ECOLOGY CONTROL AND THE DEVELOPMENT OF PASTORALISM AMONG
THE SAMBURU OF NORTH-CENTRAL KENYA: 1750-1909

BY

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Ecology control and
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DECLARATION

This thesis is my original work and has not been presented for a degree in any other university.

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This thesis has been submitted for examination with my approval as university supervisor.

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LIST OF ABBREVIATIONS

B.P - Before present
CBPP - Contagious Bovine Pleuro-pneumonia
DC - District Commissioner
DVO - District Veterinary Officer
EAAJ - East African Agricultural Journal
ECF - East Coast Fever
KNA - Kenya National Archives
MCF - Malignant Catarrhal Fever
n.d - no date
NFD - North Frontier District
NFP - North Frontier Province
O.I - Oral Interview
PC - Provincial Commissioner
PPR - pestes des petits Ruminants
SAM - Samburu
spp - species
Fig. 1. Location map of Samburu District in Kenya.
I. Samburu District Administrative Boundaries.
Source; Kenya National Atlas, 1970

FIG. III Region exploited by the Samburu during the precolonial period.
This study attempts to investigate the Samburu precolonial historical ecology. It inquires into the ways and means through which this pastoral community managed its physical environment and its resources at a period when it (community) was the master of its destiny. In a nutshell, the study critically examines the Samburu environmental perceptions and how those perceptions influenced the harnessing of the region's natural resources for pastoral production.

The study's preoccupation with historical ecology of the Samburu stems from the realization that the economic, social and political development of any social group has a lot to do with what the physical environment has to offer. Indeed, as Ochien'g (1974) states, human thoughts and actions have their springs, not in a spatial vacuum, but in some definite geographical milieu, which defines in varying degrees the characters and orbit of human effort.

The study views the development of Samburu pastoralism during the stated period, as a function of a successful environmental and resource management by the community. To further give support to this view,
an effort is made in chapter five, to show that once this ecological management gets disrupted, all other aspects of the society fail to function.

The study, being concerned with the resourcefulness and exigencies of nature and also the human action on it (nature), adopts, as its tool of analysis, a Marxian theory namely, "Dialectics of Nature". This theoretical framework ably weaves together the various ideas and concepts which deal with both human and natural history.
CHAPTER ONE

INTRODUCTION

Context of the Problem

The important role that the physical environment plays in food production and particularly for such undertakings as pastoralism has been recognised by scholars for many years. However, systematic studies on the relationship between systems of food production and ecological dictates and specifically for the precolonial era are few. Lack of such studies have had the effect of letting colonial scholars get away with preposterous claims such as that the African husbandmen live at the mercy of nature. The African precolonial environment has been labelled harsh and unmanageable hence has had the effect of slowing down the economic advancement of the African peoples.

Since the 1970s however, many African scholars have increasingly turned their attention to historical ecology and have shown that the precolonial husbandmen, whether in crop or animal husbandry, were well-versed in environmental management which went hand in hand with their economic activities.
It has also been noted that environmental stress has been on the rise since the early part of the 1980s and particularly for the marginal lands where most pastoralists eke out a living. This environmental crisis has triggered off the curiosity of some scholars who have made it their business to find out how the inhabitants of these rangelands cope with such ecological stress. For Odegi-Awuondo (1990: Preface), ecological catastrophes in Turkanaland in the early part of the 1980s are said to have presented to him a big laboratory where hypotheses about nomadic adaptive capacity could be tested and where policy matters could be derived for improving pastoral resilience.

While acknowledging such endeavour by sociologists like Odegi-Awuondo above, anthropologists and conservationists in general, it is our strong conviction that there is a lot to be gained by historians shifting their attention from the much discussed issues relating to production and exchange and focusing on precolonial environmental management within which economic activities took place. The precolonial era is important as it represents the period when Africans were the masters of their destiny and can therefore provide insights into how well today's environmental problems can be tackled, and standard of living for pastoralists raised. Solutions to many of the
environmental problems facing pastoralists today, might be found from within peoples’ past experiences and not from without as conservationists would have us believe. This study focuses on one pastoral community, Samburu, and hopes to bring out in detail how well they interacted with their environment during the period under discussion.

Area of Study:

The Samburu, whose precolonial historical ecology is the prime concern of this study, occupy a district of their own in the Rift Valley Province of Kenya. The District Development Plan, 1989-1993, put the population of the district at 79,908. Samburu District, which derives its name from its inhabitants, lies in north-central Kenya (Figure 1), covering an area of 21,000 square kilometres. Administratively, the district is divided into four divisions namely, Lorroki, Baragoi, Wamba and the recently created Waso, following the sub division of Wamba (Figure 2).

The district boundaries are colonial creations and, as the study shows, the community was not confined to this enclave during the precolonial era. Their economic pursuits saw them exploit a vast region to the immediate east of Lake Turkana, north and south of this current
district (Figure 3). Perhaps this explains the problem the colonial administration experienced in trying to carve out a district for the Samburu.

Until 1921, the Samburu were administered from Archer’s Post and partly from Marsabit. From 1921, they were given a district of their own with its headquarters at Barsaloi and placed directly under military administration. In 1929, the district was combined with Garba Tula to create Isiolo District, but in 1934, it was separated from Isiolo and administered from Maralal. Within one year, it was again combined with Laikipia District and Rumuruti became the new administrative centre, while Maralal acted as a sub-station. Although colonial documents offer no explanations for these administrative changes, we are of the opinion that such explanations would not go beyond the much hackneyed issues such as the “foot-looseness” of pastoralists or lack of personnel, hence measures to cut down administrative costs. However, the most plausible reason for these rapid and haphazard changes was to design a move that would ensure that Lorroki Plateau, the only well-watered portion of Samburu District, was alienated and allocated to white ranchers within the vicinity of the plateau. This explanation is supported by the fact that, the most important issue occupying the colonial
government during much of the period that these
administrative changes were taking place was, as we shall
later find, the so called "Samburu Land Question". This
issue revolved around whether or not the said plateau
belonged to the Samburu historically. It was actually
not until 1947 that Samburu territory was detached from
Laikipia and established as a district and its
headquarters transferred once and for all from Rumuruti
to Maralal.

Statement of the Problem

This study aims at identifying measures that the
Samburu pastoralists undertook during the period under
consideration, in their endeavour to adapt themselves to
their natural environment and show how they manipulated
and moulded it to suit their pastoral activities.

The study critically analyses the role that ecological
factors played in the precolonial economic history of the
Samburu and demonstrates how they responded to the
changes that such factors initiated. The ecological
factors under scrutiny are both abiotic (rainfall, soils,
temperatures and vegetation) and biotic (tsetse flies,
tabanids or gadflies, ticks and wildlife).
Research Premises

The contention of this study is that human history is inextricable from natural history.

Second, the Samburu precolonial pastoral economy operated within a well-understood and hence controlled physical environment.

Third, since the basis of environmental control is people, we contend that the population of the region, during the period under consideration, was stable until the beginning of the 1880s when an ecological crisis brought a sharp drop in population.

Fourth, our contention is that the Samburu livestock management practices were rational and contributed greatly to the general ecological harmony of their territory.

Lastly, we contend that pastoralism was a well-tried out mode of production and not, as colonial scholars postulated, a half-way house between agriculture and foraging.
Review of Related Literature

A considerable amount of work has been done by African historians in an attempt to reconstruct the political, economic and social history of precolonial Africa. The urgency with which these themes have been undertaken stems from the distortions that colonial historiography wrought on Africa's past. This nationalist history was the contribution that African scholars were to make in an endeavour to positively restate the African case.

While all this has been done, historical studies dealing specifically with the relationship between man and his physical environment, are few. During the 1972 Annual Conference of Historical Association of Kenya, one participant "lamented the fact that historians were lagging behind geographers, archaeologists, botanists, anthropologists, zoologists, and medical people in the study of African ecology" (Ogot 1979:1). Although there are indications that scholars are rising to the occasion, as evidenced by the decision to dedicate the 1975 deliberations of the above mentioned association to African ecology, a lot remains to be done and particularly by the historians.

Despite the inadequacy of research into African historical ecology, it is becoming increasingly clear
that ecological issues are "ponderables which ought to set historians thinking in their analysis of localised societal characteristics that have evolved from age-old interactions with their ecologies" (Aseka 1989:113). Helge Kjekshus (1977) in his trenchant analysis of the colonial situation in Tanganyika between 1850 and 1950, has ably demonstrated that African ecology is a fruitful theme. Such a theme, if judiciously examined, would help shatter cliches and myths that portray the precolonial African husbandmen as passive participants in ecological changes and who directed scarce human resources to internecine wars. He has argued that:

far from being initiators only as a defensive reaction to a crisis situation, nineteenth century East Africans were on the offensive against a hostile ecological system, and that until the end of the century they were the victors in that struggle (1977:3).

In Kenya, studies inclined towards precolonial ecology are few. Despite this, Sindiga (1981, 1986), Ochien'g (1990), Odegi-Awuondo (1990) and Matheka (1991) have made useful contributions to our understanding of the relationship between man and his environment during the period. These studies, though they make a spirited defence of the African husbandmen, are not however, dedicated per se to the historical ecology of the era but present the natural environment as a background to the
events they are concerned with.

Further, Sindiga (1981) and Odegi-Awuondo (1990) despite their concern with ecology, centre their studies around the colonial and post-colonial periods. Although Matheka (1991) comes closer to historical ecology and rightly argues that precolonial societies had well-developed mechanisms of coping with risks inherent in their systems of food production, he also, as his abstract reveals, centres his study on the role of the colonial state in the transformation of Kamba society. However, he briefly discusses the effects of the ecological crisis experienced during the last decades of the nineteenth century on the Kamba economy. It is most likely that the inadequacy of such studies, in as far as the precolonial era is concerned, is compounded by the fact that there is very little information concerning most of Kenyan communities who are predominantly pastoral (Van Zwanenberg with King 1975; Ochien‘g 1975; 1990).

The precolonial history of the Samburu is scanty, save for the pioneering work by Spencer (1965; 1973) and that of Fumagalli (1977). At the same time, papers on this community have been presented at various fora or as articles in some renown journals (Fratkin 1974; 1975; Larick 1986). These contributions have highlighted
certain issues that make interesting reading. Both Fumagalli (1977) and Spencer (1973) have presented mainly colonial history of the Samburu paying little attention to the precolonial period. Fratkin's papers (1974 and 1975) entitled "Animal Symbolism in Samburu" and "Herbal Medicine and Concept of Disease in Samburu" respectively, offer invaluable information to anyone interested in Samburu perception of their environment and particularly on their medical knowledge based on herbs. However, this work is inexhaustive on account of the narrowness of the issues he discusses. Further, the work is centred around the 1970s and he makes no effort to link it with the past.

In a paper presented to the Institute of African Studies, University of Nairobi, Anderson (1981) has given a very informative account of the relationship between the Ilchamus and the Samburu before the latter migrated from the Lake Baringo region to the area east of Lake Turkana in about 1840. His account corroborates the Samburu traditions which claim that their community used to exploit the pastures to the south and west of Lake Turkana. Further, the Ilchamus oral traditions, collected by Anderson, support those of the Turkana, recorded by Lamphear (1976), which attribute the migration of the Samburu to their current district, to
the eastward expansion of the Turkana. Although Anderson makes such useful insights into the precolonial history of the Samburu, his major concern is with the Iltiamus and only broaches Samburu historical past where it touches the community he is interested in.

The identity of the Samburu also poses certain problems which are of interest to this study. Hohnel (1894), Chanler (1896) and Spencer (1973) show that this community, during much of the nineteenth century, was identified by their neighbours with the term Loiborgineji which literary means "people of the white goats". Despite this revelation, these writers fail to give an explanation of the circumstances under which the Samburu acquired the term. It is not clear, for example, whether ecological factors had anything to do with the rise of a predominantly goat economy and neither do we get reasons for goats being "white" and not any other colour, nor the specific time when this took place.

Even when precolonial history of the Samburu and their pastoral activities has attracted little attention, it has generally been touched on by many scholars in various publications. However, the preoccupation of most of the scholars in this general literature, has been with futile and trivial issues such as reasons for persistence of
pastoralism through time or the alleged conservatism of pastoralists. In fact, Evangelou (1984:21) has pointed out that the persistence of pastoralism through time has been one of its greatest achievements. Tignor (1976), on the other hand, depicts pastoralists as people who evolved institutions which have all along acted as barriers to their social and economic change. Moranism has been one such institution which has been identified as an obstacle to this hoped for "advancement". This conservatism has too been alluded to by Spencer (1965) in his work entitled The Samburu: A Study of Gerontocracy in a Nomadic Tribe where the usual colonial phraseology of "backwardness" of pastoral communities is evident. He asserts that he finds it "inconceivable that the people I describe in these pages can change substantially in the foreseeable future.... This tenacity of the Samburu to tradition is a theme which is considered throughout this work. A striking aspect of it is the "Moran" (1965:XX1). It should also be noted that Spencer does not consider the Samburu precolonial history in any better light for, in a later publication (1973:149), he dismisses that era as prehistory.

This alleged "backwardness" of pastoralists is based on the Socio-Cultural theory propagated by Herskovits during the 1920s. Its proponents disregard the economic
basis of livestock, stressing the now debased postulation that animals were kept for the cultural aspects of the community and the self-aggrandizement of the individual herdsmen. By ignoring the economic basis of pastoralism, it becomes difficult for such scholars to pay any attention to the ecological system, which in actual fact, forms the backbone of any economic development. What is actually forgotten is the point that, the precolonial "cattle initiative resulted from successful imposition of a man controlled ecological system" (Kjekshus 1977:52).

Linked to the issue of keeping animals for socio-cultural purposes, was the number of livestock kept. Anthropologists have always harped on the large and uneconomical herds kept by pastoralists. As Hart and Sperling notes, anthropological literature is replete with arguments which claim that "East African herders will disregard quality in favour of accumulating the largest currency units possible" (1987:326).

Taking a cue from anthropologists, conservationists claim that these herds were instrumental in environmental degradation. For the Samburu, Spencer (1973) points that they never saw land degradation as a result of overgrazing thereby tacitly implying that the community
was insensitive to environmental degradation. Indeed, the colonial government from the 1920s started to dictate to the Samburu, resident in the well-watered Lorroki plateau, the number of cattle that were to be kept in the region. Environmental degradation, conservationists hasten to add, was made worse by land being "communally" owned and hence no individual was directly responsible for it. Evangelou, quoting Harding (1968), brings the conservationist's point of view into sharp focus. According to this view, each pastoralist:

is locked into a system that compels him to increase his herd without limit... in a world that is limited. Ruin is the destination towards which all men rush, each pursuing his own best interest in a society that believes in the freedom of commons. Freedom in a commons brings ruin to all" (1984:23).

Many scholars have refuted anthropologists and conservationists postulations given above. While lamenting over the rampant ecological degradation in many pastoral areas today, they maintain that precolonial pastoralists had elaborate mechanisms through which the balance between their economic activities and the natural environment was maintained. One such mechanism was transhumance. The Samburu cattle movements in search of grass and water have received some attention from Spencer (1973) and Fumagalli (1977). However, their descriptions are without details and are confined to the
colonial and post-colonial periods. Therefore, there is need to delve into the precolonial era and investigate the mechanisms with which the Samburu overcame ecological limitations. As Raikes observes, precolonial pastoral communities such as the Samburu, had quite a strict control over the use of pastoral resources such as grass and water and he attributes today's rampant overgrazing to land alienation and destruction of the social system upon which such controls were based (1981:25).

The association of the precolonial herdsmen with large herds only strengthens Kjekshus's point that the nineteenth century cattle complex is enough proof that man and ecosystems were in a state of equilibrium. He stresses that, contrary to the idea by some Western scholars that:

the introduction of cattle in the tropics was ecologically disastrous and economically insignificant ... cattle constituted a significant aid to the maintenance of the ecological control system by the East African husbandman (1977:6).

Pastoralists' form of land use has received sharp criticism from those who favour the policy of intervention. "Developers" usually view transhumance as "nomadism" which they feel needs to be replaced with ranches. It is often forgotten that most of the land
that pastoral communities, such as the Samburu, have occupied through time, have been greatly limited by water and pasture shortages, incidence of diseases, harmful insects and game (Allan 1965; Pratt and Gwynne 1977). Transhumance was therefore the most effective way through which such marginal lands could be utilized by such communities. This explains why the Samburu for example, walked out of the ranches established by the colonial government in the early 1960s. Rather than being irregular and irrational, transhumance describes regular patterns based on the accessibility of the meagre pastoral resources in different seasons of the year and in some cases also disease avoidance (Raikes 1981:25).

Ecological limitations varied from region to region and therefore, there is need for more studies to be done in specific areas so as to investigate how communities organised their day-to-day pastoral activities. Most of the studies we have referred to above, while contributing greatly to our understanding of the dynamics of transhumance, have sacrificed specific issues of inquiry at the altar of generalizations.

Precolonial entomology is one field that historians need to turn their attention to. Colonial writers, administrators and many of our today's Western-based
conservationists have asserted that precolonial herdsmen lived at the mercy of harmful insects. The tsetse fly has been described by many Western scholars as the "African bane" that accounted for the "backwardness" of precolonial economies since it rendered large tracts of viable land uninhabitable (Ealand 1914; KirkPatrick 1957; Tweedie 1974). Further, they add that, it was the incompetence of the African husbandmen that made it possible for the fly to colonize vast areas of the continent.

It was not until 1971 that these theories, explaining the "African tsetse problem", were questioned. In that year, Ford published an incisive treatise on the insect entitled The Role of Trypanosomiasis in African Ecology which heavily criticised the notion that the precolonial farmer and herder were incompetent and idle with little, if any, knowledge of the tsetse and its attendant problems. Interestingly, his curiosity, for the tsetse issue, was triggered off by information he harnessed from sources which the "entomological experts" never care to consult—the local people. Ford learned from the Ankole people that the tsetse was not known in their country before the advent of Europeans. "This assertion would have been dismissed as absurd had it not been discovered shortly afterwards and quite by chance, that it was true
and that for some hundred of years, there can have been no G. (Glossina) morsitans there" (1971:7). While not denying the problem of the fly in some areas, he however pointed out that many cattle owning communities were aware of the connections between the deaths of their cattle and the tsetse bite. This knowledge was used in designing methods of overcoming the problem. He lamented the fact that colonial scientists:

almost entirely overlooked the considerable achievements in the indigenous peoples in overcoming the obstacle of trypanosomiasis to tame and exploit the natural ecosystem of tropical Africa by cultural and physiological adjustments both in themselves and their domestic animals (1971:9).

In the words of Giblin, Ford’s work has cast the entire sweep of precolonial history in a new light, freeing African economic history from its long obsession with exchange (1990:60). He however laments that very few historians betray the influence of Ford in their work save for Kjekshus (1977) who emphasized the avoidance of tsetse by the precolonial Tanzanians. Giblin on the other hand, has criticised Kjekshus for emphasizing:

the ability of precolonial Tanzania to avoid tsetse, and never notes that in this respect he differs with Ford, who stressed the importance of maintaining low-level contact between tsetse vector and human and domesticated hosts (1990:67).
Giblin's standpoint on the fly issue is that, precolonial societies did not eradicate tsetse populations but instead co-existed with vector (tsetse) and trypanosome (organisms that cause trypanosomiasis).

It is true that Kjekshus has claimed that flies were isolated to limited and well-known foci that could easily be evaded when herding, but this is only but one of the tsetse-control measures he gives (Kjekshus 1977:53-55). Ford (1971) did not actually restrict himself to the immunity of cattle as the only way through which the precolonial East African herdsmen dealt with the tsetse problems. He showed that some communities such as the Ankole only experienced the tsetse menace from about 1900, while others like the Zulu used transhumance as a way of avoiding the insects. Further, the Maasai and the Sukuma, during severe droughts, took risks by driving cattle to tsetse-infested areas "where they know that many will die of trypanosomiasis, while outside [in the drought stricken regions] all will die of starvation ..." (Ford 1971:482).

The assertion that precolonial people co-existed with the tsetse flies is also alluded to by Fumagalli who claims that the Samburu did little in terms of controlling the fly and that trypanosomiasis made their
cattle "remain in a stunted or unproductive condition" (1977:66). This standpoint is not only uncharacteristic of a people well-versed in their physical environment but also too simplistic, if not totally unacceptable. In the literature we have been reviewing, on the tsetse and its problems, what emerges is that, there is a great need for historians to direct their attention to precolonial entomology. This study wholly agrees with Giblin that the social "control of trypanosomiasis in African history deserves further study" (1990:80). Such studies, on precolonial entomology, would be enriched by the chipping in of expert knowledge from ecologists, geographers, veterinarians and to a great extent the local people, whose long-time experience is a treasure historians cannot afford to ignore. As Ford observed:

much effort and expense might be spared if it were borne in mind that Africans, centuries ago, found solutions to the problems created by the presence of tsetses and trypanosomes (1971:493).

Such studies, it is hoped, would make it possible for more information to be gathered on other harmful insects such as ticks and gadflies or tabanids.

The other issue that needs the attention of historians revolves around the relationship that existed between the
herdsmen and game. Some scholars, basing their arguments on accounts left behind by early European travellers, have claimed that East Africans co-existed with wildlife harmoniously. Both Fratkin (1974) and Fumagalli (1977) portray the precolonial Samburu as people who lived with wildlife without there occurring conflicts whatsoever. This postulation is doubtful, given the fact that game, and particularly large herbivores, depend on the ecosystem for their food and water requirements and could therefore be deemed as competitors with domestic animals. It would therefore be unconvincing to claim that no conflicts existed between the Samburu and their economic pursuits on the one hand, and wildlife on the other. Talbot, for example, has detailed the kind of conflicts that arose between the Maasai and big herbivores such as elephants and the measures undertaken to deal with the problem (1964:161). As Kjekshus has pointed out, man and game competed for territorial control and that the nineteenth century was a period of vanishing frontiers for wildlife (1977:78). While there exists general studies on game, there is little in terms of studies dealing specifically with relationships between man and wildlife and particularly those that use Kjekshus's approach.

All the literature reviewed here has played a pivotal
role, not only in shaping this study, but also in helping
to focus on the issues discussed clearly. However, the
literature review has attempted to expose the many gaps
in knowledge, regarding the precolonial era, where the
African ways of ecological management calls for an urgent
attention. This study hopes to fill in the knowledge
gaps we have made bare, by critically examining the
historical ecology of the precolonial Samburu.

Justification for the Study

As the literature review has demonstrated, there are
few studies that focus on precolonial pastoral
communities such as the Samburu. Even the few that
exist, are but general studies which cannot be said to
be representative of all regions or communities. This
study is centred on a specific community, the Samburu and
intends to make its contributions to the general
understanding of precolonial African ecology in the light
of the shortcomings evident in the literature just
reviewed.

It is now an accepted fact that precolonial history is
a priority area given that our only repositories of
knowledge for that era, the elders, are fast
disappearing. As the late Amadou Hampate said in his
best remembered dictum, "In Africa, when an old man dies,
it's an entire library which is burnt out" (Sunday Nation, May 26, 1991:XII). This study is an attempt to tap this rich source of information before the ravages of time dries this fountain.

