0	-	0.0	-	0.0	-	-	-	-	-
Total	757	72,508	823	1.1			39	5.2	9,907,000/-	8	107	39	716

Source: Rutten 1992

Note: gifts are excluded. Of the 39 applicants willing to sell land but whose case is pending, seven had previously sold another portion of their land.

APPENDIX C

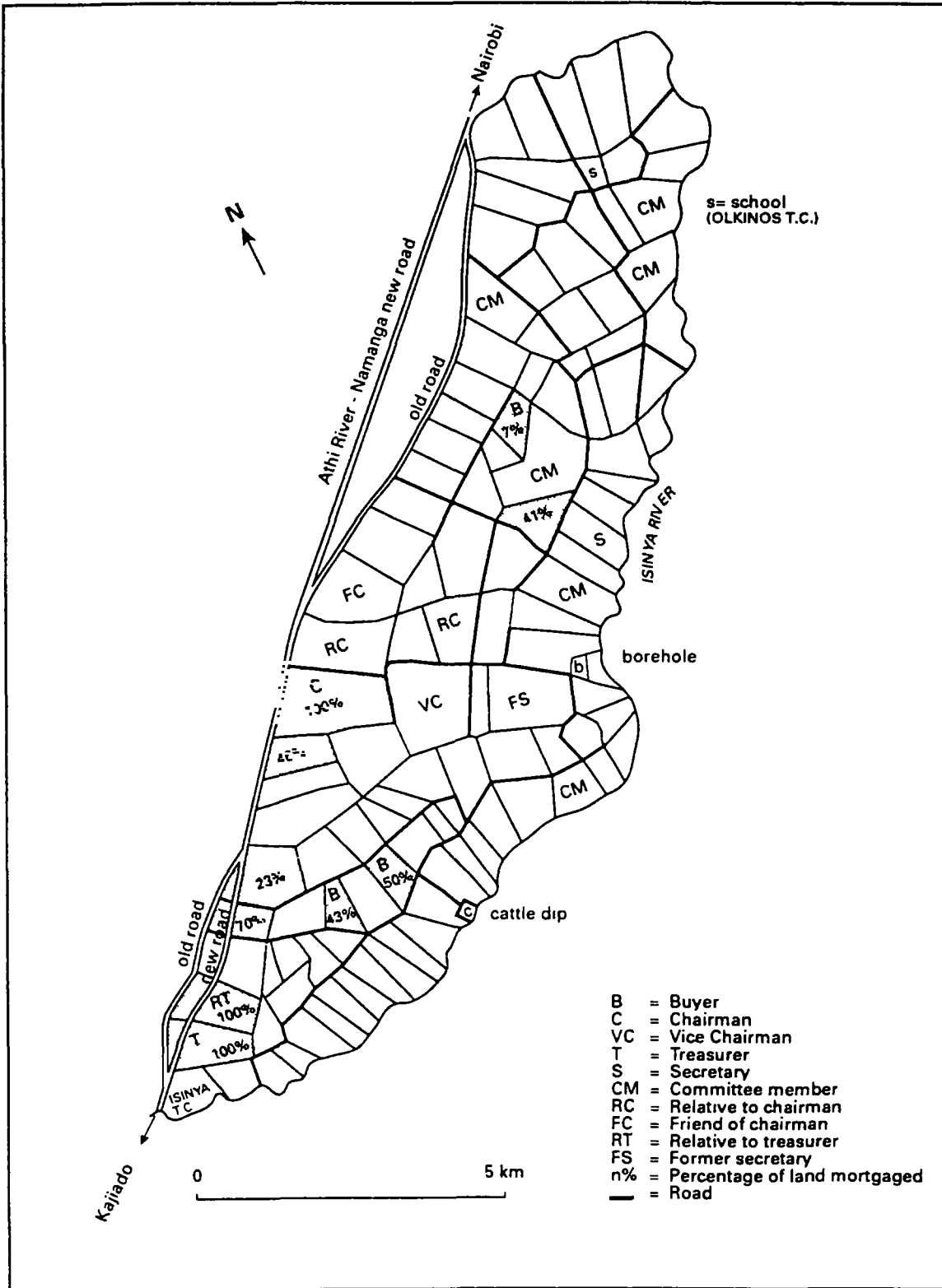


Figure 8 Mortgagees of Olkinos Land as at February 1990

Table 7. Original Plot Owners Mortgage of Land to Financial Institutions as at February 1990

	Persons	%	Ha	%	Loan (Ksh.)	Status
Olkinos (n=116)	7	6.0	346	5.7	1,055,000/-	consented
Embolioi (n=299)	6	2.0	349	1.5	2,273,000/-	consented
	1	0.3	49	0.2	70,000/-	pending
Empuyiankat (n=98)	no	land	mortgaged			
Kitengela (n=214)	2	0.9	132	0.7	400,000/-	consented
Poka (n=30)	1	3.3	319	3.6	300,000/-	consented
Total	16	2.1	1,146	1.6	4,028,000/-	consented
	1	0.1	49	0.1	70,000/-	pending

Source: Rutten 1992