There is, since the beginning of the 1980s, a realization that environmental problems in arid and semi-arid lands (ASAL) are on the increase. This study hopes to be of some use in the general understanding of these problems and thus make a small contribution in looking for solutions. The study, in this respect, concurs with Hamilton that:

the study of the past throws much light on the modern conditions, and vice versa, and the principle "the present is the key to the past" can be balanced with as much validity by that of "the past is the key to the present" (1982:3).

The year 1750 is considered important because by that date, as this study shows, the Samburu had evolved into a community more or less as we know it today. On the other hand, 1909 represents, for this study, the end of the precolonial period and the beginning of the colonial era. That year saw the appointment of Sir Percy Girourd as Governor of the then East African Protectorate who immediately created the North Frontier District (NFD) which included Samburu territory too. This marked the
end of Samburu control of their social, economic and political destiny.

Theoretical Framework

Any study whose concern is history and ecology has to contend with two very important but also conflicting issues. The first involves the physical environment within which historical process takes shape and which has also been described as a necessary index of analysing the historical development of any community (Aseka, 1989). Second, there is the role that man, as an integral part of his ecosystem, plays in moulding the environment for his economic good. Any theoretical formulation ignoring the role that the two factors play in an extensive system of food production, such as pastoralism, would be inadequate. Various paradigms have been formulated and used to explain the interrelationships between man, his economic activities and the natural environment.

Environmental determinism or simply ecological theory, has been used to explain the relationship between organisms and their environment and also the evolution of the various systems of food production. This theory mostly tends to focus its attention to the effects of the physical environment on the organisms within any given ecosystem. In its type of inquiry, the theory puts man
at the same level with both the floral and faunal components of the ecosystem, which constitutes what is generally defined in ecology as natural history. Studies embracing this theory emphasize the immutability of the natural environment which is said to set great limits to human action (Sherrif 1985). Accordingly, the only open alternative for man is to conform to the dictates of nature, a process described as adaptation (Odegi-Awuondo 1990). This theory is, however, unsuitable for our study for the simple reason that it downplays the role of man in ecological change and control. It is for this reason that many scholars have criticised it for it has been used by racist scholars to explain what they allege was the "backwardness and stagnation" of the precolonial African economies. As Hopkins observes, the "physical environment has not been an immutable determinant of man's activities either in ... Africa or in other parts of the world" (1973:14). Environmental determinism is therefore stagnationist in outlook and hence not historical.

Because of the inherent weaknesses of the above discussed theory, some scholars have postulated that population pressure determines human action. While in 1798 Robert Malthus (1766-1834), in his An Essay on the Principle of Population, had argued that population grew
exponentially while the food supply grew at best at an arithmetic rate (Brewer 1988:143), proponents of demographic determinism assert that population pressure provides a useful economic stimulus (Richards 1983). Demography as Hopkins (1973) suggests, should be a central theme in African economic history. Kjekshus (1977) for example, ably demonstrated that the primary key to ecological control situation is people. The strength of this theory lies in the fact that it gives man prominence in the entire spectrum of ecological, economic and social change.

However, the main problem with this population theory is that it is biased towards agricultural rather than pastoral societies such as the Samburu who form the subject of our inquiry. Richards (1983) in a very well-researched article in the *African Studies Review Journal*, entitled "Ecological Change and the Politics of African Land Use" has detailed the effects of population pressure on agrarian change. Although he correctly echoes Marx's observation that "... every historical mode of production has its own special laws of population, which are historically valid within that particular sphere" (1976:784) Richards's analysis, based on this demographic theory, has not gone beyond sedentary agriculturalists.
The other shortcoming of this theory, and particularly for the precolonial era, is lack of figures to enable scholars to construct reliable population trends for the period (Sindiga 1990). The theory therefore seems to be appropriate for the colonial and post-colonial epochs. Despite this "numerical" hitch, Kjekshus (1977:5) has admirably overcome this by postulating that prior to the ecological crisis of the 1880s and 1890s, population of East Africa could be said to have been relatively stable or even slowly expanding.

In an attempt to bridge the gap between ecological and demographic theories, some scholars have embraced the Human Ecological Theory. The view propounded by this paradigm is that, though the physical environment sets certain economic limits, human initiative and creativity are instrumental in overcoming such limits. The theory is reputed to place "mankind at the centre of the total physical, biological and social environment which he has to tame for survival" (Odegi-Awuondo 1990:7). It elevates humanity above other organisms, within the same ecosystem, because of man's high degree of creative choice and human ability to change his environment (Jacobs 1965:114-115).

However, like the ecological theory, which as we saw
ignores the role of human factor in ecological change, human ecological theory downplays the crucial role played by the natural environment in food production. It fails to recognise that, ecology as a factor is primal in all forms of human development as it largely determines the means, mode and even factors of production (Aseka 1989:111). Further, its postulation that human ingenuity overcomes natural forces fails to explain why ecological cataclysms like those of 1880s and 1890s, discussed in chapter five of this study, have adverse effects on human societies. While correctly portraying man as a conscious being, endowed with abilities to alter his physical environment for his own economic progress, this theory waters down the effects of natural forces which man has had to reckon with throughout the centuries in the production of his means of subsistence.

As we have explained, the greatest shortcoming of ecological, demographic and human ecological theories, in as far as pastoral production is concerned, lies in the sharp distinction they make between man and nature. Their emphasis on the importance of one at the expense of the other makes their type of inquiry lopsided and hence rendering their postulations unconvincing. The theories fail to recognise that "man is part of nature, albeit that part of nature which is self-conscious"
For his survival, man mobilizes the forces within him, that is his labour power to confront forces of nature. In the words of Marx, man:

confronts the materials of nature as a force of nature. He sets in motion the natural forces which belong to his own body [labour power]... in order to appropriate the materials of nature in a form adapted to his needs (1976:283).

Labour therefore, becomes the indispensable asset with which man alters nature for his own economic needs. By setting in motion his own natural forces, man acts upon external nature and changes it, and in so doing "he simultaneously changes his own nature" (Ibid). The change in "his own nature" points to the improvement in his material wellbeing.

These postulations on the relationship between man and nature are well grounded in a theory entitled, "Dialectics of Nature" advanced by Engels in 1875. Dialectics of nature, which this study adopts, presupposes that man is part and parcel of his natural environment and draws no sharp distinction between the two. On the other hand, the paradigm perceives food production as the end result of the interaction between man, through his labour power, and his environment.
This theory, as Aseka (1989:111) observes, is within the locus of historical materialism due to its regard of the environment as the inescapable resource upon which material productive forces are hinged. The other characteristic of the theory is that it is historical and not stagnationist in the way it analyses societies.

The concept "dialectics" is central in this theory and it denotes historical motion. As a tool of analysis, the concept enables us to examine the world in constant motion, development and regeneration (Onimode 1985:28). In the words of Walker:

dialectical process is thus, not a mental development; it is the very nature of change and development itself, a development in which man both makes the world, and is made by it (1978:62).

According to dialectics of nature, the natural world is the source of all human wealth (Engels 1977:66). However, the realization of human needs calls for an interaction between man and nature; an interaction only achieved through the labour process. In applying his labour power to forces of nature, man subdues or tames these forces, which makes it easy for him to make his livelihood. It is therefore the application of labour power which, as Marx noted, leads man into developing the
"potentialities slumbering within nature and subjects the play of its forces to his own sovereign power (1976:283).

To achieve his goal, which is ostensibly food production, man employs various implements or instruments of labour which were defined by Marx as things or complex of things which the worker interposes between himself and the object of his labour and which serves as a conductor, directing his activities onto the object (1976:285). For our study, such instruments of labour, through which the Samburu tamed nature, include among others, fire, used in the regulation of vegetation growth, on which man’s livestock depended for food and also for the control of vermin and pests. Another instrument was the digging stick for the digging up of wells to tap subterranean water. The Samburu also extracted certain plant chemicals with which they tipped their spears and arrows for the defence of their community and stock wealth or for the treatment of both human and animal diseases. These observations are validated by Marx’s assertion that man “makes use of the mechanical, physical and chemical properties of some substances as instruments of his power and in accordance with his purpose” (1976:285).

It is this human capability to effect change upon nature and by the same token improve his lot, that
distinguishes man from the wild animals who share the physical environment with him. Man's effect on nature, unlike that of game "assumes the character of premeditated planned action directed towards definite preconceived ends" (Engels 1977:73). Man's economy is, and has always been, planned while that of the wild animals is predatory in nature.

However, despite man's capability in impressing his stamp on nature, there are certain times in history when he is frustrated by what Engels (1977:53) refers to as "unforeseen effects and uncontrolled forces" in the course of pursuing his economic objectives. Ecological disasters such as severe droughts that wipe out entire herds on which a society subsists, human and livestock afflictions and in some cases floods are good examples of such "uncontrolled forces" which thwart the aims set by man in his economic pursuits. This means that forces of nature are at times stronger than those of man, and when this happens, nature takes advantage of the changed situation and with dire consequences for man and his whole spectrum of productive activities. It is with this in mind that Engels in his wisdom, cautioned humanity against flattering...

... ourselves over much on account of our human victories over nature. For each such
victory nature takes its revenge on us...
Thus at every step we are reminded that we, by no means rule over nature like a conqueror over a foreign people, like someone standing outside nature— but that we, with flesh, blood and brain belong to nature and exists in its midst ... (1977:74).

It is against this theoretical background that the ecological crisis, experienced by the Samburu and other East African communities during the last two decades of the nineteenth century must be seen.

Dialectics of nature therefore, is an all embracing paradigm whose method of inquiry can successfully be applied to this study. Unlike the other theories broached earlier, this theory emphasizes the fact that the natural environment is not a state of rest and immobility, stagnation and immutability. Rather, it is a state of continuous movement and change, of continuous renewal and development and something always disintegrating and dying away. In other words, it negates the view that there is anything like a "petrified outlook of nature" where the latter is ossified and hence unalterable (Engels 1977:46).

Methodology.

This study, focusing as it does on various ecological issues affecting the Samburu during the precolonial era,
had to rely on both primary and secondary sources. Being a study whose interest lay with a historical period devoid of written sources, Samburu oral traditions formed the backbone of the data. The oral interviews were carried out between February and April 1991 in both Lorroki and Baragoi divisions of Samburu District. A reconnaissance trip to the district had been undertaken in January 1991 for the author to familiarize himself with the land and its people before the fieldwork could commence.

Fieldwork involved identifying informants, particularly elders, although very valuable information was also gathered from relatively young people who undoubtedly appeared to be very well-informed. With the help of a research assistant who made contacts and later introduced me to informants, interviews proved very fruitful. The research assistant also played the important role of bridging the language gap between the author and most of the informants by translating questions and answers. A list of questions had been prepared before hand.

Initially it had been hoped that a cassette recorder and tapes would be used but the practice was discarded when it became clear that the informants were not at ease with the method. The oral interviews involved posing
questions to the informants and the answers elicited noted down. On many occasions, the exercise was carried out in a discussion manner where the exchanges became so fast, lively and captivating that note-taking could not keep pace with the discussion. Under such circumstances, the author only put down on paper very brief notes, which were reorganised later in the day. This was particularly so with group interviews where members of the group reminded and corrected each other in the course of the discussion.

Although the study was centred on precolonial history, the Kenya National Archives (KNA) provided worthwhile documents on the early years of colonial rule in the North Frontier District (NFD). The documents were especially important in as far as European writers, administrators and scientists described the ecological situation of Samburu territory in the first decade of the twentieth century. Other than colonial documents, this information centre provided some of the earliest and at times scarce books on Samburuland, such as those written by the earliest travellers like Hohnel, Chanler, Neumann and Stigand who traversed the region before the imposition of colonial rule. The Samburu District Archives, located in Maralal, also offered very good maps for the district although it had little in terms of
publications related to the study. Missionary archives, today part of the Catholic church seminary, were also visited and their documents perused. This information centre was found to be rich in cultural and religious practices of the Samburu although there was little on their environmental management.

For secondary sources, library research was done well before and after the fieldwork. The Kenyatta University Moi Library and Jomo Kenyatta Memorial Library of the University of Nairobi provided invaluable back-up information for this study. Likewise, the East African Natural History Society's library, situated at the Kenya National Museum (Nairobi), was found very rich in books, journals from all over Africa, and conferences papers, most of which had a lot of information on both natural and human history. The Kabete campus library was also frequented and it provided useful publications particularly on issues relating to entomology.

The study also benefited greatly from discussions and consultations with officers from the district Veterinary Department. This specialized department was very useful and helpful in offering free technical advice on diseases that the informants claimed ravaged their lands during the nineteenth century. Further, the department enriched
the study by its expert knowledge on the ecology of the region, and in the provision of services of officers who, being of Samburu origin gave a lot of meaning to the oral information gathered from the field.

In a study of this magnitude problems were bound to occur at one point or another. Besides the language hitch whose solution was found in the services of a research assistant, or the ever chronic problem of inadequate research funds, there were others that deserve mention. In the first place the author had to gain the confidence of the informants before they could confide in him all they knew about their community's past. The Samburu refer to all those alien to their community as Ilmang'at and one has to carry himself in a manner that is not suspicious before he can be trusted. This problem of being distrusted however, ended after interviewing a few elders who spread word that the author was of good behaviour and intentions.

The fieldwork was conducted during the dry season and the author had to travel for long distances to meet and interview informants who at such times, took their livestock to regions far from homesteads in search of water and grass. Such journeys were usually made on foot as the dry season pastures supuko, are not necessarily
along major roads but approached via footpaths.

Despite these problems, the data gathered from all the varied sources described above have been compared, contrasted and analysed to make it possible for this work to be presented in the chapters that follow. The study is therefore a synthesis of all the data gathered from the various sources shown above.
CHAPTER TWO

THE PHYSICO-BIOTIC ENVIRONMENT OF SAMBURULAND

It is a common practice for historians to regard the physical environment as "a "background" to the events which are their prime concern" (Hopkins 1973:11). If this approach is unacceptable in economic history, as Hopkins (1973) observes, it is even more so for historical ecology. The natural environment, being the stage upon which historical action develops and is nourished, deserves a detailed discussion (Ogot 1979). Indeed, as Marx and Engels observed:

The writing of history must always set out from these natural bases [ecology, which is further defined simply as "geological, orohydrographical, climatic and so on"] and their modification in the course of history through the action of men (1966:20).

While conceding the inability of the environment to influence human activity, our contention is that ecological factors were important and potent forces that the Samburu precolonial herdsmen had to reckon with.

It is with this in mind that we feel that, before bringing the Samburu husbandmen on the stage, their habitat and its resources, should first be given a
detailed discussion. This approach, we believe, is in line with the challenge posed by Ogot when he stated that ecological studies should "evolve a human geographical framework within which we can set our historical interpretations" (1972:2).

The Physical Environment

The ecology of Samburuland is a complex determinant that defies a climatic generalization which would suffice to describe the district as one ecosystem. As one scholar observed, the district "presents a rather diversified physical configuration that along with the geographical location carries important implications for its climate, rainfall, vegetation and land potential" (Fumagalli 1977:43). For convenience sake, we shall divide the land into two ecological niches or zones, basing it on the topography of the land.

Highlands

The first ecological niche would comprise the plateau country, termed Lorroki and found in the southwestern part of the district. The general altitude of the plateau is 1,500 metres and constitutes a meagre 8% of the entire district. To this plateau, we add the various mountain ranges in the northern and eastern parts of the district. These mountain ranges are able to attract
orographic rainfall that helps to maintain montane vegetation on them. They include Ol-doinyo Ng’iro in the North whose highest point reaches 2,709 metres. In the East lies Ol-doinyo lingeiyeu (Mathews Range) which rises to 2,337 metres and the Ndottó mountains whose highest peak commands a height of 2,637 metres.

However, there are two other mountains as indicated in the map on page (x) that must be included in this study which, though lying in the present day Marsabit District, were important to the Sambaru precolonial pastoral economy. The first is Ol-doinyo Kulal (whose capture by the Sambaru from the Boran in about 1840 will be discussed later), which lies to the southeast of lake Turkana, and rises to about 2,293 metres. The other mountain is Marsabit which the Sambaru captured from the Laikipiak during the same period. The mountain commands a height of 1,531 metres.

Lowlands

Out of the four administrative divisions that constitute Samburu District, three of them, namely Baragoi, Wamba and Waso, lie in the lowlands. These form what is generally referred to as the "low country" while the Sambaru term of the same is L purkel, literally translated as "lowly dry and extremely hot" region.
This term *purkel* seems to correspond to Maasai *Ol-Purkel* (Waller 1985:102).

The lowlands geographically comprise the plains that stretch across the district, midway, from North to South. These plains have a general altitude of between 1,140 and 1,500 metres. They are *lbarta* to the north, *Swari* to the east and *Lbrowneki* to the south of Lorroki plateau (see figure III). To the eastern side of *Ol-doinyo Lingeiveyu* are the plains referred to by the Samburu as *Martì*.

The categorisation and description of the topography given above, corresponds to more or less the way the situation was during the nineteenth century. Though climatic fluctuations have taken place from time to time, there is no evidence of radical topographical changes within the region during the period under consideration.

**Moisture Content**

Mirrored to the above topographical division, is the moisture content of the two ecological zones. Often, the division of Kenya into various eco-climatic zones, categorize Samburuland in zone V and VI - semi-arid and arid respectively (Pratt and Gwynne 1977; Evangelou 1984). The same land is classified as an ASAL (Arid and Semi-Arid Lands) district, whose degree of
Aridity ranges between 85 to 100 percent (Darkoh 1990:3). However, when we consider the two ecological niches described above, we find that the moisture levels are very different from each other. The highlands are relatively moist and support adequate vegetation. The lowlands are mostly dry, with a very low moisture level, save for the unpredictable rainy season.

The "low country" constitutes the largest area in the entire district and more than any other aspect, it is this region that has given Samburuland its fame for aridity. In 1868, Hohnel observed that "Samburuland is very badly supplied with water and there are absolutely no rivers or streams which are never dried up" (1894:184). The same was observed by others like Chanler (1896), Neumann (1898) and Stigand (1910). To them, the region was nothing but a "barren waterless wilderness" and their records are replete with accounts of the long agonizing hours they trekked through the region without water. Even current scholars never forget to associate certain aspects of the social and economic life among the Samburu with the harshness of the environment. According to one, the limited potential for development towards marked class differentiation among the Samburu results from the harsh environment experienced in the region (Sheriff 1985:14). Similarly, the lack of an elaborate
military organization, and a less developed institution of Laiboniship of the Maasai fame has also been attributed to the aridity of the region (Spencer 1965:XVIII). While such assertions on the effects of aridity on the socio-economic life of the Samburu do not concern us here, suffice it to say that the aridity of Samburuland is not a recent phenomenon. The society, through the centuries, has had to contend with this scarcity of water.

Rainfall patterns

The Samburu occupy a region that corresponds to what is generally described as a Savanna environment whose rainfall patterns vary yearly. This variability of rainfall, increases markedly with the length of the dry season. As Harris (1980:10) contends, this year-to-year irregularity of rainfall creates a high degree of unpredictability into Savanna environments with which plant, animal and human population have to cope. In spite of this problem, man has continually lived in such harsh environments fending for himself for centuries. Indeed, that life can continue at all in such environments, is due to the great adaptability of human beings to the resources available (Van Zwanenberg with King 1975:83).
Rainfall figures for precolonial Samburuland are difficult to come by. However, recent figures, collected during the colonial and post-colonial periods would serve to illustrate the general trend of rainfall for the region. In the following table, there are figures obtained from three stations in the district which would assist us to infer the way the situation was during the precolonial era. The figures cover a period of thirty-six years from 1939 to 1975.

TABLE 1:
AVERAGE MONTHLY AND YEARLY RAINFALL OF MARALAL, WAMBA AND BARAGOI AS CALCULATED ON RAINFALL RECORDS RANGING FROM 1939 TO 1975

<table>
<thead>
<tr>
<th>STATION</th>
<th>J</th>
<th>F</th>
<th>M</th>
<th>A</th>
<th>M</th>
<th>J</th>
<th>A</th>
<th>S</th>
<th>O</th>
<th>N</th>
<th>D</th>
<th>YEARLY AVERAGE</th>
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<td>mm</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>24.40</td>
</tr>
<tr>
<td>MARALAL</td>
<td>.60</td>
<td>.76</td>
<td>1.43</td>
<td>3.43</td>
<td>2.47</td>
<td>2.19</td>
<td>3.53</td>
<td>3.94</td>
<td>1.62</td>
<td>1.46</td>
<td>2.03</td>
<td>.94</td>
</tr>
<tr>
<td>inch</td>
<td>15</td>
<td>19</td>
<td>36</td>
<td>86</td>
<td>62</td>
<td>55</td>
<td>88</td>
<td>98</td>
<td>40</td>
<td>36</td>
<td>51</td>
<td>24</td>
</tr>
<tr>
<td>mm</td>
<td>1.14</td>
<td>.88</td>
<td>3.21</td>
<td>7.04</td>
<td>2.14</td>
<td>.15</td>
<td>.46</td>
<td>.30</td>
<td>.15</td>
<td>2.39</td>
<td>7.35</td>
<td>2.55</td>
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<tr>
<td>WAMBA</td>
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<td></td>
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<td>27.76</td>
</tr>
<tr>
<td>inch</td>
<td>29</td>
<td>23</td>
<td>81</td>
<td>177</td>
<td>54</td>
<td>4</td>
<td>6</td>
<td>8</td>
<td>4</td>
<td>60</td>
<td>184</td>
<td>64</td>
</tr>
<tr>
<td>mm</td>
<td>.85</td>
<td>1.28</td>
<td>1.58</td>
<td>4.03</td>
<td>2.13</td>
<td>.71</td>
<td>.90</td>
<td>.79</td>
<td>.62</td>
<td>3.32</td>
<td>3.25</td>
<td>1.31</td>
</tr>
<tr>
<td>BARAGOI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td>19.77</td>
</tr>
<tr>
<td>inch</td>
<td>21</td>
<td>32</td>
<td>40</td>
<td>101</td>
<td>53</td>
<td>18</td>
<td>22</td>
<td>20</td>
<td>15</td>
<td>58</td>
<td>81</td>
<td>33</td>
</tr>
</tbody>
</table>

The figures in the table give the impression that, though low rainfall totals are registered, there is at least some amount of precipitation received every month and year. However, this is a wrong impression as the stations indicated are not representative of the real situation. As Spencer (1973:6) observes, these stations were carefully built in places of good supply of permanent water and reasonable climate for the colonial administrator. It is not surprising that, to this day, they (stations) are the divisional headquarters of the district.

Rainfall for the district, as we have just observed, presents a rather complicated picture. Not only is it unpredictable but it also portrays a high spatial incidence such that, areas just a short distance from one another can receive highly contrasted amounts. Evaporation, being primarily a function of elevation, is generally in excess of rainfall received (Dyson-Hudson 1980:173). We have already shown that much of Samburuland is lowlying and therefore prone to high evaporation rates so that whatever little rain is received, is lost through this process. The following table provides useful insights into the relationship between elevation, rainfall received and evaporation rates. This in the final analysis, reveals that
Samburuland is always at an extremely high moisture deficit.

**TABLE 2:**

FIGURES FOR MARALAL, WAMBA, BARAGOI AND ARCHER’S POST SHOWING RAINFALL AND EVAPORATION RATES:

<table>
<thead>
<tr>
<th>STATION</th>
<th>LATITUDE</th>
<th>LONGITUDE</th>
<th>ELEVATION</th>
<th>MEAN ANN. RAINFALL</th>
<th>MEAN ANN. EVAP.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MARALAL</td>
<td>1°05'N</td>
<td>36°42'E</td>
<td>5856</td>
<td>24.40</td>
<td>AROUND 60</td>
</tr>
<tr>
<td>WAMBA</td>
<td>056'N</td>
<td>37°23'E</td>
<td>4206</td>
<td>27.76</td>
<td>AROUND 90</td>
</tr>
<tr>
<td>BARAGOI</td>
<td>1°45'N</td>
<td>36°45'E</td>
<td>4116</td>
<td>19.77</td>
<td>AROUND 90</td>
</tr>
<tr>
<td>ARCHER’S</td>
<td>0°38'N</td>
<td>37°40'E</td>
<td>2585</td>
<td>14.06</td>
<td>AROUND 100</td>
</tr>
</tbody>
</table>

Source: Fumagalli (1977)

When the two ecological zones are considered in terms of precipitation, it will be found out that the
plateau country, Lorroki, and the few scattered mountains, receive relatively higher totals than the vast lowlands, the L purkel.

According to the oral sources, the most agonizing time during the precolonial period was the dry season locally termed ngolong whose duration varied with altitude. In the higher and cooler Lorroki plateau, there were two rainy seasons of varying duration. The first, known by the term lng'ering'erwa followed the severe drought, known also as ngolong and experienced at the height of the dry season. Lng'ering'erwa is actually the March to April long rains experienced in most parts of Kenya. To the Samburu, this type of rain signified the "Grace of God" following as it did, the dry and obviously "season of hunger" (Mary Lewoso O.I, March 1991). The rain was also experienced in other regions of the district. It brought in its wake, a time of plenty, when problems of water for human and stock consumption came to an end since a lot of surface water became available. The families, which during the dry season were split as some members, particularly the warriors, were away to areas where livestock could get enough feed, came together. Within a few weeks, grass sprouted and the previously dusty and bare lands became attractively green.
The second rainy season that graced the higher regions was termed lurikiine which was experienced only in Lorrocki plateau. Lurikiine followed a short dry spell that was experienced after lng'ering'erwa slackened in about May. This type of rain corresponds to the July-August short rain still experienced and known by the same term. The term lurikiine meant, as it still does, "to lead sheep and goats" to the short and succulent grass which covered much of Lorrocki plateau during and immediately after this short rain.

The lowlands experienced a very long and scorching dry season after the March to April (lng'ering'erwa) rain. However, in November, the region was blessed with short rains termed Ltumurenji. These rains were presumably convectional as they were said to avoid the higher lands, although livestock would be driven from such higher areas to the lowlands to take advantage of the sprouting grass. Ltumurenji closed the Samburu calendar of seasons, which organized, as we shall see later, their pastoral activities.

From these seasons, it becomes clear that Samburuland was (and still is) characterised by an acute shortage of water for most of the year and particularly for the vast low country. Here, the dry season extended for about
seven or more months. It should also be noted that the unpredictability and irregularity of the rains would sometimes mean that long periods of time (even years) would elapse without a single drop of rain being experienced. In fact, to grasp the real nature of rains in Samburuland, and its meaning to the people, a quote from Spencer would do ...

... it is never certain when or if the rain will fall: Occasionally there may be floods, but it is more usual for the wet season to fail completely leading to a serious drought... when the rain does come, it is often the wrong sort of rain: showers are generally heavy and only a fraction of the water falling may be regarded as effective rainfall: the remainder is not retained by the eroded soil and it rapidly flows out of the country taking more soil with it. Soil erosion and a general scarcity of water are the two harshest limitations affecting Samburu economy (1965:1-2).

There is no doubt that these problems were made worse by the colonial government and its policies such as those confining the Samburu community to a specific geographical locality and banning of cattle movement from one place to another (quarantine), in total disregard of their pastoral needs. Such policies, also perpetuated by post-colonial governments, have led to overgrazing and hence serious problems of both sheet and gully erosion, particularly in the arid sections of the district. However, these problems were also experienced by the precolonial Samburu herdsmen, but during that period, as
we shall see later, the community had a free hand in dealing with such limitations as they came.

Vegetation

The vegetation of the two ecological zones is a function of the regional climates. The higher regions, as observed earlier, are cooler and moister than the lowlands and therefore, support montane forests, and on their slopes there are extensive grasslands that have supported livestock for centuries. This highlands vegetation constituted important grazing preserves during precolonial era. Owing to being well-watered and having an adequate vegetational cover, their soils are relatively well-developed in comparison to the lowlands and hence offer good grounding for the herbage found.

In the L purkel (low country) region, the vegetation is of dwarf bushland interspersed with stunted acacia trees. The grasses here are seasonal, their growth being regulated by the irregular and erratic rainfall. As one approaches the north, in the vicinity of Lake Turkana, bare patches of land or rocky outcrops are a common occurrence. The aridity of this region and the lack of adequate foliage from which humus would emanate has condemned the soils to looseness that has helped erosional forces to reign supreme.
From this brief survey of vegetation in Samburuland, it becomes clear as to why the few mountains that dot this region have been, as we shall see, of great historical significance to the Samburu. Their existence ensured that the herdsmen had pastures to turn to during the dry seasons.

The Biotic Environment

Just as it is difficult to reconstruct the physical environment of precolonial Samburuland, its entomology and wildlife, or what such factors meant to the herdsmen, present an equally insurmountable challenge as no records to that effect exist. Those who have attempted to delve into the era, towards that end, have done so to simply show that herdsmen lived at the mercy of such harmful insects like ticks and the tsetse flies. Even when such scholars invoke the immunity of livestock to insect-borne diseases, they always argue that the diseases made the livestock a pitiable sight (Fumagalli 1977). Wild animals on the other hand, as Kjekshus (1977) has observed, have been shown to have been beyond man's capability to control and hence constituted another scourge. The section that follows attempts to give a survey of precolonial entomology and wildlife, with a view to showing that, most scholars tend to ignore the ecology of such insects or wild animals, which in
essence leads to the distortions that characterize their studies.

Precol onial Entomology

Tsetse flies

The tsetse fly (Glossina spp) is one insect that has received an undue publicity as a symbol of precolonial African underdevelopment. According to Tweedie

If an insect had to be selected as symbolic of Africa, a suitable if rather macabre choice would be the tsetse" (1974:68).

Another scholar has claimed that the tsetse has been responsible for delaying the "progress of civilization" in Africa, while at the same time sarcastically asserting that, by the tsetse rendering vast areas unfit for stock rearing, the African "propensity" for destroying the environment has also been checked (Kirkpatrick 1957: 193).

While the economic drawbacks of the fly cannot be doubted, it is erroneous to assume that the fly reigned supreme at the expense of human advancement. The very idea that both "tsetse" and "nagana" are African terms (in fact of Xhosa origins) would indicate that people's knowledge of this blood-sucker goes back many centuries.
European knowledge of the tsetse fly and its associated human and animal trypanosomiasis is as recent as the first decade of this century (Ealand 1914:129). Accounts depicting the fly as rampant and hindering economic development, ignore or downplay the knowledge and experience gained by African herdsmen and farmers throughout the centuries they have kept cattle and cultivated. As it has already been shown, herdsmen knew the link between the tsetse, game, bush and the survival of their livestock wherever they were (Ford 1971; Kjekshus 1977; Sindiga 1986; Ochien'g 1990; Giblin 1990).

Even when African detractors have found it fit to portray the pastoralists as naive in ecological knowledge, some readily admit that it "shows considerable intelligence on the part of natives ... to have correctly associated the fly with the [nagana] disease" (Kirkpatrick 1957:193).

Perhaps the question that begs for answers is that of how rampant the tsetse fly was. The question needs to be addressed because, as shown above, the tendency to associate the insect with the alleged "backwardness" assumes that the fly menace was endemic. Tackling this issue cannot be done by just a vehement denial, rather, the ecology of the tsetse fly must be established. This is because there is an intimate relationship between the
nature of the ecosystem with the epidemiology of trypanosomiasis (Desowitz 1980:47).

Like all organisms, the tsetse fly has an optimum environment within which it thrives. It has been established that the fly is a sensitive insect to climatic changes like heat, increased desiccation and that it requires vegetational shade for breeding. The National Atlas of Kenya puts it thus:

the distribution [of the tsetse] is patchy at an altitude ranging from sea-level to approximately 6,000 ft (1,800m). Tsetse flies are not found in the higher country neither do they occur in very arid areas. The presence of the tsetse flies depends on the occurrence of certain woody plants which provide them with a suitable environment for shelter, resting and breeding (1970:44).

The above description of tsetse ecology is very well reflected in today's and past distribution of the fly in Samburu District. Given the low level of moisture and the sparse vegetation, as already shown, it makes a lot of sense to find that, of all the many species of tsetse, only two are found in the entire district, namely, Glossina longipennis and Glossina pallipides (Fumagalli 1977:66). Whereas the entomological maps of the district depict Lorroki plateau and most of the southeastern parts of the district as tsetse-infested, oral testimonies of
the Samburu on tsetse distribution in their country during the precolonial era, gives a picture that is in agreement with the known tsetse ecology, but one that differs with the entomological maps in as far as the distribution of the fly is concerned. According to oral sources, the tsetse fly, *laajong'anyi*, was restricted to the southwestern parts of the district and specifically around Malaso, Losuk and Tinga areas (Siamanda Leshoranai, O.I., March 1991; Letende Lekaaso, O.I., April 1991). The ecology of these areas was, as it still is, conducive to the fly’s breeding habits. These areas were not only well-watered, but also had good vegetation cover whose shade gave the fly a cosy habitat for its reproduction. On the distribution of the tsetse, most of my informants asserted that other areas of their country were not infested with this fly, *laajonganyi*, whose bite was known to be very poisonous and at times fatal to cattle.

On human trypanosomiasis (sleeping sickness) there is no evidence, written or oral, to suggest that it was known to the Samburu. While it is documented that the disease killed hundreds of thousands of Africans in such places as Busoga in Uganda and in Malawi between 1890 and 1911 (Ealand 1914; Ford 1971; Kjekshus 1977; Nayenga 1979; Sindiga 1986) nothing of this is remembered by the
Samburu. This is not surprising because as Sindiga (1986:93) notes, sleeping sickness was first recorded in Kenya in 1902 and it appears to have been a spillover from the 1900-1902 Busoga-epidemic. The spillover, on the other hand, only affected the Kenyan part of the Lake Victoria basin and did not spread much to other regions. It should also be noted that, while West Africans had experienced human trypanosomiasis for some 600 years ago (Sindiga 1986:92), the same cannot be said of East Africa. For the latter region, the disease was introduced in 1888 when Morton Stanley entered Uganda. We are told that, "in Stanley's retinue were natives [from Congo] infected with T. gambiense [the organisms that cause sleeping sickness] who probably bore the seeds of the epidemic that was to decimate the region's population for the next ten years" (Desowitz 1980:471).

From the above, it becomes clear that the story of the tsetse fly and particularly its description as the "African bane", is not only distorted but also highly exaggerated. We have laboured to show that Samburuland had its own share of nagana-infecting tsetse flies, but on the other hand, we made it clear that the localities of such tsetse species were known to the Samburu. We have also shown that human trypanosomiasis was not known in Samburuland for the simple reason that,
while the vector (flies) were there, the disease causing organisms (trypanosomes) were lacking. The Samburu knowledge of the localities for the nagana-infecting flies, was crucial, as we shall see later, in devising methods or means of combating the tsetse menace.

Gadflies

As stated above, entomological maps of Kenya tend to show that tsetse flies are widely distributed, and this seems to be at variance with oral sources such as those from the Samburu. This anomaly, most probably, stems from the fact that those who draw up such maps, do so with preconceived ideas of the alleged ecological requirement of the flies, that is, wherever conditions seem to reflect those befitting the fly, then such regions are automatically labelled "tsetse infested". Most of the maps give no recognition of the presence of insects called "gadflies", perhaps because such flies are also regarded as tsetse. In a personal communication with the author, the Samburu District Tsetse Officer, admitted that it is still difficult to determine, with accuracy, the distribution of both tsetse and gadflies in the district.

Gadflies are scientifically termed tabanids. According to the earliest and most recent research, tabanids have
a wider distribution than tsetse flies. The North Frontier District Official Handbook, published in 1917 (KNA/PC/NFD7/1), depicted tabanids as agents of animal trypanosomiasis (nagana), and this probably explains why there is no distinction between the tsetse and the gadflies in the official (colonial and post-colonial) documents.

However, the Samburu distinguished between the tsetse fly, lajong’anyi and gadflies, locally identified as two types and inhabiting different ecological regions. The two types are namely, sanambur and lupupoi. The former inhabits the higher and cooler regions locally referred to as supuko which during the precolonial era acted, as we shall see later, as dry season grazing areas. The fly, according to my informants, is big-bodied compared to the tsetse and appeared seasonally, just before the onset of rains but ceased when the rains intensified. In fact, the fly was regarded as a harbinger of rains.

The sanambur caused no known disease to either people or livestock but due to its painful bite, it made cattle run amok leaving behind them unexploited pastures. In short, the fly was more of a nuisance than a problem. The seasonality of it ensured that the community exploited the pasture frequented by the fly during the
period it was absent. With the onset of rains, the supuko region was temporarily abandoned together with the sanambur menace.

The lupupoi on the other hand, inhabited the low and dry regions. It was easily identified from its characteristic "long mouth" (elongated proboscis) (Saritoi Lemorogo, O.I., February, 1991). According to most informants, this fly, just like the sanambur, had a very painful bite that caused a lot of distress to both herdsmen and their livestock. The main difference between the two was that, the lupupoi did not have to land on the host, but could use its proboscis to pierce the host, for a blood meal, from a safe distance. It also caused no disease and could therefore, be tolerated.

A closer look at the research done on tabanids reveals the accuracy of Samburu accounts. It has been observed that these flies are much less important as vectors but the severity of their biting have influenced both man and animals. At the same time, their seasonality makes it possible for herdsmen to avoid them (Askew 1971:54). This same source tells us that the lupupoi is biologically termed Pagonia longirostris and its habitat is no different from that identified by the Samburu.

Therefore, it would seem as suggested above, that the
maps that show the distribution of tsetse flies combine them with the gadflies, which as we have just found are of no significance in as far as livestock diseases are concerned. The Samburu identification of the disease-causing vectors, lajong’anyi, and distinguishing them from the gadflies, reflect the deep knowledge and understanding of their physical environment which is borne out of experience in space and time.

**Ticks**

Today, tick-borne diseases constitute a major challenge to East African pastoralists. While precolonial records on the extent to which ticks constituted a menace are nowhere with us, oral traditions of the Samburu downplay their significance. Ticks, locally termed masherij, were reportedly there but cannot be compared to their situation today in terms of numbers, variety and subsequently livestock fatality (Lebaa Lebarsoloi, O.I., March 1991). In fact, the most remembered tick, by most of my informants was a type simply described as "a small reddish-brown tick" which preferred lodging in the ears and perineum of cattle (Kirima Leleina, O.I., March, 1991).

Most of the informants pointed out that, while the tsetse was known to cause ndigana (nagana) to cattle, the
tick caused no serious problems except for the
destruction of the hides and making the animal "appear
thin" (Mary Lewoso, O.I., March 1991). The Samburu
pastoralists had also established that the dry Ipypkel
region had fewer ticks than the higher and cooler regions
like Lorroki Plateau (Sango Lengoiboni, O.I., February,

Any map of Kenya showing tick distribution tends to
agree with the Samburu observation that ticks diminish
with increasing aridity. The National Atlas of Kenya
(1970) confirms it by showing that ticks in Samburuland
are mainly found in the relatively moist Lorroki plateau.
While it is difficult to identify the "small reddish-
brown" tick of the precolonial Samburu fame, it could be
any of the five common ticks found in Kenya namely, Brown
Ear Tick (Rhipicephalus appendiculatus), Red legged Tick
(Rhipicephalus evertsi), Blue Tick (Bovine decoloratus),
Bont Tick (Amblyomma spp). However, according to an
authoritative publication by a leading manufacturer of
tick-killer drugs,(acaricides), Wellcome Eastern Africa
Limited, most ticks seem to thrive in relatively wet
areas with an exception of Bont-legged Tick (Hyalomma
spp) which is found in drier areas and common in Rift
Valley (1980:12). On the other hand, if we were to go
by the description of colour, site of attachment and the
geographical location, then the Brown Ear Tick (Rhipicephalus appendiculatus) would be the probable contender. The Samburu way of identifying the tick has also received scientific backing from the Wellcome group, which point out that besides the actual appearance of the tick, which is an important factor in identification, the site of attachment and the geographical location, provide useful back-up evidence that identification is correct (Wellcome 1980:10).

The problem of tick-borne diseases, as the Samburu informants stressed, were limited, and like the case of bovine trypanosomiasis (nagana), the cattle through the centuries of co-existence with the ticks and their hosts, domestic or wild, had acquired considerable immunity. This immunity and the sound management of their (Samburu) environment, as chapter four of this study reveals, ensured that ticks did not negatively affect the distribution of livestock in Samburuland. During the precolonial era, the pastoralists, their cattle and their ticks lived together in a state of equilibrium

His cattle had over generations developed a degree of resistance to ticks and to the diseases they carried. Young calves would contract the disease early in life, recover, owing to an inherited resistance and become immune. It wasn’t a perfect situation of course ... but the devasting losses, which came later were not experienced (Wellcome 1980:VII).
That today ticks constitute a serious threat to the pastoralists, is due to colonial policies which upset the delicate ecological equilibrium that the herdsmen had all along maintained with admirable success. Importation of new breeds of cattle and semen to up-grade livestock by colonial settlers or ranchers, brought in its wake ecological imbalances hitherto unknown in many regions.

White settlers established ranches in Laikipia District, to the south of Samburuland, which not only kept the Samburu out of such grazing areas, but the new breeds of cattle in the ranches also introduced diseases previously unknown. Dipping facilities, though glorified as important steps towards tick control, proved ineffective quite early. The Maasai, for example, showed enthusiasm for a dipping tank as early as 1913. When finally the tank was constructed in 1914, they found out that the introduced acaricides only played havoc with the immunity of their cattle and particularly the calves, which died of East Coast Fever (ECF) in great numbers. We are told that

This high mortality among calves persisted and the Maasai continually complained of losses from East Coast Fever. Their complaints were so frequent, and their reluctance - and refusal in many instances - to dip so persevering, that the administration decided that dipping of stock should be optional (KNA/PC/NFD5/5/6).
Colonial policies only brought impoverishment to the herdsmen and this explains why most of them pointed out that their past was not only glorious but one of plenty.

Wildlife

Game, together with domestic animals through which the Samburu exploited their physical environment for food production, constituted an important component of the ecosystem. The role of herbivores in any ecological zone is as varied as the animals themselves. As an essential component of the Samburu ecology, they have certainly played an important role in the evolution of the region’s ecosystem.

Although we lack records to indicate the biomass of wildlife during the precolonial era, a scrutiny of the European travellers’ accounts during the second half of the nineteenth century reveals that the region was rich in game. Some research findings have also indicated that the East African Savanna supported large herds of ungulates than it does today (Jewel 1980). However, abundance of wildlife during the precolonial era have tended to be misconstrued to mean that the African husbandmen had little control, if any, of game. Fratkin (1974) and Fumagalli (1977) for example, claim that the Samburu co-existed with wild animals with little
conflict.

The proposition that wildlife, and particularly herbivores, posed dangers to man and his livestock obscures the simple fact that like man and his livestock, herbivores are subject to ecological limitations. On the other hand, just like the domestic ungulates, they differ in their dietary specialization which consequently affects their distribution and impact on the environment. This dietary specialization ensures that the exploitation of the habitat by the wild herbivores goes far in promoting ecological balance. In fact

most grasslands have evolved under the impact of grazing animals and the vegetation is as much in balance with their presence as it is with the climate, soils and other factors of the environment (Dasman, et al. 1973:81)

In any given ecosystem, it has been observed that wild herbivores are evenly distributed making them very efficient users of their habitat and hence reducing competition among themselves on the one hand, and domestic animals on the other. This phenomenon of reduced competition due to herbivore distribution is termed Ecological Separation, and it has received the attention of many scholars, among them Talbot (1964), Dasman, et. al. (1973), Monod (1975), Fumagalli (1977)
and Harris (1980).

In a survey of wild and domestic herbivores carried out in 1970 in Samburu District, it was observed that wild herbivores were evenly distributed throughout the district while domestic ones were not (Fumagalli 1977:63). While this survey cannot be said to be a representative of the precolonial picture, it however demonstrates the principle of ecological separation, and more than anything else, confirms the assertion by a Samburu informant that "every wild animal knows where to eat grass" (Charles Lenalongoito, O.I., March 1991). This assertion was in response to the question as to whether wild herbivores during the precolonial era, competed for food with their herds.

On the other hand, Samburu District tends to support less total biomass of a combined domestic and wild herbivores, put at 6514.39kg/km², due to ecological limitations of the district. Further, this stated biomass shows that, unlike other savanna ecosystems such as Amboseli, the wild herbivores constitute only 30.38 percent compared to 69.62 for domestic animals (Fumagalli 1977:65).

However, wildlife to the Samburu herdsmen did not end
at the pasture and water level. Carnivores such as lions, leopards and hyenas were also a potential threat to livestock. While, in most of the times, carnivores thrived on wild herbivores they sometimes turned against the domestic animals. This would happen when the animals that constitute their prey, migrated to other regions on account of drought. When such carnivores started attacking livestock, then man-carnivore conflict ensued, which inevitably led to the beasts being killed or driven altogether from the vicinity.

It would be appropriate to add that experience had taught the Samburu that carnivores like herbivores, inhabited certain localities and not others. Equipped with this knowledge, it was easier for them to avoid such areas or clear thickets, as we shall later see, which acted as the beasts’ lairs.

The wild herbivores, on the other hand, were usually associated with certain known diseases. According to my informants, ungulates such as wildebeests, buffaloes, elands and wild pigs contaminated pasture. It was widely held that the saliva, urine and dung of such game made cattle contract a disease identified as boroto if they happened to graze in such contaminated pastures (Mutian Loipokopenyi, O.I., April 1991).
While such ideas would be dismissed by uncritical scholars and veterinarians as "the highest level of absurdity", it should be noted that a parallel has been observed among the Maasai (Talbot 1964; Sindiga, 1981; Karstad and Grootenhuis 1981). According to the Maasai, the wildebeest was known to cause a certain kind of fever to cattle. Today, courtesy of the Kabete researchers, this fever has been identified as Malignant Catarrhal Fever (MCF). Karstad and Grootenhuis tell us that

the association of cattle, wildebeest and the virus for malignant catarrhal fever is an example of the incompatibility [of wildlife and pastoralism] and wildebeest will never be welcomed on the grazing lands of the Maasai (1981:62).

The research and subsequent identification of the MCF virus was based on Maasai knowledge. Further, the fact that it was finally found that wildebeests through their nasal secretions particularly from calves in their first three months of life, caused the disease, only makes us believe the Samburu fashion. If nasal secretions can cause such fever, what will then stop metabolic waste such as urine and dung of game from contaminating pasture with disease-causing organisms? The problem, in our view, has always been that, in most of the research done on livestock diseases, the contribution of the herdsmen has never been sought.
In the analysis we have made above, it can be argued that the presence of game did not greatly affect Samburu pastoralism during the period under consideration. We have seen that, wildlife, owing to their dietary specialization, were evenly distributed which eased the problem of competition with domestic animals. On the other hand, game impact on the environment was checked by ecological limitations. The distribution of herbivores also greatly affected that of carnivores which depended on the former for food. However, as we shall see later, the Samburu had elaborate mechanisms through which they controlled wildlife if they (wildlife) were deemed to pose any dangers.

Land Potential

There would be no better conclusion than one that would give a brief survey of the potential of land in Samburu country. From the foregoing paragraphs, we have made it clear that the greatest challenge that has faced the Samburu in the course of their history, has been that of water shortage.

With a rainfall that is markedly irregular and falling far below 500 mm, very little vegetational growth can be produced, leave alone being maintained. Rainfall being a critical variable in agricultural potential, crop
production in Samburu would have been a venture in futility. As it has been pointed out, "under East African climate and soil conditions, 20 inches (762 mm) of annual rainfall is regarded as the absolute minimum. These conditions in Samburu District, are hardly reached by any area outside the forest" (Fumagalli 1977:69). Arable land in the district is only limited to Lorroki plateau. However, even here, it constitutes a mere 56,000 hectares or about 3 percent of the entire district (Ibid).

Much of Samburuland falls under what is termed as rangeland, defined as land which is unsuitable for crop husbandry and where management for stock-raising purposes is best carried out through the manipulation of the natural vegetation (Peberdy 1972:153). Pastoralism therefore, has been for centuries a well-tried and effective strategy for exploiting the meagre resources found within Samburuland. Pastoral practice relies on livestock to transform the energy in the grass, herbage and shrubs of an ecosystem into a form easily available to people, that is, meat, milk and blood (Sobania 1979:12; Sheriff 1985:2). It is from this perspective that Marx (1976:285-286) sees domesticated animals playing "the chief part as instruments of labour" because man uses them to transform materials of nature
which he cannot readily use, to products that can be used for subsistence.

Lands, such as the one the Samburu have occupied in the course of their history, being marginal and limited by such factors as diseases, ticks, tsetse flies, gadflies and wildlife, show the futility of the raging debates by "modernizers" and "conservationists" on whether pastoralists keep herds for prestige or subsistence. The precolonial life of the Samburu herdsmen was not of the "cowboy-on-horseback" fame, but one that involved a very thorough and careful planning, within the society's technological level and meagre resources.
CHAPTER THREE

THE HISTORICAL BACKGROUND OF THE SAMBURU

Introduction: Sources of Samuru History

The central concern of human ecology, itself a branch of ecology, is man. As a discipline, it investigates the story of man’s relationship with his physical environment and how he has moulded it to suit his social, economic and political requirements (Hopkins 1973; Kjekshus 1977; Ogot 1979; Odegi-Awuondo 1990). History on the other hand, as a discipline that pre-occupies itself with man’s activities in space and time becomes an important field of knowledge that can enrich human ecology in giving a fuller account of man as the most dominant organism in any ecosystem he inhabits. This means that, the ecological history of any area would be futile without the history of its inhabitants. It is therefore, important for us to study the precolonial history of the Samuru.

The history of this community during this era (precolonial), like that of most pastoral communities, is inadequately covered (Van Zwanenberg with King 1975; Ochien’g 1975). Their origins is still a matter of
conjecture. As no written records exist for the period, any scholar interested in the events of the era has to inevitably turn to other sources of history. These include historical linguistics, archaeology and oral traditions. An inter-disciplinary approach, hailed as one set to transform African history into "the decathlon of social sciences" (Tosh 1989:182), becomes a useful tool as none of these sources is in a position to give a complete picture of the Samburu precolonial history on its own.

Linguistic sources identify the Samburu as Plain Nilotes, who like the Maasai, speak a dialect called Ol-Maa. The term Maa is used by both the Maasai and Samburu in calling to attention any one among their members who is being addressed. In fact, it sounds more of Maaal than Maa. The linguistic sources have therefore, made a knot round the two communities with the Samburu being depicted as speaking a northern dialect of Ol-Maa while the Maasai a southern one (Fratkin 1987; Lamprey and Waller 1990). The end result of this linguistic knot has been to see the history of the two communities as one. Studies done on the Maasai history, for example, have also been assumed to cover that of the Samburu since the latter have been thought to be a Maasai clan - Isampur (Ochien’g 1975; Sankan 1977). Although seen from this
perspective, linguistic sources acknowledge the distinctiveness of these two communities, but this, too, has in the meantime brought a raging debate meant to establish the period that the two communities split into separate entities. The same sources, however, show that the Maa-speakers emerged as dominant groups in the Rift Valley in about 1500 A.D. (Sutton 1990; Robertshaw 1990). On the other hand, it has generally been agreed that by about 1750 most of the Rift Valley communities had evolved into more or less what they are today. The region between Lake Baringo and the southern tip of Lake Turkana, extending westwards to today's southern part of Turkana District, has been suggested as the possible cradle of the Maa speakers before they expanded and settled in their present areas (Jacobs 1965; Ochien’g 1975; Nubi 1986; Fratkin 1987). This region, compared to the northern areas, is relatively moist as it is drained by a number of rivers, chief among them Kerio and Turkwel, and could therefore easily support the livestock on which the subsistence of these communities depended.

Despite these general propositions about the cradle and the eventual evolution of these communities, linguistic sources have no ready answers to questions of the exact period when the Maa-speakers separated or the reasons for their separation. Jacobs, for example,
claims that the separation took place about a thousand years ago but fails to give the starting point in computing this figure (1975:411). Another scholar claims that the Samburu split off from the southern expansion of the Maasai between 1500 and 1700 A.D., grazing their livestock of cattle, sheep and goats between Lake Baringo in the Rift Valley and Lorroki Plateau, north of the current Laikipia District (Fratkin 1987:44). While it is true that the mentioned areas were some of the places grazed by the Samburu then, the given dates cannot be verified. On the other hand, linguistic sources tend to assume that the Maa-speakers were the only inhabitants of this region. While the Turkana could be said to be recent immigrants into the region south and west of Lake Turkana as Ochien’g (1975) Lamphear (1976) and Odegi-Awuondo (1990) have stated, other communities like the Boran and Rendille equally occupied and made use of the same region and hence interacted with both the Maa-speakers and later the Turkana (Sobania 1978; 1979).

Language on its own cannot explain the evolution of communities, although it offers useful insights into what might have happened. A good example, showing the limitations of linguistic sources in as far as Samburu history is concerned, is got from the relationship between them and the Rendille. Although the two are
linguistically unrelated, they have interacted as allies since time immemorial. Their intermarriage has brought forth the Ariaal or Masagara community, situated between the two, whose dialect seems to have been drawn from both. On linguistic evidence alone, little can be known about the cooperation and interactions that have been going on between them over the centuries.

Archaeological sources, though far from being adequate, show that northern Kenya has been occupied for thousands of years before the present. The inhabitants have lived through various ecological changes with admirable success (Ominde 1979; Onyango-Abuje and Wandibba 1979; Phillipson 1979). Increasing aridity in the region seems to have put a premium on animal husbandry, an economic activity that preceded the Maa-speakers by thousands of years in the Rift Valley (Sutton 1990).

Aridity in this region followed a period that had been pretty wet resulting in very high lake levels in the Rift Valley and described as one when inhabitants had plenty in terms of food (Onyango-Abuje and Wandibba 1979). Desiccation had started from about 8,000 B.P. (Jewel 1980) and reached its highest level during the third millennium B.P. when man turned "to a weary life of a herdsman since the wild animals he used to hunt at
Leisure have had to move up the mountains and into difficult riverine and lake forests" (Onyango-Abuje and Wandibba 1979:38). To survive under such changed conditions, man turned to breeding cattle that were well-suited to these ecological circumstances. Lamphear, quoted by Lamprey and Waller (1990) had credited the Maa-speakers with the introduction of the hardy humped cattle which he claimed played an important role in their success as a dominant group in the Rift Valley. However, this has been refuted by these same scholars who quoted him, since

the identification of humped cattle in the faunal assemblages from Ngamuriak and Crescent island dating about 2,000 years ago... almost certainly implies that these animals were found through much of East Africa at a date far earlier than was envisaged previously (Lamprey and Waller 1990:300).

Apart from rearing well-adapted cattle, the practice of bleeding livestock became an important method of supplementing milk and particularly during the time it was in short supply. As a pastoral strategy, bleeding raised the economic value of male cattle like steers and bulls which could contribute to the maintenance of the family with their blood drawn from jugular veins, without the herdsmen turning to slaughtering for meat. This practice seems to have a long history in East Africa,
having been reported as early as 863 A.D by a Chinese maritime chronologer (Jacobs 1965; Mwanzi 1977; Nubi 1986). It is also evident that water shortage in northern Kenya did not hinder people from their pastoral pursuits. Deep wells and well-worn out roads leading to them, have been found in many places such as Mandera, Wajir and Marsabit. As Phillipson testifies “some such as that at Debel which is 30 metres deep and requires sixteen people to pass the water bucket from hand to hand to the surface, are major feats of engineering” (1979:55).

From the above archaeological evidence, it is clear that people have continually lived in northern Kenya and the Rift Valley and that the current societies have not just sprung from nowhere. Rather, through migrations of people and the interactions between them, new societies evolved into what we see today.

When it comes to oral sources, the traditions of the Samburu are at variance with those of the Maasai on account of origin. While the Maasai turn to the “Kerio Scarp” as their cradle (Jacobs 1965), the Samburu claim to have originated from a region or place simply identified as Oto. The exact location of Oto is not clear and they point to the north as the direction from
which they came before making entry into their current district. According to Sobania, Oto could be the dry northern region the Samburu occupied from about 1840 (1978:1). The Samburu claim that they left Oto because the region had no wealth and was rampant with human and animal diseases (Samayo Lekairab, O.I., March 1991). The time when they left the accursed Oto is in disagreement with Sobania’s 1840 postulation. The period is only remembered as "long ago before Salkanya age-set" (Mugogodoi Lemoshogoti, O.I., March 1991). On their relationship with the Maasai, they point out that they are their "brothers", but we find that such "brotherly" status are also accorded to others like the Meru and Kikuyu. At the same time, they acknowledge having grazed their livestock around Lake Baringo together with other groups such as the Suk (Pokot), Iltiamus, Ilkume (Turkana) and the Rendille.

The Samburu claim of having exploited pastures around Lake Baringo is strongly supported by the oral traditions of Iltiamus who to this day inhabit the beautiful island, shores and environs of the lake. According to Anderson, the

strongest and most dominant cultural influence [on the Iltiamus] has undoubtedly come from the Samburu, this being reflected in language, mode of dress, the arrangement of the clan system and the various other social institutions (1981:2).
The links between the two communities are not recent and Anderson, in the above shown source, correctly puts it to a period well before 1800. This long association between the Samburu and Iltiamus is also supported by the fact that the Iltoijo group of clans among the Iltiamus, still trace their origins from the Samburu (Ibid:3).

The Samburu oral traditions are well-ordered and non-repetitive, as they are organized in an elaborate age-set system that begins in about the middle of the eighteenth century and is still continuing (see appendix). These age-sets are spaced in a span of fourteen years on average, and being non-repetitive, it becomes easier to compute when a particular age-set could have been initiated. According to Spencer (1973), Salkanya age-set is probably the earliest, and also the immediate predecessor of one identified as Meishopo, initiated C. 1781. While the Salkanya age-set is generally agreed to be the earliest remembered, the author of this study found out, from field research, that there were other two sets, namely Undoro and Kipslat which preceded Meishopo but junior to Salkanya. While it is difficult to state with any certainty, which of the two (Undoro and Kipslat) sets is senior or junior to the other, oral accounts offer good insights that shed some light into the problem. Traditions point out that
Uandero age-set is so named because it was during its time that the Samburu lost a lot of their livestock wealth due to a severe drought and diseases. In fact, according to these accounts, Uandero simply means "those who failed" (Lemeyon Lenareyo, O.I., March 1991). The failure is said to stem from the fact that, decimation of livestock rendered the Samburu poor and they could no longer defend themselves from external threats. The Kipslat age set on the other hand, is associated with success and revival of their economy through the breeding of "white" goats. It is these goats that are said to have earned the Samburu the name Loiborgineji, meaning those who owned "white goats". This is the term the Samburu were identified with by Europeans who travelled through their country in the second half of the nineteenth century and the first decade of this century such as Teleki and Hohnel (1888), Chanler (1892) and Stigand (1909).

From the above oral exposition, we deduce that, if the Meishopo age-set was initiated C. 1781 then, using the fourteen year difference between sets, the Kipslat age-set could have been initiated in about 1767, Uandero C. 1753 and the earliest remembered, Salkanya, could probably have been initiated way back in about 1739. These, though, are only possibilities since it is only
from the Kipayang age-set (C.1823) that consistency in memory is evident. However, the oral traditions are in agreement with linguistic sources that by 1750, most of the Rift Valley communities had already evolved into distinct communities that were flexible enough to allow for adjustments bound to occur in the course of their history.

Factors Affecting the Samburu Pastoral Economy: 1750-1840

The Samburu, as we have seen, was one of the communities that inhabited and grazed their livestock around Lake Baringo and the region to the southwest of Lake Turkana by about 1750. Their migration from the region, in a northeasterly direction, towards their current district as indicated in the map on page (x), took something close to a century. It was not until about 1840 that the Samburu made their presence felt in the region when they captured and retained control of Mounts Ng’iro and Kulal from the Boran and Marsabit from the Laikipiak Maasai (Spencer 1973; Sobania 1978; 1979). A number of factors have been advanced to explain the causes behind this migration, which range from inter-ethnic conflicts like those between them and the Turkana to the Maasai civil wars that began at the end of the eighteenth century. While this study acknowledges that inter-ethnic feuds were important, it however, stresses
that these were to a considerable extent manifestations of ecological problems, and the migration a logical response to such social and environmental problems. This is what Engels sees as the "manifold motion and interaction" when he observed that "Everything affects and is affected by every other thing" (Engels 1977:73).

Ecological problems

The climatic conditions of the Rift Valley and northern Kenya during the second half of the eighteenth century and the first decades of the nineteenth century are difficult to reconstruct. However, certain observations have been made that throw some light into this period, making it possible for us to draw certain conclusions.

Linguists have noted that both the Samburu and Maasai oral traditions tend to begin abruptly. Maasai oral accounts of their origins start with the "Kerio Scarp" saying little else on the preceding period. The Samburu also begin their tale of origins with the legendary oto, as the place they "emerged" from before making entry into their current district. It is due to this abruptness (of traditions) that Jacobs is influenced to claim that the Maasai cannot be said to have a particular interest in or detailed oral knowledge of their past (1965:21). It has also been asserted that the Samburu have a general
disinterest as regards their ultimate decent or their places of origin (Spencer 1973:149). This paucity of traditions and the tendency for the age-sets of both communities to "begin" from about the middle of the eighteenth century need not be used to discredit a people's knowledge of their past. This is because, what is remembered orally, is limited by the power of memory.

However, the paucity in traditions might point to other factors like abrupt climatic changes bringing in their wake upheavals in the areas concerned and beyond. It is this fact that leads Lamprey and Waller to state that

"There is a strong possibility that such a period of upheaval did occur in the later eighteenth century possibly as a result of prolonged drought and the emergency of new communities in the Rift Valley is marked by discontinuity in tradition (1990:19)."

This proposition becomes even more plausible when we find that the break-up of the Ateker-comprising the Jie, Iteso, Karamojong and Dodoth in Uganda; the Iteso and Turkana in Kenya; and the Toposa, Jie and Donyiro in Sudan-at Koten Magos has been attributed to ecological disasters that took place between 1750 and 1800 (Ochien'g 1975; Lamphear 1976). It is worth noting that by 1800, the Turkana expansion eastwards, had already taken them to the western regions of Lake Turkana where according to their oral texts, as we shall later find, they
encountered the Samburu whom they identified as Ngikor.

Further, oral traditions of various communities occupying the arid regions of Kenya and Uganda, come in to confirm the climatic vagaries of the period. The Acholi and Tepes (of Uganda) have oral accounts that are explicit about a drought that swept through their countries leaving in its trail famines which are still vividly remembered. From research done on these communities, it has been established that these droughts occurred towards the end of the eighteenth century (Lamphear 1976:52). The oral traditions of the Turkana also attribute their expansion from Tarash valley to similar circumstances.

The evidence given above therefore, confirms the assertion by the Samburu that they suffered from droughts and livestock diseases during the Vandero age-set (initiated in about 1753) and subsequently their cattle wealth replaced by "white" goats. These were the animals that earned them the name Loiborgineji and are usually associated with the Kipslat age-set (C. 1767).

The Samburu Goat Economy

Small stock usually play a minor role in pastoral economies, particularly when cattle are doing well.
However, when disaster strikes, sheep and goats become an important alternative for the provision of food for pastoral families. Joseph Thomson (1962), for example, reported that the Maasai had increasingly turned to raising of sheep following the ecological disasters, which he witnessed during his journey through Maasailand in 1883. As we have shown above, the period between 1750 and 1800 was one of hardships for many pastoralists in northern Kenya and the Rift Valley in general. Among the Samburu, this entailed a change in their pastoral economy, which from then, was going to be dominated by the hardy goats.

Unlike cattle and sheep, goats are browsers (Baker 1975; Evangelou 1984). They can feed on twigs and easily accessible shrubs once the grass has been scorched by drought. This dietary specialization by goats has earned them the wrath of environmentalists, and to this day, they are outlawed in forests as they are deemed destructive to the vegetation. However, their hardness in surviving in regions that would otherwise be unattractive to cattle and sheep is only equalled by the fact that goats tend to kid at the height of the dry season (four months after the wet season impregnation) and the milk they give for the following months, is particularly useful for the Samburu cattle economy as
supplies of cattle milk are then at their lowest ebb (Spencer 1973:13).

The very idea of "white" other than just goats would appear puzzling. A closer look at the Samburu colour awareness reveals a bias towards white and black colours contrasted together. Their words for white is Oibor and that for black is Narok. Lakes Turkana and Chew Bahir (formerly Stefanie) are termed Basso Narok (Black lake) and Basso Oibor (White lake) respectively (Hohnel 1894). Even their own community is divided into two distinct sections distinguished from each other by the colour of cattle. One section is named Ngishu Naibor (white cattle section) while the other is Ngishu Narok (Black cattle section).

Despite this obsession with the two colours, the coat colour of the goats which earned them the name Loiborgineji would seem to have both an ecological as well as a physiological explanation. We have noted that goats are browsers and they thrive in relatively dry areas. This means that, in a situation where drought strikes, goats can withstand the changed conditions more than cattle or sheep. Further, their survival in arid areas is enhanced by their ability to efficiently convert coarse vegetable matter-unpalatable to both cattle and
sheep-into body tissues.

The white colour of the goats cannot also be just dismissed. "White" colour is known to reflect light and subsequently it ensures that heat does not build up. In the dry and hot northern Kenya, this light colour of the goats should have acted as a heat shield to the animal, making it cope with water shortages experienced during this period (the last decades of the eighteenth century). Experimental physiology has revealed that light-coated animals suffer less stress in the drier areas than dark-coated ones (Jewel 1980:374-375). The combination of all these factors is therefore, in agreement with the Samburu oral testimony which alludes to the survival and proliferation of goats, following the ecological disasters already discussed.

The term Loiborgineji has not been without controversy. Finding the term difficult to pronounce, European travellers during the last two decades of the nineteenth century, opted for an easier fashion - Burkeneji. During the Carter Land Commission of the early 1930s, the so called Samburu Land Question centred on this term and what it implied or meant in as far as Samburu history was concerned. The problem lay with the ownership of the attractive Lorroki plateau. According to the settlers,
the Samburu were simply a goat-owning community as the name Loiborgineji signified and could only have acquired cattle with the advent of Europeans (KNA/PC/NFD4)/3/1). To the settlers, this was enough proof that Lorroki, an area they deemed suitable for cattle only, could not have been a Samburu territory. The Samburu however, defended their claim to Lorroki, using oral evidence and managed to convince the commissioners who maintained that

...... it would seem that the widely held view is false that the Samburu were formerly entirely a sheep owning [sic] people who acquired cattle only since the advent of the Europeans (KNA/PC/NFD4/2/3).

The other problem raised by the term Loiborgineji centres on the actual period when the Samburu acquired it. This problem perhaps explains why the majority of scholars concerned with Samburu precolonial history avoid the issue. However, Spencer has suggested that the acquisition of the term may derive from a time when the Samburu were living in the low country between 1850 and 1900 (1973;14). Whereas the occupation and exploitation of the low country by this community during the proposed period is in no doubt, the acquisition of the term then, is not supported by either written or oral sources (See Jacobs 1965:47).
As we saw elsewhere in this chapter, the Kipsat age-set (initiated in about 1767) is associated with the white goats from which the term Loiborgineji stems. This then indicates that the term is of greater antiquity than Spencer would have us believe. The Samburu are also emphatic that the term is theirs in origin, and it was not given to them by any community. This means that, if the term has its roots in their community, then it is not difficult for them to remember how it was acquired. They took pride in finding that despite the ecological disasters, the "white" goats had seen them through safely. Any moment they sighted them, as they browsed and ambled across the rugged terrain of their country, they always exclaimed "Oh! Are those white goats really ours?" (Letende Lekaso, O.I., April 1991). On the other hand, the communities they interacted with during the nineteenth century such as the Turkana, Rendille, Boran and Dasanetch remember the Samburu as cattle and not goat herders (Lamphear 1976; Sobania 1978; 1979).

Economic Recovery

Following the disasters just described, it is difficult to know the specific time when the Samburu pastoral economy was revived. However, there is ample evidence to suggest that by 1800 or thereabouts, they had managed to rebuild their cattle herds possibly through institutions
such as intermarriages, where cattle changed hands, stock associateship or raids. Stock associateship is perhaps one of the most important social institutions that pre-colonial pastoral communities established to safeguard themselves against ecological vagaries. Households which lost their stock through incidence of disease or drought were rescued by their stock friends who transferred part of their stock to the affected families. In so doing, the recipient not only enjoyed the products of such donated stock, such as milk, but was also allowed to keep, for good, a number of calves born during the period when the transferred animals were under his care. The donor also benefited from the transaction in that, limitations of his domestic labour were eased through the transfer of part of his stock. Stock associateship was not restricted to within a community but it cut across boundaries. Sobania (1978) has given a vivid account of stock friendship between the Samburu and Dasanetch during the second half of the nineteenth century. Households not badly affected by drought or livestock epidemics acted as pools from which victims of these natural disasters could get help to enable them survive. Stock friendship was further strengthened through intermarriages that such associates entered. This, as we have just noted, was probably one of the methods through which the Samburu rebuilt their cattle herds following the ecological
exigencies described above.

It is interesting to note that the Turkana oral traditions claim that as they expanded eastwards from Tarash valley, they acquired the camel from the Samburu, which we are told had "revolutionary" effects on their economy (Lamphear 1976; Odegi-Awuondo 1990). The Samburu however, stress that the camel, *damisi*, has never been their beast and associate it with the Rendille, Boran and Somali. It should be pointed out that both the Rendille and Boran also made use of the pastures in the region drained by both Kerio and Turkwell rivers. According to Sobania

the Irbandiff age-group of Rendille, initiated into warriorhood C.1825, are the last warriors recorded as having made use of the Kerio valley..." (1978:1).

These communities could be the ones through which the Samburu managed to rebuild their cattle herds in the methods we have just enumerated. They also could be the communities through which the Samburu acquired the camel before it found its way to the Turkana.

The effects of the camel on the Samburu economy are difficult to assess given that the animal; to this day, is secondary to cattle. It possibly played a pivotal
role during the period of recovery from the environmental vagaries of the last decades of the eighteenth century. Although, as Spencer observes, the camel has a long gestation period and takes a new-born female calf up to six years to reach maturity, ready for service, in terms of subsistence, it "has a lot of milk and its fat can be sufficient for more than one manyatta" (Maranya Leboora, O.I., February, 1991). However, as the Samburu replenished their herds of cattle, the camel assumed a limited role and only those among them, who occupied the drier and hotter regions, retained the animal. This perhaps explains the reason behind the Samburu claim that the camel is a recent beast when compared to cattle, sheep and goats.

By about 1800, therefore, the Samburu were already on their economic feet again occupying and exploiting a vast region to the south and west of Lake Turkana. It was from this area that they were to migrate into their current district by about the Kipeku age-set (initiated c. 1837). The factors behind this movement would seem to have been social, as we shall see later, although certain incidence of drought exacerbated the inter-ethnic conflicts, particularly between the expanding Turkana and the Samburu.
The Samburu and their Neighbours: 1800 - 1840

The beginning of the nineteenth century also saw increased interactions between the Samburu and their neighbours, interactions that were to determine the future course of Samburu history. In this section, an examination of the role played by these social factors is made with the focus being on the relations between the Samburu, Turkana and the Maasai. Many scholars, key among them Ochien'g (1975) Lamphear (1976), Sobania (1978; 1979) and Odegi-Awuondo (1990) have shown that in about 1840, the two communities influenced the migration of the Samburu from their cradle to their present-day district.

According to Sobania "of those societies [neighbouring the Samburu] the one for particular consequence of the region east of the lake was the Turkana" (1979:26). The expansion of the Turkana eastwards, brought them and the Samburu into a collision course over grazing lands, as drought seems to have driven the former from the Tarash valley at the close of the eighteenth century. The initial encounter between them is still vividly remembered by the Turkana.

As the Turkana began to push out of Moru Anayece (on the upper Tarash) they encountered "red people" (arengak angowat) we say they were "red people"
because they had very light skins. They also coloured their hair and bodies red with clay. They were different from the Turkana. Those "red people" were the Ngikor [Samburu] (Lamphear 1976:194).

That the Samburu occupied the western part of Lake Turkana is in no doubt as their oral traditions mention that they used to exploit areas drained by both Kerio and Turkwel rivers. This was also observed by Hohnel when he travelled through both Turkana and Samburu lands in 1888. From traditions he collected from the region, he noted that "a few decades ago the Burkeneji [Loiborgineji] occupied districts on the west of Lake Rudolf [Lake Turkana] which now belong to the Turkana ..." (1894:184). Although he does not give us the specific time when the Samburu were in possession of these lands, presently occupied by the Turkana, he however puts it as "fifty years ago" (Ibid:236). This estimation was made in 1888 and the time can be worked out to give the year as 1838. This year (1838) is actually in total agreement with the assertion by the Samburu that they made entry into their present day district during the Lkipéku age-set (initiated C.1837). On the other hand, place names such as Kakalai, Kaling and Lokitaung, occupied by the Turkana today, have been shown to be of Samburu origin (Odegi-Awuondo 1990:270).
The arid nature of the land to the west of Lake Turkana could obviously not support both the Samburu and Turkana herds. In fact, both communities confirm that even the Pokot, Dasanetch, Boran and Rendille made occasional use of these same areas, thus compounding the problem of inadequate pasture. It would therefore follow that the eventual migration of most of these communities from the western shores of Lake Turkana could also be attributed to the need for more pastures. Despite this, the Turkana, going by the writing of Lamphear, assert that the Samburu together with the Rendille and Boran peoples with whom they were allied, were handed a series of defeats. Large numbers of them were captured and assimilated into Turkana society and the survivors were beaten back first to the shores of the lake and finally right around its southern tip into the country still occupied by the Samburu south east of the lake (1976:195).

This forceful eviction of the Samburu from this region by the Turkana was also alluded to by Hohnel in 1888. He claimed that the Karamojong had pushed the Turkana eastwards and the latter "pushed the Burkeneji [Samburu] towards Samburuland" (1894:236). The oral traditions of the Iltiamus also confirm this eviction. According to them, "the Samburu were being attacked and harassed by the Turkana and that this was the reason for their movement" out of the region although, a large group of
the vanquished Samburu, sought refuge among the Iltiamus (Anderson 1981:5). The Samburu however, vehemently deny having ever been forcefully evicted from the region and claim they simply left on their own volition. Indeed, they are quick to assert that the Turkana only managed to master enough courage to engage them in war much later when they (Samburu) became victims of the 1880s ecological breakdown (Lebaa lebarsoloi, O.I. April 1991). Such an assertion is expected as no community would wish to glorify another at its own expense. All in all, Samburu-Turkana disagreements or outright wars, were bound to occur since Turkanaland, being extremely dry, made it inevitable for its inhabitants to make occasional incursions into areas occupied by other groups. We should however, add here that, conflict or its resolution, is a social product of conscious beings. Unlike animals which "exert a lasting effect on their environment unintentionally and, .... accidentally" (Engels 1977:73), man's stamp on the ecological arena is a premeditated action. Any obstacle that poses itself between man and the realization of his primary goal, which is production for subsistence, is bound to be met with a decisive action. This concurs with the postulation that man's awareness of the need to produce for his material well-being, is the very essence of historical action. As Marx and Engels observed,
"consciousness can never be anything else than conscious existence and the existence of men in their life process" (1966:25).

This theoretical analysis would explain why the Turkana incursions did not end with the eventual migration of the Samburu to the southeastern shores of Lake Turkana. In 1909, for example, Captain Stigand, while passing through the land between the two communities had to arbitrate a dispute over boundary between them around Baragoi (Stigand 1910).

Despite these differences between the two communities, it would not be historical to portray them as always at war. Any war theme depicting precolonial herdsmen as "captives of their barbarism" has no place in African history. The reason for this is that, such a theme purports that, the state of constant warfare and the consequent loss of life and property, undermined any purposeful human impact on the physical environment (Kjekshus 1977:4). It was through the Samburu, as we saw earlier, that the Turkana acquired the camel and also got tobacco in exchange for their cattle, sheep and goats (see also Ochien’g 1975; Lampler 1976; Odegi - Awuondo 1990). On the other hand, there is evidence to prove that the two communities actually found time for cultural
exchanges. The Kipayang age-set (initiated c. 1823), for the Samburu, is remembered for having "adopted the Turkana blue coiffure instead of their own red-ochred braided hairstyle than for having actually fought the Turkana" (Spencer 1973:152).

For the Maasai, some scholars have tended to downplay their influence on the Samburu precolonial history, particularly in the latter's eventual migration and settlement in their present day district. Fratkin (1987:47), for example, asserts that the Samburu were only marginally affected by the Maasai civil wars. Others such as Waller (1985) have claimed that the Maasai were mainly concentrated to the south of the Samburu and their activities could not greatly affect the latter.

These assertions, when confronted with both oral and written evidence do not hold. The Maasai during the second half of the eighteenth century and the first half of the nineteenth century was a formidable community whose presence was felt by all their neighbours, including the Samburu. As Ochien'g correctly notes, they controlled an area of about five hundred miles long and two hundred miles wide, stretching from Lake Turkana [in close proximity to the Samburu] in the north to the southern end of the Maasai steppe in northern Tanzania... they were a critical factor in regulating the movements and settlements of the other people "both within Kenya and from without" (1975:37).
We should also add here that, while the majority of the Maasai sections iloshon (sing. Olosho), were concentrated to the south, some powerful ones such as the now defunct Laikipiak, Loosekelai and Purko were in close proximity to the Samburu, and their involvement in the civil wars did actually affect the Samburu.

While the Samburu would seem to have not been directly involved in these wars of attrition between the various Maasai sections, their migration to the south-eastern side of Lake Turkana could be linked to the instabilities caused by these wars. The Loosekelai, living to the south of the Samburu, started raiding the latter in the early 1830s. Indeed, it is the Loosekelai who were instrumental in the actual pushing out of the Samburu from the vicinity of Lake Baringo, thereby severing their ties with the Iltiamus and driving a whole Samburu group, Iltoijo (to Jacobs Ildoigio), to seek refuge status among the Iltiamus (Jacobs 1965:79-80; Anderson 1981:5). Besides the Loosekelai, the Laikipiak also rose to power around the same time and took control of Laikipia plateau, to the south of the present day Samburu District (Jacobs 1965:79-80). It was the combined effects of the Loosekelai raids and the occupation of Lorroki, which forced the Samburu to the drier northern area of their present day homeland (Sobania 1978, 1979; Waller 1985).
These inter-ethnic conflicts involving the Samburu, Turkana and Maasai during the 1830s would seem to have been aggravated by incidence of drought during the same period. Although these droughts were not as serious as those of the last decades of the eighteenth century, that of 1836 has received considerable attention from many varied quarters. Krapf claimed that this drought was so serious that the famine it brought was instrumental in the movement of large numbers of the Kamba who settled in Mombasa (Jacobs 1965:62). Jacobs also postulates that the Maasai Kidoto age-set (1821-1841) is mostly remembered due to a severe drought, Olameyo, which led to a lot of cattle raids against the so called Iloikop - a term used by the Maasai to distinguish themselves (as people who mainly subsist on pastoral products-milk, meat and blood) from agro-pastoralists such as Iltiamus, Baraguyu and Arusha with whom they are linguistically related, but economically different. Pastures during the same period seem to have been destroyed by the locusts which devoured everything, leaving behind "not a blade of grass or other green thing so that cattle died in enormous numbers through starvation" (Thomson 1962:128).

There is every likelihood that these environmental problems of the 1830s fanned the conflicts between the Samburu and the Turkana on the one hand, and the various
sections of the Maasai on the other. As Isariah Kimambo has observed

The second series of [Maasai] wars started after the famous famine of 1836 which is known to have affected many parts of East Africa. It appears therefore that many raids were undertaken at this time in order to replenish herds lost during the drought (1989:261).

It is clear from the above that social and ecological factors played significant roles in the course of Samburu history between 1750 and 1840. These factors caused displacements and migrations of people as they tried to come to grips with changes wrought by such factors. The Samburu migration from the west of Lake Turkana towards the south eastern side of this lake, should be viewed as adjustments to such socio- ecological dictates.

Droughts of such magnitude as the one of 1836, usually scorched much of the lowlands, leaving only isolated pockets of useful pastures on highlands or mountainous regions. Such regions, with invaluable pastures, were key areas for the survival of livestock and by implication, people, particularly during dry seasons. Their possessions and control assured pastoralists a continued survival and were guarded tenaciously. It is with this in mind, that we should view the now almost legendary success of the Samburu in defeating and
dislodging the Boran from Mounts Ng’iro and Kulal, and also the Laikipiak from Marsabit during the Lkipeku age-set (initiated c. 1837).

These mountains were pastoral sanctuaries as their montane vegetation offered the much coveted pasture for the livestock, in a region that was otherwise dry for the most part of the year. According to oral sources, the Samburu "ate grass" (meaning they grazed their animals) wherever it could be found, but the Boran who occupied and hence controlled these mountains denied the Samburu access to them (Kirima Leleina, O.I., March 1991). This called for a military action against the Boran, and the Samburu warriors defeated them at Tiree, whose location is obscure, and managed to capture Ol-doinyo Ng’iro and Kulal (Lebaa Lebarsoloi, O.I., April 1991). The Laikipiak who also controlled Mount Marsabit suffered a similar fate. Their easy defeat would seem to stem from the fact that, since most of them (Laikipiak) had gone south where they occupied part of Lorroki and Laikipia Plateaus, as we noted earlier, the Samburu met only a small group who they easily routed and dislodged from the mountain. The importance of Marsabit to the Samburu was noted by Hohnel who described it as the "headquarters of the Burkeneji" during his 1888 journey through their country (Hohnel 1894). It is therefore true that by at
least the Lkipeku age-set, the grazing area of the Samburu had already been extended from Mounts Ng'iro and Kulal in the south to Marsabit in the east (Sobania 1979:31).

It should however, be pointed out that despite the occupation of the region described above by the Samburu in about 1840, they were not confined to this region throughout the subsequent years of the nineteenth century. Their pastoral pursuits occasionally took them, for example, as far north as the Omo valley in present day southern Ethiopia (Almagor 1978). Such extensions though, only occurred during lean years when all pastoralists go out of what would be termed loosely as their recognised territories in search of grass and water.

The chapter that follows examines the various methods used by the Samburu in controlling the environment of this region, whose ecology formed the substance of chapter two.
CHAPTER FOUR

ECOLOGY CONTROL AS A BASIS FOR PASTORAL DEVELOPMENT:
1840 - 1880

The basic requirement for human environmental control is first and foremost the knowledge that man has on his ecosystem. This is crucial because, the success of whatever economic alternative a society may adopt will primarily depend on the ecology of the region inhabited. This is exactly what Marx and Engels meant in their assertion that

The way in which men produce their means of subsistence depends first of all on the nature of the actual means of subsistence they find in existence .... (1966:20).

In a previous chapter, we portrayed the Samburu as people who possessed a vast knowledge of both their physical and biotic environments and the challenges that these posed to their pastoral economic advancement. Such knowledge not only made them get well-adapted to their habitat, but it also elevated them beyond the level of adaptation, to one where they became capable of manipulating their environment for their material existence. It was the utilization of this knowledge and its application in
ecology control that led the Samburu to develop their pastoral economy, between 1840 and 1880, to a level still nostalgically remembered to date (Spencer 1973).

In this chapter, we shall explore the various methods used by the Samburu in controlling their environment during the nineteenth century, but specifically from 1840 when, as we have just seen, they migrated and settled in their present homeland. It should, however, be pointed out that, the methods we are about to discuss were not limited to the given period. These were strategies that evolved together with the societies that occupy northern Kenya. We have given examples of how man responded to increased desiccation in the Rift Valley and northern Kenya by digging wells for the provision of water, or by breeding strains of cattle well-adapted to this arid environment. In the following discussion, the focus will be on the Samburu, as a particular community and with important details that could not have been provided in the previous chapters.

The Samburu system of land use.

The livestock kept by the Samburu constituted important means through which their land was utilized. As we saw, pastoralism was the most suitable economic alternative for a region with such a low moisture content. In a land
that was thus marginal, which could not be worked directly for food production, livestock became important instruments of labour through which the resources of the land (grass and water) could be processed into products readily available for subsistence namely, milk, blood and meat.

The varied Samburu landscape called for a pastoral economy well-suited to its sparse resources. To achieve this, the Samburu kept a variety of animals namely, cattle, sheep, goats and to an extent, camels. This species diversification, in addition to ensuring the viability of a household, defined by Evangelou (1984:18) as the capability to derive a livelihood from a herd on a sustainable basis, had also the advantage of contributing to the ecological balance of the region. Cattle, for example, being grazers, prefer grass to twigs and thrived in the cooler and higher regions of Lorroki and the mountain ranges that dot the low country in the northern and eastern parts of the present day district, where various bushes and twigs catered for their food requirements.

In grazing, the Samburu split their herds according to these feeding habits. This was particularly so during the dry season when cattle were driven to the higher
lands leaving the camels, sheep and goats in the lowlands. The sheep, despite being grazers like cattle, were always herded together with goats (in fact, the Samburu refer to both sheep and goats, collectively as ndare). This arrangement was necessitated by the fact that sheep were vulnerable to predators rampant in the higher and forested lands. It also helped in avoiding situations where sheep could be trampled down by cattle if grazed together (Samayo Lekairab O.I., March 1991).

It is also worth while to note that, the type of sheep kept by the Samburu were physiologically suited to the arid conditions of the lowlands. Stigand, as he traversed Samburuland in 1909, commented that the

Sheep of this country are of the fat-tailed variety, a circumstance which enables them to withstand ... periods of drought and poor grazing, for the fat in the tail acts as a sort of reservoir from which nutriment for the body may be drawn (1910:78).

Species diversification therefore, was an important strategy through which the various herbage in Samburu country could be utilized. This is because, mixed stocking with varied types of animals having different eating habits, makes more effective and often more profitable use of vegetation (Pratt and Gwynne 1977:139). It is actually in this sense that Kjekshus has pointed out that, during the nineteenth century, livestock
"constituted a significant aid to the maintenance of the ecological control by the East African husbandman" (1977:6).

As already shown, Samburuland suffered as it still does, from a serious deficit in terms of water which, with other factors such as tsetse flies, ticks and predators affected to a great extent the utilization of their natural pastures. In chapter two, we endeavoured to show that these problems, and in particular aridity, are of great antiquity. Throughout the centuries, strategies had to be devised to either combat them outrightly or ameliorate their effect on livestock. One of these strategies was transhumance, which is erroneously referred to, by most Western scholars, as nomadism.

Most of the area which the Samburu identify as L purkel or the so called low country, could only be utilized during, and immediately after rains, when the community took advantage of the seasonal grass that sprouted and the surface water left behind by the rains. Herding activities were therefore, designed such that livestock moved from one region to another in what we can simply view as an ecological adaptation whose sole purpose was to secure the best conditions for their livestock in the
physio-climatic conditions of Samburuland.

In their herding activities, the Samburu distinguished between two types of pastures namely, lowland pastures (termed just as the low country -L purkel) and highland pastures, supuko. The low country, as we saw, experienced a long dry period of about seven months in any one year. It therefore, could only be utilized during the Lng'ereng'erwa rains experienced between March and April and also during the short rains that fell between November and December termed Ltumureni. During such short durations, water, a critical factor affecting Samburu pastoralism in the region, became plenty as it freely flowed in the sandy beds of the usually dry rivulets, and also filled to capacity most of the depressions in the area. Within about two weeks, the whole region became attractively green with seasonal grass and other types of herbage which supported livestock for as long as such favourable conditions lasted.

These pastures however, were always short-lived. After the rains, the dry season set in and due to the high rate of evaporation which to this day is in excess of the total rainfall received (table 2), the vegetation soon withered and water became increasingly scarce. The lean
season, nogolong, usually synonymous with hunger set in and an alternative had to be sought elsewhere. This was the period when livestock, particularly cattle, moved from the lowland L. purkeh to the highlands supuko pastures.

The duration the livestock stayed in the lowlands was determined by the period within which grass and water would last. The rainy season being always short and the soils of the lowlands sandy hence incapable of retaining water for long meant that feed for livestock in this region was therefore short. This being the case, erosion of the land through hoof-trampling was limited and mainly restricted to such areas as watering points and saltlicks. Much of the erosion that Spencer (1973) attributes to the Samburu insensitivity to their environment, stemmed more from natural causes such as wind and the occasional rainstorms than from overgrazing.

The highland pastures played important roles as grazing reservoirs during the dry season. According to the Samburu, the lives of their stock and by implication people, revolved around these pastures. Their loss to, or control by other communities could actually spell doom to their economy. We saw in chapter two that the loss of Lorroki to the Laikipiak led the Samburu to equally
dislodge the Boran from Mounts Ng’iro and Kulal and a section of the Laikipiak from Mount Marsabit in C.1840.

For a pastoral community to survive in such an arid environment and also be in a position to assert themselves among other neighbouring communities such highland pastures had to be secured. This is because, the lowland pastures though complementing those of the highlands, were dependent on the latter. Their lowlying nature, in fact, made them difficult to defend against other encroaching communities. Waller, in his description of Masai transhumance, has pointed out that highland pastures were core areas:

from which grazing patterns radiated, the pegs to which the whole web of ... movement and exploitation was fixed. Their retention was vital, for without them much of the surrounding territory was useless" (1985:103).

With the highland regions securely in their fold after C.1840, the Samburu managed to extend their grazing territories to as far as the Dasanetch country to the south of Ethiopia, a region described by the Samburu as the "land of the Reshiat [Samburu name for the Dasanetch] people" (Lebaa Lebarsoloi, O.I., April 1991). The Samburu transhumance during the second half of the nineteenth century is best described by the Dasanetch,
whose traditions note that "the Samburu had their place where they ate grass and then always moved. They moved to us when their place didn't have rain and was dry; When it rained they went back to their place" (Sobania 1978:3).

In these cattle movements, no region experienced excessive pressure that could lead to land deterioration. The movements were a strategy through which the Samburu rangeland and its varied resources, were utilized in a relatively uniform manner, affording enough feed for the livestock throughout the year. Their transhumance enabled them to avoid the over-exploitation of any one region, a situation that would have had adverse effects on the general environment. As Sindiga (1981:80) observes, this system of land use was designed to alter the ecosystem little. It rather sought a mutual inter-change between the ecosystem and the pastoral system, thereby providing a more or less sustainable base for the economy.

The Role of fire in Range Management

Fire was one of the most important tools ever invented by man in the control of his habitat throughout the Savanna biome. As Harris (1980:32) points out, fire has acted on the Savanna vegetation to maintain and increase open canopy plant communities, with attendant improvement
of visibility for hunting and gathering and to favour the spatial and temporal concentration of wild-food resources.

It has also been pointed out by environmentalists that, through the careless use of fire, man has played a leading role in desertification, and this explains why both colonial and post-colonial governments of Kenya have always put a ban on the use of fire in rangelands.

Among the Samburu, fire was an invaluable tool in the improvement of their natural grasslands and in the general control of vegetational growth of their region. After the rainy season, there was the growth of a luxuriant crop of grass, given the combined effects of water and warm temperatures. However, as the rains slackened and the dry season progressed, the previous lush pastures got scorched. This grass, now long and tussocky, became unpalatable to the livestock which was then moved from such low quality grass to where good one could be found.

For the abandoned scorched pasture, its form required an alteration so that it could be of good use during the next season. It was in this direction that fire became important. The Samburu use of fire in rangeland control
shows that it was done for a purpose and at a specific time. This timing was crucial if the desired effect was to be achieved. Burning was useful in destroying the dried crop of grass, so that after the rains, a green flush of soft and succulent crop could be induced (James Leletia, O.I., February, 1991).

Other than the production of "new" grass, the Samburu used fire to "create" more grasslands from areas of bush and shrubs (Lepain Leleina, O.I April 1991). Their concern being grass, fire, as Jewel (1980) has shown, was important in burning out the woody vegetation and replacing it with secondary grasslands.

As just pointed out, for fire to achieve its desired effect, it was not only timed but controlled. Burning was initiated at the height of the dry season but just before the onset of the rains so that the sprouting grass took the advantage of the impending rains. It was the Samburu elders who gave the instructions on when to ignite the land, using fire brands or torches of dried tufts of grass (James Leletia, O.I., February 1991). This late burning ensured that land did not remain bare for long, thereby exposing it to erosional forces.

Experiments carried out by ecologists, on the
productivity of rangelands, confirm the reasons given by the Samburu for committing their pastures to fire, which we said was to improve the quality of the rangeland. In an experiment done in Queen Elizabeth National Park, Uganda, it was proved that the standing crop of grass resulting from late burning, that is, just before the rains, was higher than that from unburnt areas or areas burnt early (Edroma 1984:171). This same author tells us that burning enriches the pastures by encouraging or stimulating the growth of leguminous plants. Similarly, experiments carried out in other regions show that, plants resulting from fields subjected to late burning ...have been found to contain higher amounts of protein, calcium, potash, phosphorous and other elements. On the Nyika Plateau in Malawi [it was] found that protein content in sprouting grasses increased by 75-100% compared with unburnt leaves (Moe et al., 1990).

It is no wonder then that these ecologists ended their reports, on these experiments, by recommending the adoption of controlled fire regimes, which in our view, was what the Samburu precolonial pastoralists practised.

Provision of Water

While transhumance solved much of the problems related to Samburu pastures, water for human and livestock consumption was not easily available. While highlands pastures, supuko, enjoyed some permanent streams and
springs whose water was accessible, the low-lying region, Lpurkel was poorly supplied with water save for the occasional surface water provided by the intermittent rains. However, as pointed out in an earlier chapter, this water shortage, despite its inconveniences, was no handicap to their pastoral economy. Need being the mother of invention, led people to devise ways through which underground water could be tapped using a digging stick. A caution has actually been given, to the effect that, we should not underestimate the importance of the digging stick as a means of obtaining subterranean water (Harris 1980:32).

The digging stick was an important implement for digging wells in much of northern Kenya. Some of these wells stand today as living testimonies to the struggle between man and aridity. There are some communities in the region who still use the stick "despite the ready availability of metal tools; there being a deep-rooted belief that if metal implements are used, the water supply will fail" (Phillipson 1979:55).

The Samburu, out of experience, had learned that most of the dry beds of seasonal interfluves in much of the lowlands, Lpurkel, could yield ground water. Scouting for points where wells could be dug was therefore an
important preoccupation for herdsmen. A sharpened stick or even the sharp base of a spear, was usually driven into such dry sandy beds and any wetness or mud clinging to such gauging implements, indicated the presence of water (Parnate Lebiite, O.I., March, 1991). Having confirmed that such a spot could yield water, a wooden beacon would be planted at the point to keep other contenders at bay.

The digging up of a well, lariak, was essentially a family affair for such wells were not communal facilities on account of the labour and time expended during scouting and the actual digging. A sharpened stick, specially prepared from some of the region's hardwood, was used in digging up the wells. Their depth depended on the water table, and while some were quite shallow, others were so deep that a human conveyor belt was needed to haul the water from its level in the well, to the intended stock (Lepari Lesakwel, O.I., April 1991). Lewis (1961) in his A Pastoral Democracy has also a very good description of similar activities among the Somali in present day Somalia. Although these wells were owned by specific households, others could make use of them so long as permission was sought. This kind gesture emanated from the fact that not all wells had enough
amounts of water and some could actually dry, forcing their owners to depend on others.

Unlike water from rivers or streams which livestock could drink directly from the source, well water underwent various stages before reaching the animals. It had first to be drawn and finally emptied into something that could hold it. To draw water from any well, a wooden container, *loket*, was used whose capacity was about 12 litres. In deep wells, up to six men were needed to haul it up by passing it from one man to the next until it reached the livestock.

Livestock drank the water from troughs. There were three types of troughs whose main differences stemmed from the way they were constructed and the material used. The first type was termed *ngarao* and was made from tree trunks hollowed out to enable them to hold water. The second type was called *nanika* and was constructed from mud and stones. This type of trough was immovable and located a few metres from the well. Both Hohnel and Stigand make mention of this type of trough (*nanika*) in their accounts written in 1894 and 1910 respectively. Stigand, for example, tells us that, when he reached the low country, he came to
... a dry sandy watercourse in which were dug a few wells. This was Barsoloi. There were Samburr [sic] near here and sheep were being watered at the wells. The water was passed up in wooded vessels [loket] by hand and poured in troughs made of mud and stone [nanika] (1910:72).

The third type of trough was, in actual fact, an improvisation. It consisted of an ox-hide which was folded such that it could hold water, and then fastened to pegs. This "trough" was termed jomet or lnjoni. The latter term (lnjoni) simply refers to a skin or hide while the former combines both the hide (which is the principal component of the trough) and the fastening pegs or props. This was a portable trough carried along by herdsmen for use where water was available but livestock could not drink it directly from the source. When not in use, the hide could be converted into a bedding by the herdsmen (Samayo Lekairab, 0.I., March 1991).

For the wooden vessel, loket, and the trough, ngarao, the Samburu were very particular about trees from which both were hollowed out. Since the lightness of these items was a prerequisite, softwood was preferred to hardwood. A range of these trees was used, but two of them namely, ng’orochi and loichimi were highly valued due to their lightness and durability after drying up (Kirima Leleina, 0.I, March 1991). Other trees that
could be used as substitutes included lawai, laripai, ng’oroma and lamarasi and particularly in areas such as Lorroki plateau where ng’orochi and loichimi were lacking. These trees were also very much sought-after for the making of milk gourds, malasin. To hollow out the vessels such as loket and ngaraq, a metallic chisel-shaped implement, mbita, forged by the Samburu iron-smiths, likunono, was used.

These troughs were usually placed at a distance of about 20-25 metres from the well as a precaution against trampling of the water point by livestock as they scrambled for water. More than one trough would be used depending on the size of the herd, and this helped in reducing the hoof-effect on the ground. However, watering points were usually highly eroded due to the great number of animals watered daily.

Frequency of watering depended on the season and type of beast. Cattle were usually watered after every other day while sheep and goats needed water once in every week if the vegetation was still succulent, or after two days during the hottest and driest months. The camel being a hardy beast, stayed for quite a long time without water and mainly if the browsing twigs were still green. During a severe drought, however, a camel needed to be
watered after every ten days.

Salt Licks

As Rollinson observed, the eating of earth by cattle ...is widespread in Africa and the presence of salt licks, i.e a cutting in the soil licked and eaten by herbivora with beneficial results has for generations been recognised by natives as an asset in grazing (1953:167).

For the Samburu, even when the lowlands, lpurkel, were poorly supplied with water they were very rich in natural salts locally termed lboliei. These salts were easily found along most of the dry sandy river beds and other regions where water usually collected. The high rate of evaporation left behind good quality salts that attracted both domestic and wild ungulates.

It was generally recognised that, for the good health of livestock, salt was a must. Deficiency of it led to weakened bones hence limping of stock and also loss of appetite such that, the affected animals appeared "not to get satisfied" after grazing (Baine Leng’arawoti, 0.I March, 1991). As an indication of want of salt, livestock tended to be restless/and devouring anything they came across. Cattle showed increasing liking for ashes and started destroying trees, through removal of
barks which they ate. On the other hand, they would raise their muzzles high in the air, an act of behaviour interpreted to mean "smelling of salts" (Weliwel Letato, O.I., March, 1991). When such signs were noticed, the entire herd was led to the salt licks where they stayed for about two days licking the mineral while grazing around until it was observed that they had lost their appetite for it and then driven back to the previous pastures. Some salts such as those of Suguta Marmar were so crystal-clear that even the herdsmen would use them in chewing tobacco, *ikkumbau*, as the livestock licked to their fill. In Lorroki plateau, salt licks were few compared to the lowlands save for Kisimaa and Suguta Marmar to the south.

**Entomological Control**

In chapter two, details were provided to show that the precolonial problems, caused by blood-sucking insects to Samburu pastoral economy, were not as numerous as some scholars would have us believe. We laid evidence bare to prove that the ecology of these insects has not been given adequate consideration. This has had the effect of bringing about generalizations regarding the impact of these insects on the precolonial pastoral economies.

On the other hand, we did not deny the presence of
these insects or their potential in negatively affecting the economic base (livestock) of the Samburu. We actually did show that the dangers posed by these insects, particularly tsetse flies, were real, and also that the Samburu pastoralists were fully aware of such dangers. However, that the problems posed by these insects were not as endemic as previously held, is mainly due to the ecological balance the Samburu had maintained between their economic activities and the general ecosystem.

It was earlier on made clear that the Samburu herdsmen distinguished between the tsetse flies, lajong'anyi and tabanids, sanambur or lupupoi, and their associated problems. At the same time, it was indicated that the localities or environments within which these flies thrived were well-known. Such knowledge was very crucial to the Samburu as it enabled them to be in a position to meet the challenges that the insects posed. The methods of control, such as the ones discussed below, were actually based on such knowledge.

Avoidance

The simplest of these methods of entomological control, was to steer clear of the regions that were known to be infested with these harmful flies and particularly the
tsetse. According to the Samburu, livestock in their grazing patterns kept quite clear of such regions as Losuk, Malaso and Tinga to the southwestern part of the present day Samburu District, as these localities were known to be heavily infested with tsetse flies (Siamanda Leshoranai, O.I., March, 1991). This strategy had come out of experience. People in their economic pursuits had found out that, when their animals were taken to graze in these tsetse-harbouring areas, a sizeable number of them perished due to the insect bite.

For the tabanids, we saw that the Samburu knew that their (tabanids) menace was seasonal and therefore temporary. These insects appeared just before the onset of rains and disappeared with rainfall increases or the resumption of the dry season. With this in mind, the Samburu herdsmen moved their livestock from such areas when the tabanids struck. However, they always brought the animals back once the "insect season" ended (Charles Lesiang'ude, O.I., March, 1991).

Colonial records of Samburuland not only confirm the Samburu contention that the areas infested with these insects were few but also show that such areas were avoided. In a memorandum written after a survey tour authorised by the Carter Land Commission and dated 24th
January, 1933, an officer named McConnel reported that:

There are some areas they [Samburu] do not touch at all on account of the fly and there the vegetation looked as though it had not been grazed down at all (KNA/PC/NFD4/2/3).

In this very document, from the Kenya National Archives, another officer, within the same period, reported that he "passed through fly belt approximately 10 miles long by 5 miles wide. Grass was plentiful here but ungrazed".

Although avoidance was practised, sometimes a severe drought would force the Samburu herdsmen to take risks by driving their cattle into tsetse-infested regions trusting on their acquired immunity to nagana (bovine trypanosomiasis). Like in all businesses, subsistence or market oriented, taking of risks was and is a rational undertaking. The Samburu correctly believed that it were better for some animals to perish due to contracted bovine trypanosomiasis, ndigana than an entire herd dying on account of lack of feed, while they avoided an alternative due to the fly. Risk taking also allowed a limited contact between the cattle and trypanosomes, which in effect can be viewed as a way of building up body resistance for cattle against nagana. This is actually what Ford thought to be the "first stage in achieving... physiological adjustment to infection"
In a personal communication with the Samburu District Veterinary Officer (DVO), during the period when data for this study was collected, it was made clear that the Samburu belief, described above, is not without scientific backing. According to the DVO, the presence of tsetse in a region, does not necessarily mean that cattle will contract nagana. This is because, the flies being vectors, can only transmit the disease if the organisms that cause it (trypanosomes) are within the systems of the fly. On the other hand, these trypanosomes thrive in the blood systems of certain game (ungulates) which, if lacking in the region, would also mean the absence of the disease.

Colonial reports of Samburuland and the North Frontier Province (NFP) in general, show that the presence of tsetse flies did not mean fatality to all cattle. According to the veterinary officer in charge of NFP in 1933, a W.M. McKay, "... although animals are bitten by fly in a fly belt they do not necessarily contract trypanosomiasis as all "fly", tsetse or tabanids in a fly belt are not necessarily infected" (KNA/PC/NFD4/2/3). This confirms the Samburu notion that, not all cattle died on account of the tsetse bite hence the courage to
drive them into tsetse belts when that was the only open alternative to them. On the immunity of cattle to nagana, the very officer pointed out that, it was his experience that, animals contracting the disease (nagana) did not always die. "Some show recovery and relapse, recovery and relapse ad infinitum; others apparently recover unless re-infected" (ibid).

Curative Measures

The Samburu however, did not always sit back hoping that their livestock, ailing from nagana, would recover unaided. They actually had curative measures. Certain herbs such as sukuroi (Aloe secondiflora) were sought and thoroughly boiled together with the heads and limbs of slaughtered cattle. The resultant fatty concoction, sarr, was forced down the throats of ailing animals to induce diarrhoea and in most cases the affected animals recovered (Leparikir Leshoranai, O.I., March, 1991).

Burning of Vermin-infested pastures

Burning of vermin-harbouring pastures was also a very useful method applied by the precolonial Samburu herdsmen in the control of pests such as ticks and tsetse flies. We saw how fires were used in improving and raising the productivity of rangelands and also in the control of bush that encroached into grasslands. Such
fires incidentally, would also destroy vermin in the affected areas. Despite this, burning was sometimes used specifically for the purpose of dealing with pests, like tsetse, tabanids and ticks.

When the Samburu intended to make use of pest-infested pastures, this was preceded by setting on fire the affected region. As with the case of range management discussed earlier, the burning was done at the height of the dry season, but just before the onset of rains so that the sprouting grass took advantage of the impending rains. By torching the regions before livestock could be driven there, the herdsmen were assured of the safety of their herds. Other than the direct killing of pests, fire also had the advantage of destroying much of the woody vegetation which favoured the proliferation of these insects and replacing such vegetation with open grasslands that discouraged them. In order to come to grips with the effectiveness of burning as a tsetse control measure, we need to give a brief introduction of the insects' life-cycle.

The tsetse fly, unlike other flies, is most unusual in its breeding habits (Tweedie 1974:70). It lays only one egg at a time which, interestingly, is laid in the fly's uterus where it will hatch into a larva. When this
intra-uterine larvae is fully grown, the mother fly will give birth to it and the larva burrows itself in warm and humid ground, made of decomposed leaves, where it will pupate and later emerge as an adult fly. This cycle clearly indicates that the fly has "an exceptionally low fecundity for an insect" (Askew 1971:57). In fact, so low is its rate of reproduction that "a female tsetsefly produces no more than a dozen progeny in her life (far less than a female rabbit)...." (Tweedie 1974:70). This clearly shows how vulnerable the fly is to fire which would destroy them in great numbers without the insect being able to reproduce as fast.

Apart from the destruction of the fly and its habitat, fire also dealt a blow on the habitat of wild ungulates, which as we saw, acted as reservoirs for trypanosomes (Askew 1971; Harris 1980). Although the Samburu might not have known the mechanisms through which the trypanosomes underwent before causing nagana, they nevertheless noted that the disease declined with burning of the land and elimination of game.

The Samburu also used smoke in getting rid of tsetse flies from pastures, a measure not restricted to them alone. According to Stuhlmann (quoted in Kjekshus 1977:54), the precolonial Wanyamwezi of Tanganyika
(mainland Tanzania) lit fire in cattle kraals at night using dried dung from cattle. This fire emitted a strong smell from the smouldering dung, which enveloped cattle, thereby giving them a certain degree of protection from the fly. For the Samburu, the acrid smell from the burning of dry grass and barks of certain poisonous plants such as *morijoi* (*Acokanthera* spp) was believed to destroy the flies. (Nongiso Lekume, O.I., March 1991). Further, such smoke and its accompanying smell, pervaded into a larger area than the actual fire could cover and in so doing, destroyed those flies that attempted to escape from the conflagration (Peter Lemoosa, O.I., February, 1991).

For the control of ticks, burning was even more thorough as these pests have no wing-power for propulsion. According to the Samburu, ticks, *maskeri*, lived in the ground beneath the grass and in certain hidden localities. It was believed that any man lucky enough to discover such "hidden locality" would become very rich (Sango Lengoiboni, O.I., February, 1991). This belief perhaps emanated from the fact that ticks being sensitive to aridity were scarce in precolonial Samburuland. The important aspect of this belief, for this study, is the notion of the ground being the home of ticks. It was with this understanding that the
Samburu used fire as a tool for destroying the vermin. As the Wellcome Eastern Africa Limited has shown, the ground is an important base for the life cycle of the tick (1980:2). Eggs, in their thousands, are laid in the sheltered bases of tufts of grass. Although the subsequent stages of the tick-cycle might occur while the pest is on the host, as is the case with single host ticks, in the end all female ticks must fall to the ground to lay their eggs. Burning would not only break the cycle of most ticks, particularly those that drop from the host to moult into subsequent stages (the so-called multi-host ticks), but would also entirely wipe out any tick-adult or otherwise-on the ground. Further, the grass cover, used by female ticks as an "incubator" would also be destroyed in the process.

It should also be noted that while ticks today are becoming resistant to various acaricides, it cannot be said to be the same with fire now or in the past. A fire resistant tick is quite unimaginable! It was the efficient use of fire that could be attributed to the low number of ticks and hence few tick-borne diseases as alluded to by most of my informants, during the precolonial era.
In a previous chapter, an attempt was made to show that game was not only an important part of the ecosystem but contributed greatly to the general ecological balance of the regions they inhabited. It was clearly shown that "under traditional pastoralism a stable equilibrium existed between wildlife and livestock numbers and that they truly complemented each other" (Jewel 1980:363). This "state of equilibrium" however, had not been attained without an effort rather, it was the creation of man, who through the years had learned to manipulate the control of his habitat to realize this ecological balance. It was nevertheless a very delicate balance which at times tumbled in the face of conflicting needs of man and game. In fact, Kjekshus has gone to great lengths "to correct the old misconception that man and beast lived in harmonious co-existence in pre-colonial East Africa and that neither threatened the existence of the other" (1977:78). In this section, the relationship between the Samburu and wildlife is examined with the aim of bringing to light the various measures they took in controlling the game during the nineteenth century.

Samburuland, as in other regions, was rich in game, ranging from the herbivores to predators. Each of these had a direct bearing on the Samburu pastoral economy and
the methods of dealing with them varied from one group of animals to the other, and from season to season. For the herbivores, the Samburu herdsmen’s concern lay with the fact that these ungulates were competitors with their livestock for the meagre resources namely, grass, water and salt licks. This competition, though much reduced through the already described principle of ecological separation (in chapter two), was greatly pronounced during the dry season. This was the period when only certain favourable areas such as highlands and river valleys had adequate foliage and water. At such a time, wildlife responded to such changed conditions by migrating from their natural habitats to these well-endowed enclaves (Talbot 1964:271). The Samburu response to such ecological changes was by moving livestock from the region of low food supply to those that had adequate feed. This strategy, as we saw, ensured that livestock had enough to eat all-year round. On the other hand, wells dug became focal points for both wild and domestic animals as the need for water increased.

Wild herbivores, as earlier on explained, were associated by the Samburu with certain diseases afflicting cattle. These diseases, such as boroto which made cattle feverish or mbene, believed to affect cattle that ate left-overs of leaves previously eaten by wild
herbivores, made game unwelcome to Samburu pastures. It is therefore, clear that competition for grass and water, and the idea of game being associated with certain livestock diseases, put the Samburu herdsmen and game on a collision course. As Kjekshus has pointed out, whenever the interests of man and wildlife conflicted, those of the former prevailed and the wild animals were inevitably driven out (1977:71). This eviction of game from areas needed for man's use, took various forms, ranging from annihilation to purely preventive measures. The following discussion is centred on these control measures.

**Hunting**

Hunting of game was one way through which game was reduced to a tolerable level. Some scholars have claimed that the Maasai and Samburu were "pure" pastoralists who shunned hunting for food and held those who did it contemptuously (Jacobs 1965; Fumagalli 1977). While this nutritional distinction has been contested by among others Berntsen (1979) Waller (1985) and Lamprey and Waller (1990), it has not been denied that the two communities hunted wildlife for other purposes. Certain game products were highly valued by the Samburu. Their shield, for example, was made from buffalo hides which were tough such that spears could not easily penetrate.
While the Samburu diet was mainly milk, blood and meat from their herds, in times of drought that made such products scarce, flesh from buffalos, elands and the many types of antelopes found in the region could be consumed (Letende Lekaso, O.I., April 1991). At such times, these animals were killed in large numbers for food while their hides became useful mats for sleeping on or for other domestic purposes. Traps to ensnare these animals were laid in their well-beaten and hence known tracks, particularly those leading to watering points and salt licks or they were directly hunted down and speared or shot at with arrows.

During the dry season, large herbivores such as elephants, buffaloes, elands and rhinoceros had to be eliminated in order to conserve water which such animals drunk in large quantities at the expense of livestock and to safeguard the dug-out wells from being trampled down by the very beasts (Side Leleina, O.I. April 1991). This same strategy was also observed from among the Maasai, who speared to death elephants for similar reasons (Talbot 1964:161). Grzimek's Encyclopedia of Mammals, Vol 4. (1990:469-470) gives a very important account of the eating and drinking habits of elephants, which goes to explain why the jumbo was hunted down and killed during the time grass and water were in short supply.
According to this publication, the elephant has a very inefficient digestive system which results in half of its ingested food leaving the body undigested. This poor digestive function makes the beast a voracious eater and hence a great destroyer of vegetation than other large herbivores. It is able to consume between 315Ib (150kg) and 330Ib (170kg) of vegetation within twenty-four hours and to drink, within the same period, between 70-100 quarts (80-114 litres) of water. Further, their sanitary requirements makes them turn dug-up wells into "family baths" thereby destroying them. Indeed, the elephant way of utilizing their environment exemplifies what was earlier on described as the "predatory economy" of wildlife when compared with human economy which is premeditated, planned and directed towards definite preconceived ends (Engels 1977:70-73).

Use of Fire

Besides hunting, the Samburu made use of fire to keep wildlife at bay. Fire lit in homesteads and cattle kraals blended the environment with a stench of smoke that was believed to keep predators like lions, leopards and hyenas away. The hyena however, had a positive role of clearing compounds by devouring carrion but like the wild cats, it was a dreaded predator. Fire-brands or faggots, were usually hurled at such carnivores at night
when it was suspected that they were lurking in the shadows of thickets. Such suspicion came about when a stampede in cattle kraals was heard or when such livestock caused an usual commotion threatening to break out of their confinement. Smouldering fire-brands would be thrown into areas the predators would be thought to be hiding. Such fire-brands were accompanied with much din from loud shouts and banging of metallic implements. The ensuing hullabaloo frightened the beast thereby forcing it to bolt. This situation was practically witnessed by Stigand while in Samburuland and he tells us:

I saw burning faggots being thrown about... Next morning I learnt that a lion had jumped the wall of the zariba, fallen on some sheep and goats killing four or five, and then jumping on the roof of a hut, had cleared again frightened by the noise and leaving its victims behind (1910:64).

The Samburu also used fire in destroying the hide-outs of game. Such fire was an aid to opening up of land for improved visibility which made it easy for the people to track down wildlife. Fire also destroyed certain vegetation preferred by certain beasts. Such shrubs like morijoi (Acokanthera spp) and acacia which elephants craved for, were destroyed. This consequently discouraged them from making incursions into human
occupied territories.

Recent ecological studies have shown that the moment the pattern of cover is altered through the act of burning, the relationship between prey and predators is also altered (Ogen-Odoi et al. 1984:102). In other words, burning removes the thickets needed by such game as lions, leopards and hyenas as hide-outs from where they can easily attack unsuspecting people and or their livestock. Further, it has been experimentally proved that burning reduces the browsing pressure to a significant extent and also reduces the impact of elephants on woodland (Bell and Jachmann 1984:157). From this exposition, it can be clearly seen how effective fire, as a tool for environmental control, was in solving the conflict between the Samburu and the wild animals. They used this strategy to safeguard their stock-wealth from predators and at the same time ensuring that the vegetation was not destroyed by large herbivores whose browsing habits were instrumental in environmental degradation.

Use of Chemicals

The Samburu also used poisons, saiyet, to eliminate game which threatened their pastoral economy through killing of stock or when such animals, and particularly
carnivores, turned against people. The application of poisons in dealing with game, was increasingly made when the number of such beasts seemed to rise beyond the level to which other measures could suffice. On the other hand, if it was noticed that a certain beast, for example a lion, eluded other means of control, then people prepared saiyet for its elimination.

Poison for such use was locally prepared from a short evergreen tree termed as morijoi (*Acokanthera schimperi*) whose leaves, as stated earlier, were a delicacy to the elephant. This tree bore, as it still does, small edible fruits and gave shade to people due to its dense foliage canopy. However, the roots were known by the Samburu to be very poisonous and any accidental chewing of a strip of it (root) killed instantaneously. Such roots were dug, cleaned carefully and thoroughly boiled so that in the end they yielded a lump of black poison. This chemical was then applied to arrows or spears before they were hurled to a beast whose death was immediate if struck (Siamanda Leshoranai, O.I., March, 1991).

It would seem that the knowledge of this poison from the very tree is of great antiquity in Africa. We are told that the tree
has received much notoriety since it provided the many ingredients of the arrow poisons by many African(s) from Arabia and Somaliland down to South Africa and was practically unknown to Europeans until Burton wrote of it in 1856 (Verdcourt and Trump 1969:122).

In the same publication, these authors confirm the knowledge of the potency of the poison and its effectiveness when they state that the tree "yields a highly potent arrow poison which kills in a few minutes ...it is much more toxic during the dry season" (Ibid: 124). As we saw elsewhere, it was during the dry season that the Samburu intensified their struggle against wildlife on account of the scarce resources. Hohnel and Teleki in their journey through East Africa in the 1880s observed that the "Wakikuyu and Wandorobbo" were using the distilled sap of the roots [from the tree] to poison their arrows " (Hohnel 1968:282). Further, Dale and Greenway inform us that a "decoction from the leaves and twigs produced the base of the arrow poison of the Akamba" (1961:43). This is an indication of how ancient and widespread the practice was among the Africans. It is probable that the English name for this tree; "arrow tree" (Mugera 1979:342) is derived from the practice of tipping arrows with its poison.

All the above mentioned and discussed control measures by the Samburu were undertaken to safeguard man and his
stock from game. This helped in game elimination or the amelioration of problems related to wild animals such as their being carriers of nagana-causing organisms (Trypanosomes).

The colonial policies resulted in the alienation of a lot of pastoralists' land to support the rival tourist icon, the game parks! (Baxter 1990:Vii). On the other hand, creation of game reserves, for example the Samburu and Marsabit reserves, led to concentration of animals of different dietary specializations, in crowded areas. This has brought in its wake, land degradation hitherto unknown due to overgrazing or trampling of even the most resistant vegetal species (Dasman et al., 1973:89).

Colonial laws banning hunting and killing of game has led to an increase in wild animals to a point where human beings are being killed by the beasts at an alarming rate. As the Daily Nation Science editor has lamented, people have died while trying to protect their produce from such big game as elephants. He claims that the animals have become so bold today that they do not seem to be scared of fires, which during the precolonial era kept them at bay. He detests the failure of wildlife experts to consult the local people on how to go about the elephant problem rampant in certain regions in Kenya.
He actually concludes his article with a very telling question "has any of our local or international experts [on wildlife] listened to the local community on the various methods or steps that may be taken to control the [wildlife] tragedy?" (Otula Owuor 1991:12). These "experts", since colonial times, have not bothered to involve the local people, who are directly affected by the policies they formulate. They have discarded well-tried methods of wildlife control by African husbandmen, replacing them with those which emphasize on controlling people while leaving the wild animals to roam scot-free (Kjekshus 1977:79).

We have analysed in detail the manipulation of the physical environment by the Samburu precolonial herdsmen for their economic advancement. We have shown that despite the great ecological challenges that this environment posed to the people, their deep knowledge of their habitat was a great asset to them. This ecological knowledge led them, during the nineteenth century, to devise elaborate strategies through which the environment was tamed and harnessed for pastoral production. These strategies were geared towards achieving a state of equilibrium, though very delicate, between the Samburu and their pastoral activities on the one hand, and their ecosystem on the other. It is this state of an
ecological balance that put this community on a path of prosperity still remembered in the Samburu traditional folk-lore, compared to subsequent years. This prosperous period, as we are about to see in the subsequent chapter, was shattered with adverse effects on the people when the ecology went berserk in the last two decades of the nineteenth century.

It is also clear from the various inferences drawn from colonial rule that alien policies imposed on the Samburu, led to their impoverishment. Through policies that came to confine these ardent pastoralists to hitherto unknown boundaries, and banning of strategies like burning and those leading to game control, ecological imbalances resulted. These imbalances have dogged pastoralists' areas to date, and the environmental redress is not yet in sight.
CHAPTER FIVE

SAMBURULAND DURING THE ERA OF ECOLOGICAL CRISIS: 1880 TO 1900

In our just concluded chapter, details were provided to show the Samburu mastery of their environment. We saw how the various challenges, posed by the physical environment, were met with elaborate strategies designed to make Samburuland both habitable and economically viable. On the other hand, we showed, in an earlier chapter, some of the ecological set-backs suffered by this community in the course of its history. These drawbacks, while serious at times, were always overcome through the adoption of alternatives open to the people. The severe droughts experienced during the second half of the eighteenth century, for example, forced the Samburu, then living near Lake Baringo and its environs to start rearing more goats - animals well-adapted to arid conditions. Further, droughts experienced in the early decades of the nineteenth century, and particularly that of 1836, were instrumental in influencing the Samburu to leave the region to the southwest of Lake Turkana and migrate to their present day district in about 1840.

In all these instances, human initiative helped
overcome vagaries of nature giving the society a new lease of life. In adopting dialectics of nature, the theory in which this study is grounded, we noted that nature is not a state of changelessness, stagnation and immobility. Likewise, while conceding that man has the ability to manipulate and hence alter the physical environment, it was shown that humanity by no means rules over nature "like a conqueror over a foreign people". As Engels, in his authoritative article entitled "The Part played by Labour in Transition from Ape to man", observes:

"each victory [over nature] it is true, in the first place brings about the results we expected, but in the second and third places it is quite different, unforeseen effects [intervene] which only too often cancel the first (1977:74).

This chapter focuses on a period when the ecological balance maintained by the Samburu collapsed, making nature have an advantage over man. Like the biblical case of Job, nature not only decimated the Samburu pastoral wealth, but also afflicted people with diseases which led to a big reduction in human resource. This was not only experienced by the Samburu, but by most Kenyan communities. This study is therefore, in agreement with Marcia Wright's contention that, there was an ecological crisis in Kenya-in fact, East and Central Africa -during
the last two decades of the nineteenth century (1979:188).

The Catastrophes

It has been the practice of economic historians to present these ecological disasters in a simplified progression of Bovine Pleuro-pneumonia, rinderpest and smallpox (Sobania 1978;1979). Further, the early 1880s has been thought by many historians as the period when these problems struck. While these catastrophes were experienced in many areas, they occurred at relatively different times inflicting repeated blows on population and economic base everywhere (Wright 1979:188). The calamities ranged from human afflictions such as cholera, smallpox, yellow fever, jiggers, sleeping sickness (human trypanosomiasis) and famine, to livestock viral diseases, leading among them Contagious Bovine Pleuro-pneumonia (CBPP) and cattle plague (rinderpest).

Each ecological zone had its own share of problems. Some regions experienced these afflictions at different times and with varying impacts. The Basoga (Uganda), between 1898 and 1911 were almost wiped out by sleeping sickness and famine (Ealand 1914; Nayenga 1979). Their compatriots the Jie and Karamojong in about 1876 had lost many of their herds of cattle through a disease
identified as loongoripoko (presumably Contagious Bovine Pleuro-pneumonia). Just as they were about to recover, cattle were revisited by another disease, lopit (rinderpest) while the human population got decimated by famine and smallpox which struck in about 1894. The famine was made worse by a locust invasion during the same period (Turpin 1948; Lamphear 1976). In today's Tanzania mainland, these disasters have been traced from 1890 when rinderpest, smallpox, and sandflea plague (jiggers) and famine ravaged the land (Kjekshus 1977). The present Kenyan pastoralists such as Samburu, Rendille Boran and many others became impoverished through the loss of their cattle when CBPP and rinderpest struck and their population got greatly reduced by smallpox and famine during the 1890s (Hohnel 1894; Chanler 1896; Neumann 1898; Thomson 1962; Sobania 1978; 1979; Waller 1985; Kimambo 1989; Sindiga 1990).

From these examples, it is clear that despite the ubiquity of the disasters, each community had its own tales of woe to narrate. The effects of the disasters on populations and economies also varied from place to place. Agro-pastoral communities would seem to have suffered less than the pastoralists on account of their having a wider and diversified economic base than the latter. The chain of disasters that hit Samburuland
during this period still evokes very bitter and painful memories. It is a period simply described by one word *mutai*, whose translation comes close to "end of things" or doomsday. The *mutai* demonstrates the extent to which natural calamities can go in undermining the economic fabric of societies through depopulation and destruction of means of production. The following discussion centres on these calamities, their effect on the Samburu and the latter's response to them.

**Human Diseases**

**Cholera**

As indicated above, calamities did not all start in the 1880s. In Samburuland, there appeared a cholera epidemic in about 1869, which marked the beginning of a long suffering of the people from then to the end of the century. The disease, which is reputed to be very infectious and with a surprisingly high mortality rate can spread very fast, particularly in hot and dry conditions like those found in Samburu country. It is difficult to ascertain the impact of the disease on the Samburu population but given that it is to this day ranked very highly among the biggest killer-diseases, it could have claimed many lives. The seriousness of this epidemic is vividly depicted in accounts of James Christie (1876), quoted by Allan Jacobs (1965).
According to Christie (a medical doctor in Zanzibar), caravan traders who had gone to Samburuland contracted cholera and "out of one hundred and fifty on the party that started from Laikepya [Laikipia] only seven reached the coast alive" (Jacobs 1965:228). Further, we are told that, as this affliction spread south, it swept across Maasailand leaving in its wake thousands of people dead. In a place called Dasekera, in Loita highlands, "the epidemic was described as dreadful: before morning there were above a hundred deaths among them [Maasai]" (Ibid). In fact, Kimambo (1989:262) attributes the decline of the Maasai power, during the nineteenth century, to diseases such as cholera.

There is every likelihood that the Samburu suffered greatly from this scourge on account of their country being the direction from which the disease spread. However, the Samburu claim that the cholera epidemic was not as serious as the smallpox or cattle diseases which struck them from the 1890s. What perhaps worsened the affliction was the pastoralists' movement with their cattle from place to place in search of pasture and water, and also the caravan trade. Such activities helped in spreading the disease-causing organisms to many "clean" areas. Cattle raids also played an important part in spreading it. Alan Jacobs, quoting Christie
(1876) tells that

while trading at Kisima (Samburu)... (caravan leaders)... were informed that the Masai had made a raid upon a tribe to the north of Laikepya, called Soma-Gurra (Rendille? the next tribe north was said to be Galla Borani) and that they had brought back with them some deadly plague (cholera) of which many of the Maasai have died (1965:225).

Smallpox

Although the disease was rampant in many areas of East Africa as from about 1890, among the Samburu it seems to have started earlier. According to Sobania, the Samburu "record the suffering of smallpox by each of the three consecutive age-groups ... beginning with the one initiated C.1865 [Tarigirik]" (1978:1). It would seem that the earlier bouts of smallpox as reported by Sobania, were isolated cases as the disease was to reach alarming proportions in the 1890s. Smallpox, locally termed ngeyamara, is more remembered by the Samburu than the cholera outbreak on account of its persistence and the ugly scars it left on people's bodies (Baine Lengaramwiti, O.I. March, 1991). Problems caused by ngeyamara were compounded by the problem of yellow fever, ngeyandisi and the combination of these two afflictions had the result of killing many people (Mary Lewoso, O.I. March, 1991).

Under normal circumstances, smallpox like measles,
usually attacks children, but the one that ravaged Samburuland in particular and East African in general, seems to have spared none. As Kjekshus has observed

smallpox... in the 1890s... attacked the adults as well as the young and it therefore seems possible to conclude that the disease was re-establishing itself in this period after many years' absence from East Africa (1977:132).

The Samburu associated "ogevamara" with the Somali, locally called "Radoru", who traversed their country during the nineteenth century on trading missions (Lparikir Leshoranai, O.I, March, 1991). The Samburu believed, and rightly of course, that the Somali, due to mixing with many people during their commercial pursuits spread the disease. These traders were usually avoided whenever it was learned that they were around. Kjekshus (1977:132) also points out that the Maasai were apprehensive of foreigners visiting their land because of a disease identified by Harry Johnston in 1886, as smallpox. While the caravan trade was in the decline by the 1890s when smallpox became a scourge among the Samburu, northern Kenya had been under the Somali trading sway during much of the nineteenth century.

As Van Zwanenberg and King (1975:170) have shown, the "Wardai Galla" (who the Samburu could not differentiate
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from the Somali) dominated trade in northern Kenya until the Gabra Somali took control from the 1860s. It is therefore understandable why the Samburu associated smallpox, *ngeyamara*, with the Somali and took a precautionary measure of avoiding the latter's trading parties. It is also likely that this was the reason behind the cold reception the Samburu accorded Arthur Newmann when he and his party tried to make acquaintances with them in the late 1890s (Neumann 1898:192).

**Livestock Diseases**

It is impossible to know all the diseases that afflicted Samburu livestock and particularly cattle during this period. The Samburu, however, vividly remember three diseases which dealt a hard blow on their pastoral wealth, namely *lkipei*, *lodua* and *lopet*. The first two (*lkipei* and *lodua*) have scientifically been diagnosed as Contagious Bovine Pleuro-pneumonia and Rinderpest (cattle plague) respectively (personal communication with the Samburu District Veterinary Officer (DVO), Maina Ngari). *Lopet* has, however, defied experts' knowledge. Veterinary officers from the district tended to equate *Lopet* with a severe form of rinderpest, claiming that the disease perhaps represented the initial stages of *lodua* (rinderpest). There might be some truth in their suggestion since both Turkana and
Karamojong identified rinderpest with a term (Lopit) close to the Samburu's lopet (Turpin 1948). However, this is inconclusive because it is difficult to comprehend how the Samburu can easily remember other diseases, identifiable today, and still fail to distinguish Lodua from Lopet. What complicates the identification problem of Lopet is the assertion by the Samburu that the disease had no noticeable characteristics or symptoms as

it killed livestock so swiftly that a herd of cattle that appeared healthy when let out of the pen in the morning would all die before the sun reached overhead" (Kirima Leleina, O.I., April, 1991).

Since this identification hitch does not greatly affect our study, we need to turn our attention to the outbreak of Contagious Bovine Pleuro-pneumonia (CBPP) and Rinderpest. These two diseases are reputed, by both oral and written sources, to have wrecked the economies of East African pastoralists in the last decades of the nineteenth century.

Contagious Bovine Pleuro-Pneumonia (CBPP)

This disease, Lkipei to the Samburu, has been described by the East African Agricultural Journal (EAAJ) as a "specific disease of cattle caused by an exceedingly
small micro-organism Asterococcus mycoides" and which
afflicts cattle found in arid and semi-arid lands (1942-
1943 (8):56). According to the Samburu, Lkipei
outstanding characteristics was the laboured breathing
of the affected animal and its tendency to face the
direction the wind was blowing from. On slaughtering the
beast, the lungs were found rotten and the thoracic
cavity filled with pus which gave the carcass a revolting
foul stench (Nongiso Lekume, O.I., March, 1991). This
is probably the cattle disease that Thomson encountered
in Masailand in 1883, since rinderpest, as we are about
to see, had not broken out in this region then. Thomson
tells us that, owing to the
dried carcasses of numerous cattle which
dotted the entire district... we came to the
conclusion that some disease must be ranging
in the land... Around the kraals the scene was
simply fearful - hundreds of animals dying and in
all stages of decomposition. A dreadful stench
prevailed and the people were in helpless
distress... The country seemed to be full of
lamentations and despairing cries (1962:99-100).

From the great numbers of cattle that the disease
claimed, it would seem that livestock were unaccustomed
to the CBPP bacteria. There is ample evidence to prove
that the disease was unknown to East and Central Africa
prior to 1860 (Ford 1971; Van Zwanenberg with King 1975).
According to an authoritative source, the disease reached
South Africa when an affected Friesland (Friesian) bull from Holland landed at Mossel bay in 1854. In a span of two years, 200,000 animals are known to have perished in South Africa. In 1861, a European trader brought the disease into Matabeleland (Southern Zimbabwe). By the 1880s, it had reached the pastoral societies north of the equator (Ford 1971:337). Although CBPP caused untold suffering to the Samburu from decimation of their herds, it was rinderpest which, as the saying goes, was to be the last straw that broke the camel’s back. By breaking out just when the Samburu were about to recover from the ravages of CBPP, rinderpest represented the beginning of the accursed mutai to the Samburu.

Rinderpest

If there is one disaster that changed the lives of East African pastoralists for the worse, it was the cattle plague, mainly known by its German name, rinderpest. This has been described as a contagious viral disease of cattle, buffalo, sheep, goats, pigs, camels and wild game, characterised by diarrhoea, nasal and lachrymal discharge and by ulcers in the mucous membrane of the mouth. More important, it causes most serious losses in cattle and buffalo (EAAJ 1939(5): 57; Mugera 1979:1; Losos 1986:605).
Known to the Samburu as **lodua**, the disease caused such havoc that its ravages are to this day thought to have been a punishment from God, **Nkai**, for iniquities the Samburu are yet to know (Lepari Lesakwel, O.I, April, 1991). It set in motion radical ecological and social changes which greatly undermined the environment within which the society's social, political and economic fabrics were anchored. From a regional perspective, the disease broke the economic mainstay of many of the most prosperous and advanced communities, undermined established authority and status structures and severed links between peoples. Further, it initiated the breakdown of a long established ecological harmony thereby turning nature against man (Kjekshus 1977:126).

The outbreak of rinderpest in East, Central and Southern Africa, as Nayenga (1979) points out in regard to sleeping sickness in Busoga, was not an act of God or chance. Behind it was both the British and Italian imperialism in Northeast Africa (Mettam 1937; Talbot 1964; Kjekshus 1977; Sindiga 1990). According to a very well-researched article entitled "A short history of rinderpest with special reference to Africa" published in the *Uganda Journal*, it is clear that the scourge did not appear in East Africa until much later than 1864 such that
The first recorded outbreak occurred in Somaliland in 1889 and it is generally said that the disease followed the introduction of cattle from India and from Aden for the provisioning of the Italian army during the first expedition of Abyssinia. Once established, Rinderpest spread like wild fire over the whole of East Africa. In the meanwhile the Nile valley as far as Khartoum had been infected by cattle during the British campaigns of 1885, and it was held that the disease was introduced by animals purchased in Russia and other Black Sea Ports (Mettam 1937:22)

That the affliction was spreading across Africa like wild fire is revealed by the area it had covered between 1889 and 1896. According to Mettam, it reached Lake Tanganyika in 1890, Lake Nyasa (Malawi) in 1892, Southern Rhodesia (Zimbabwe) by the beginning of 1896 and by the end of that year, Cape Colony (Cape Province in the Republic of South Africa) was made to succumb to the scourge (1937:22-23). These entry points of rinderpest and the high rate of spreading has also been very well-exposed by Talbot (1964:102).

From these revelations, one can correctly deduce that rinderpest first struck northern Kenya before spreading south. The importance of this lies in the close proximity of the Samburu and their cattle to the rinderpest entry points - Sudan, Ethiopia and Somalia. In an earlier chapter, it was made clear that by 1880, the Samburu had extended their grazing lands to as far north as the Dasanetch (Reshiat to the Samburu) country
in the Omo valley to the south of present day Ethiopia. These northern regions probably represent the legendary Oto which most of my informants tended to point as the direction from which the Samburu came before settling in their current district. The disasters that assailed their cattle, and the subsequent famine that gripped Oto, would explain why this region features more prominently in Samburu oral texts than the regions they exploited before making entry into the area east of Lake Turkana in about 1840. The closeness of the Samburu cattle to rinderpest entry points, means that their animals suffered greatly, and by the time Chanler was traversing through their country in 1892, the Samburu fate had almost been sealed.

It is difficult to assess the number of cattle decimated by a combination of CBPP and rinderpest among the Samburu. In general, estimates of the number of animals destroyed by rinderpest alone give colossal figures. Mettam has attempted to give figures for specific areas. For instance, he has claimed that Zimbabwe lost 1.5 million cattle, while in Cape province, cattle to the tune of 2.5 million perished (1937:23). It is postulated, and in our view correctly, that over 90% of East African cattle were claimed by rinderpest. Lugard, who witnessed the plague at its peak in Kenya and
Uganda is quoted by Kjekshus as pointing out that

The enormous extent of the devastation it has caused in Africa can hardly be exaggerated. Most of the tribes possessed vast herds of thousands on thousands of cattle, and of these hardly one is left; in others the deaths have been limited to perhaps 90 percent (1977:130).

The situation was so pathetic that the same Lugard, this time quoted by Mettam, lamented the annihilation of both cattle and game. As he beheld the horrendous spectacle, he could only assert that “never before in the memory of man, or by voice of tradition have cattle died in vast numbers, never before has the wild game suffered. Nearly all the buffalo and eland were gone” (Mettam 1937:23). However, the pathetic situation of the East African pastoralists was exploited fully by the colonialists. In the words of Lugard, rinderpest

in some respects ... has favoured our enterprise. Powerful and warlike as the pastoral tribes are, their pride has been humbled and our progress facilitated by this awful visitation. The advent of the white man had not else been so peaceful (Ford 1971:140).

For the Samburu, the figures for cattle destroyed by lodua could not have been dissimilar to those given above, if not worse. In fact, going by the statements made by Chanler (1896) and oral traditions as narrated by most of my informants, rinderpest could have decimated
Sambaru cattle to a figure well over 95%. This explains why the Sambaru associate the *mutai* (catastrophes) with rinderpest and not any of the other calamities that befell them during the period under consideration.

**Famine**

With the Sambaru population having been considerably reduced and energies of survivors usurped by the already discussed maladies, loss of livestock, through CBPP and rinderpest, meant starvation. In the words of one informant, "with *lkipei* (CBPP) and *lodua* (rinderpest) eating up of our entire stock and *ngevamara* (smallpox) and *ngeyandisi* (yellow fever) taking away most of our people, we became the poorest of the poor" (Kirima Leleina, O.I., March 1991). Food became so scarce that the Sambaru who under normal circumstances shun hunting for food, started tracking and killing game for sustenance. As already pointed out, both CBPP and rinderpest mainly affected bovines and particularly cattle, buffalos and elands. The other wild animals immune to the diseases, provided an alternative for survival during those trying moments. From the Sambaru oral texts collected by Sobania, we learn that during the *mutai* the Sambaru "speared a rhinoceros and ate it; speared an elephant and ate it. All the things which live in the bush they ate" (1978:9).
Gathering of roots and wild fruits became a preoccupation for survival under these desperate circumstances. Wild fruits such as lenang’ayo, sogotei, lposan, lipupoi and those from the musigio tree (Rhus natalensis) sustained the impoverished Samburu households (Charles Lenalongoito, O.I., March, 1991). Despite such relief from the unkind mother nature, the situation was exacerbated by a severe drought which set in about 1890 and precipitated a decade long famine among the Samburu and other pastoralists (Fratkin 1987:47).

As the saying goes, there is no misfortune that comes singly. A locust invasion occurred in 1894 and made a mad harvest of anything green that the drought had spared. These locusts were also reported to have struck the Jie and Karamojong of northeastern Uganda (Lamphear 1976) and also communities of present day mainland Tanzania (Iliffe 1979). In the latter region, it is reported that not even the hard pineapple and palm leaves were spared. "The fields of maize and rice were devoured. The wells had to be covered against locusts and the houses tightly closed against them" (Kjekshus 1977:139). While Thomson, as we saw, had reported about lamentations in Maasailand following CBPP attacks in 1883, the situation for most herders in the 1890s was grim. A lady missionary who traversed East Africa in the
1890s, observed that

Rinderpest had... wrought great havoc with the cattle of these ... herdsmen while hunger had slain hecatombs of the warriors themselves ... their subsistence having disappeared ... Here and there on the green sward human skulls had dried up, half-munched limbs were seen mingled with those of their cattle, while spotted hyenas were then in full possession (Watts (n.d):168:169).

An Altered Ecosystem

The disasters discussed above altered the ecology of Samburuland to such an extent that people were no longer in tune with their physical environment. Not only did rinderpest destroy cattle but it also decimated most of the large wild herbivores such as buffalos, elands, warthogs and wild pigs which, as we saw earlier, were invaluable agents in maintaining an ecological balance in any ecosystem. Great herds of these wild herbivores are said to have been so severely attacked that "dozens of the wretched and dying creatures would stand, heads lowered pitifully and too exhausted to move even when touched by an observer" (Mettam 1937:23).

Since rinderpest affects only a specific group of animals (ruminants), the relationships between organisms in their habitat changed for the worse. Carnivores having not been affected became a terror and roamed free from any previous restrictions. We have already seen how hyenas took possession of land when man and his cattle
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succumbed to famine and rinderpest respectively. In Uganda, Mettam (1937) reported that local hyenas became fat in those days. Such altered inter-organism relations disrupted food chains. Carnivores having had their prey destroyed by the rinderpest scourge, turned increasingly against the people who were by now weak and defenceless. The Samburu remembered instances where lions and hyenas had the audacity to enter into a manyatta (homestead) and carry away people during the period (Samayo Lekairab, O.I., March 1991).

Further, with the grass-eating animals gone, land reverted to bush and hence tsetse flies encroached into hitherto "clean" belts. In other words, tsetse flies started to conquer new areas and bovine trypanosomiasis, ndigana, which prior to the calamities was well under control, entrenched itself. This process of tsetse encroachment went unchecked for quite a long period. In a paper presented in a tsetse-symposium, Whiteside wrote that

... from perusal of old records, from questioning the elders, from botanical and entomological surveys, and direct observation in some cases we know that up to the nineteen thirties a process of encroachment by tsetse flies was taking place into many of the tribal lands of Kenya ... (1958:1).

This encroachment of the fly took root during this period
of ecological disasters. The advent of colonialism and its policies meant that the situation was now difficult to reverse since the Samburu herdsmen were no longer masters of their destiny. The rise of sleeping sickness and nagana in certain regions of Kenya at the beginning of the twentieth century can therefore be attributed to the sudden human and livestock depopulation and the attendant loss of control over the environment (Kjekshus 1977).

Effects of the catastrophes on the Relations Between the Samburu and their Neighbours

The annihilation of cattle and the famine that followed undermined to a considerable extent long established inter-ethnic relations and contacts. Although in our discussion of rinderpest we showed that the disease was rampant among many East African communities, the scourge did not adversely affect all animal species. Camels, sheep and goats have what is described in veterinary literature as innate resistance to rinderpest. Sheep and goats suffer from a rinderpest - like disease *Pestes des petits ruminant* (PPR) whose virus, if present in their systems, tends to neutralize rinderpest organisms, making the disease (rinderpest) less virulent to them (Losos, 1986:549-613). One would argue that the Samburu should have kept only animals immune to rinderpest such as those
listed above. However, cattle played such an important role in the life of the community that without them people felt vulnerable. This is not difficult to comprehend since cattle were a source of food, clothing wealth and prestige. They were also central in marriage and rituals of the community.

Following the above given explanation, it becomes clear why communities such as the Turkana and the Rendille, where camels play an important part in subsistence, were more stabler economically than the Samburu. These animals, and the few cattle that survived the rinderpest epidemic, ushered in a period of intensive and destructive raids as communities looked for means of replenishing their herds. Sherrif (1985:7) has argued that the Maasai civil wars, during the second half of the nineteenth century, were for the control of these surviving animals. The alliance between the two Maasai sections namely, Purko and Kisongo which destroyed the Laikipiak as a community in the 1870s had an indirect effect on the Samburu. The Laikipiak before 1870 had helped check the expansion and raids of the Turkana into areas to the east of Lake Turkana. However, with the Laikipiak power having been severed and the community dispersed for good, the Turkana started making incursions into the region east of the lake. The Samburu, who by
the 1890s were in a weak position economically and demographically, were no match for the Turkana warriors. The source of strength for the Turkana, as we have just seen, stemmed from the fact that their economy had not suffered much since rinderpest did not affect their camel wealth greatly. The Turkana also seem to have not been affected much by the Cholera of 1869 which, as we saw, ravaged both Samburu and Maasai lands claiming many lives. For the smallpox epidemic, it is possible that its effect on Turkana population was not as devastating as was the case with the Samburu. This is because, the caravan traders, (the Somali and Swahili) whose movements were instrumental in the spread of the disease, rarely ventured into the harsh Turkana terrain.

The Samburu assert that the Turkana, Ilkume, took advantage of their (Samburu) weak position and attacked them, killing many of their impoverished men, women and children and in the process, taking away the few cattle that had survived the *mutai* (Lebaa lebarsoloi, O.I., April 1991). Even the Dasanetch, in whose area the Samburu grazed their cattle on the eve of the disasters, confirm the plight of the Samburu when the Turkana struck. According to their historical texts, recorded by Sobania, the Dasanetch tells us that, "with the arrival of the Turkana, the Samburu were finished and they left
this place [the Omo Valley]. They went [south] up to Nyiro up to Kulal” (1978:8). The mountains, Ng’iro and Kulal, which as we saw elsewhere were previously prestigious grazing lands during the dry seasons, were now to act as Samburu fortresses against the Turkana menace.

However, the inter-ethnic relations during this difficult period, were not all negative. In fact, the very survival of the Samburu as a community could be partly attributed to the magnanimity of the communities living to the east of the lake. We have already stated that the rinderpest scourge had no adverse effects on camels. In 1892, when the Samburu cattle wealth had been decimated by this plague, Chanler, who traversed Samburu and Rendille regions, was astounded by the camel wealth of the latter. He says that

... before sundown a herd of camels passed our camp and we counted 4,000. These were said to belong to a single village, and that not the richest of the Rendille villages, so that one might say the Rendille possessed in around numbers, 80,000 camels (1896:312-313).

It was among the Rendille that some of the Samburu ecological refugees sought economic asylum. The Samburu and the Rendille communities had been allies for many years, contrary to Chanler’s assertion that the two were deadly enemies before the mutai. According to Chanler,
the disasters had forced the Samburu "into semi-serfdom to the Rendille - watching over their flock and performing other menial services to them" (1896:316-317). While the position of the Samburu was that pathetic, watching over their host's flock was the surest way through which they (Samburu) would rebuild or replenish their devastated herds. A kind of relationship which can be equated to share-cropping developed between the two, a relation that helped the Rendille alleviate their labour problems, and the Samburu to recover from the vagaries of nature.

Stock associateship was a very highly developed social institution among most pastoralists. Owing to the vulnerability of pastoral economies to ecological hazards, this practice of exchanging stock, assisted victims of such hazards (Kituyi 1990). As Sobания has aptly argued, in any disaster, some groups suffer greater loss than others. Once a pastoralist's means of livelihood is destroyed, the herdsman must "activate those mechanisms or relationships he has nurtured for just such an occasions" (1978:3). By way of providing labour to the Rendille pastoral economy, the Samburu hoped to benefit through acquiring stock to rebuild their deflated herds. The system through which the acquisition of cattle by the impoverished Samburu herdsmen operated,
involved gifts of a few female cattle (mothers of future herds) and the solemn promise of some calves born during the period the herdsman provided labour. In addition to such payment in kind, the household of the "pastoral labourer" had the full rights over the milk produced by the rented herd. This is confirmed by the Samburu District Socio-Cultural Profile, Draft Report. According to this profile, the Samburu relied heavily on the Rendille during the era of disasters but they (Samburu) also spent the "decade up to 1900 rebuilding their stock and were soon stronger than the Rendille" (1983:23).

Despite such positive responses to the disasters, some Samburu groups, particularly the young, caused a lot of friction between their community and the Rendille. These were the people who hoped to rebuild their herds through the unscrupulous method of ambushing their host's camels and were known to the Rendille as Itombon (Siamanda Leshoranai, O.I. March, 1991). This was actually noted by Chanler in 1892. He quotes a man he identifies as "Samburu-turned-ndorobo" thus

being poor and not possessed of any flocks, many of my people [the Samburu] hover about the outskirts of the Rendille camp and support life by plundering from the Rendille either camels, sheep, goats or cattle. That is why they are called "Dhombon", which means in the Rendille language, "robbers" (1896:290).
In fact, Chanler came face to face later with the "dhombon" who offered to exchange lifted camels for cattle with his party!

Some groups among the Samburu also sought solace among the fishing El molo community who to this day occupy the eastern shores of Lake Turkana. The El molo, being a predominantly fishing community, did not feel the pinch of the disasters. Their steady supply of aquatic food was an attraction to the starving Samburu hordes. The El molo life of plenty impressed Neumann who travelled through the region in about 1895 and commented that he could not wonder at "the preference of these people [El molo and Samburu] for the lake [Turkana] with its inexhaustible wealth of food, so much more easily obtained than the precarious living of those who hunt land animals" (1898:267). Neumann also noted that the Samburu (he erroneously referred to them as "Ndorobo") who had "taken to the same mode of life as the El molo" looked very healthy compared to those who had turned into hunters and gatherers (1898:267-268). The Samburu stay with the El molo made them learn the language of the latter, while the Elmolo are said to have adopted circumcision from the Samburu, though for only but a short time (Sobania 1979:9).
The Dasanetch also offered the Samburu a place among them. Although they too had lost most of their cattle to rinderpest, their agricultural sector offered the Samburu refugees a livelihood. They grew cereals, particularly sorghum, and tobacco which they had for many years exchanged with the communities of northern Kenya (Hohnel 1894). Having settled among these agro-pastoralists, the Samburu took to cultivation and as the physical environment improved, they also acquired cattle which they would later use to revert to pastoralism. While some of them, acquired enough stock and in due course joined their kinsmen to the south, others settled permanently among the Dasanetch and are today represented (among Dasanetch) by the Kuro clan who still trace their origins from the Samburu (Almagor 1978; Gifford 1979).

It should be noted that, it was not only among the Samburu that ecological refugees were created. Among the Masai, many people, particularly women and children, put up with the agricultural Kikuyu. Others sought help at the bases established by the Imperial British East Africa, where they are said to have "had access to food and were convenient auxiliaries in military action" (Wright 1979:189). Another scholar tells us that apart from some of the Maasai seeking shelter among agriculturalists or being "converted to dorobo hunter-
gatherer adaptation" there were still others who "sold their children for food" (Kituyi 1990:35). These disasters not only disrupted the man-controlled ecological balance but also greatly compromised the cohesion of some societies as they tried to adjust to the changed conditions. This state of affairs had the effect of ushering in new inter-ethnic relations which were, to a great extent, unbalanced.

However, it is surprising that, despite the massive destruction caused by the ecological catastrophes, the Samburu by about 1900 were moving towards an economic recovery. This was mainly due to their ability to pull themselves and the available resources together in a bid to put their shattered pastoral economy on its feet once again. Although it took a long period of time to achieve this revival, all the same it demonstrates human resilience and aptly affirms the observation that "African pastoralists are good, practical stock breeders with clear ideas about how to cope with natural hazards and ... changing circumstances" (Richards 1983:37).

**Economic Recovery: 1900-1909**

The process through which the Samburu managed the ecological crisis or the specific time they reverted to a predominantly pastoral mode of life is difficult to
state with any certainty. According to Sobania (1978:10; 1979:36) this could have happened shortly after the Lterito age-group. This age-set was initiated in about 1893 and unlike most Samburu age-sets, whose durations are fourteen years on average, it lasted for a record of seventeen years before the next one, Merisho, could be initiated. The reason behind the delay was inadequacy of resources needed for the various ceremonies that go hand in hand with this rite of passage.

We noted that by 1892, when Chanler was travelling through Samburuland, the people were reportedly in a pitiable state. However, when Neumann (1896:252) traversed the same territory in 1895 and 1896, he reported that some Samburu herdmen lived on Mounts Ngí’ro, Kulal and Marsabit with cattle. This piece of information is vital as it reveals that at least some cattle remained from which herds could be rebuilt. We also pointed out that, even for those who took refuge among neighbouring herding communities, they later acquired cattle which enabled them to join their kinsmen and lead a normal pastoral life.

Whereas rinderpest took a heavy toll of Samburu cattle, some were reportedly spared by the scourge. According to an informant, the mutai "left a cow in Maralal,
another in Baragoi and yet another in Wamba" (Charles Lenalongolito, O.I., March 1991). It was from these few and widely scattered animals that the Samburu, through painstaking management, were able to rebuild or replenish their greatly depleted herds. It was also pointed out that, after the rinderpest gloom passed, people noted that the scourge had tended to avoid mountains, and most of the cattle found atop such regions were unaffected (Side Leleina, O.I. April 1991). This revelation is surprising because scholars such as Mettam (1937), Kjekshus (1977) and Iliffe (1979), who have given detailed accounts of this cattle disease, give the impression that rinderpest, like the biblical angel of death, spared no region. It was also interesting to find that the Samburu oral testimony of "rinderpest-free-zone" is supported by independent sources. From accounts of Neumann, mountains such as Ng’iro, Kulal and Marsabit, as we have just observed, were safe islands in a tumultuous sea swept by rinderpest. He states that, "the cattle plague which devastated East Central Africa several years ago seems not to have reached these islands in the desert" (1898:253). Other communities also confirm this "mountain saga" during the same period. In the words of a Karamojong herdsman (who witnessed the scourge), recorded way back in 1916, the:
Loyoro Dodosi drove their cattle on top of Mt. Morongole and suffered few losses. The Suk [Pokot] lost cattle also but not to the extent we [Karamojong] did, because they kept their stock on the hill tops ... For three months the rinderpest, Lopit, killed our cattle in hundreds daily... Four herds driven to the top of Mt. Moroto escaped (Turpin 1948:163).

It is possible that the low temperatures experienced in montane environments could have discouraged the proliferation of the rinderpest micro-organisms, hence sparing the livestock. Further, such regions being well-supplied with water and foliage, unlike the lowlands, could have provided nutritional support to ailing cattle thereby encouraging them to recuperate. Sobania (1978; 1979) has ably shown that the mountains, other than being good grazing reserves, also acted as fortresses to safeguard the few cattle that remained from raiders. This was practically observed by Neumann and he commented that the "people [Samburu] have been able to keep their live stock [sic] in spite of raids, thanks to their mountain fastness" (1898:52).

With these few cattle, great care was taken to ensure they all survived and multiplied. Female calves and heifers were singled out for special attention during and after the mutai, for they were to become the "mothers of future herds" (Parnate Lebiite, O.I., March, 1991). Through this careful management, cattle increased and
within a few years the Samburu were able to take pride in their stock wealth again. A good example of this effective traditional animal husbandry is afforded by the Maasai during the 1960-1961 drought. We are told that cattle population in Kajiado District fell from 630,000 in 1960 to 200,000 in 1962. However, due to Maasai good management of cattle, "their numbers are estimated to have doubled in three years to 429,000 in 1965 and recovered to pre-drought levels in seven years" (Evangelou 1984:20).

Cattle were also acquired through exchange with small stock. Mixing of small and large stock, while enabling herdsmen to withstand ecological hazards, was also a strategy through which one species could be used to acquire another. We saw how the Samburu at the end of the eighteenth century reared so many goats following the ecological stress of the period that they (goats) earned them the nickname Loiborgineji. During the last decades of the nineteenth century, sheep and goats as we have already seen, suffered less from the vagaries of both CBPP and rinderpest. Equipped with small stock, the impoverished Samburu acquired cattle from those, among themselves, who possessed them or from neighbouring Turkana, Rendille, Boran and Dasanetch (Weliwel Letato, O.I. March, 1991).
Raiding was also a sure way of rebuilding herds. Many communities, having lost their livestock and human resource following the disasters, became militarily weak and vulnerable to external aggression. Whatever little they had, in terms of livestock, became targets of raids and this as we saw, was one of the reasons behind the Samburu preference for highlands to plains. Those among their lot who had no cattle also turned against their neighbours, including their own hosts, and made away with any cattle they laid their hands on. Such unsavoury activities obviously soured relations between them and their hosts. The El moto, for example, assert that, when the Samburu refugees among them started raiding neighbouring communities, they (El moto) "thought these people might bring other bad things to us and so told these people [Samburu] "let us separate" (Sobania 1978:10).

Through these processes, the Samburu managed to raise enough cattle to start with. Owing to the widespread nature of the rinderpest havoc, very few animals could be acquired at a time, and it took them a couple of years before a stable economic base could be re-established to something close to pre-disaster levels. As late as 1909, Stigand was reporting that the "people of Lesirkan told me that they were formally Torobo [sic] hunters... Now
they went in for breeding of stock and had become Samburu [sic]" (1910:78). This indicates the long process the people had to undergo before feeling having been transformed from a "dorobo" (synonymous with wretchedness) to a Samburu. However, in subsequent years, there are indicators to suggest that the Samburu economy improved greatly and by the 1920s we can hazard a guess that the community had attained its lost glory of stock wealth.

The colonial records reveal that, by the First World War, the community's economy had greatly improved. During that period, the Samburu reportedly sold about 100,000 sheep and goats and 10,000 head of cattle for rations to the Military and Civil authorities and it is made clear by the colonial records that "without these animals the operations in East Africa would have been hampered" (KNA/PC/NFD4/2/3). The figures might even have been higher than these since such records would not reflect numbers of animals forcefully taken.

Colonial tax figures of up to 1918, given in stock percentages, point to an economy that is stable, in spite of the low prices offered. We learn that

they paid an annual tribute of from 1.5% to 3% of their mature stock. Also it must be
stated that they were paid less than half price for the stock sold. Taking the then value of sheep and goats at 10/= each and of bullocks at sh. 40/= each, the Samburu were paid less than they should have been paid. In other words during the 4 years of War the Samburu from this source alone were mulcted in the extent of £35,000 (KNA/PC/NFD4/2/3).

Although these statistics do not give actual figures for livestock owned by the Samburu then, they however, indicate a healthy situation. In fact, Castle Smith, the military officer who evicted the Samburu from the south of Uaso Nyiro river in 1921 commented that he had "never seen such wealth in cattle, sheep and goats" (KNA/PC/NFD4/2/3).

We also have records from colonial administrators and Department of Veterinary on Samburu livestock numbers, counted or estimated between 1912 and 1925. Though the figures, given in table below, are inconclusive and lacking in some years, they, however, show an increase in stock between the given years. The low figure for 1924 - 1925, stemmed from the fact that, the numbers were got from counting of cattle innoculated during the period and only those brought for the exercise were considered.
TABLE 3
FIGURES FOR SAMBURU STOCK BETWEEN 1912 AND 1925

<table>
<thead>
<tr>
<th>PERIOD</th>
<th>CATTLE</th>
<th>DONKEYS</th>
<th>SHEEP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1912 - 1913</td>
<td>15,107</td>
<td>1,804</td>
<td>35,000</td>
</tr>
<tr>
<td>1913 - 1914</td>
<td>23,333</td>
<td>2,464</td>
<td>51,000</td>
</tr>
<tr>
<td>1922</td>
<td>150,000</td>
<td>-</td>
<td>100,000</td>
</tr>
<tr>
<td>1924 - 1925</td>
<td>102,569</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: Compiled from colonial records contained in document KNA/PC/NFD4/2/3

This chapter has attempted a detailed discussion and analysis of the ecological crisis which hit the Samburu during the last two decades of the nineteenth century. We have shown how the control of the environment by the community slipped, ushering in an agonizing era which to this day is painfully remembered as mutai. Human diseases claimed many lives and robbed the surviving population the energies with which to manage the crisis. The situation was aggravated by the introduction of new livestock diseases like CBPP and rinderpest which destroyed their only means of livelihood. The combination of these afflictions with drought brought a very severe famine which drove the Samburu into an abyss.
of despair.

Despite the debilitating effect of the catastrophes on them, they did not resign themselves to fate. They responded by joining other communities or by changing their modes of subsistence depending on the climatic dictates of the regions they went to. The adoption of the Samburu ecological refugees by other communities underlines the peaceful co-existence between the peoples of the region before the advent of colonialism which sowed seeds of discord among them. Further, the ease with which this adoption took place demonstrates how readily pastoralists can respond to changes, and challenges the notion propagated by anthropologists that pastoralists are die-hard conservatives.

The effects of the catastrophes on the communities has shown that pastoralism, hunting and gathering and agriculture were neither independent pursuits nor preserves of certain communities. The Samburu case has aptly demonstrated that, with ecological changes, societies tended to shift from one mode of production to another. These three modes of production, as Waller (1985) and Lamprey and Waller (1990) explain, engendered a lot of interactions between the various communities. This interdependence was based on the fact that no single
ecological zone could produce all the resources a community would need for its survival.

When the environment improved, the Samburu seized the opportunity with vigour and re-organized their society and pastoral economy. Through the use of long established friendly links between them and their neighbours, efficient animal husbandry and a strong will power to overcome ecological obstacles, they managed to revive their shattered economy. The process was, however, a long one, given that the community was still numerically weak, having lost many of its members to the catastrophes and other communities among whom some of the people had sought refuge. Their natural environment had also greatly deteriorated following the ecological breakdown and it required a couple of years before it could be re-tamed.

Imperialism also made it extremely difficult for the Samburu to attain pre-disaster distinction in controlling the wild environment. Although colonialism was to be felt in this region as from 1909 when NFD was created, the activities of the Ethiopian empire had an effect on the Samburu. The 1898 expansion and annexation of the Omo valley by the Amhara government resulted in "shifts in the power balance between societies, changes in the
land they occupied and grazed, and in the crystallization of previously fluid societal boundaries" (Sobania 1978:14).

The conquest of Omo valley by the Ethiopians also had the effect of introducing firearms into the area. The acquisition of the gun by the Dasanetch from them (Ethiopians), ushered in an era of insecurity and bloodshed in the entire region of Lake Turkana basin. As Almagor in his *Pastoral Partners* has observed

the introduction of firearms radically changed the pattern of inter-tribal warfare and raids. The number of casualties rose, livestock was looted in large numbers and small armed parties could and frequently did, massacre whole unarmed villages (1978:6).

The Dasanetch, who co-existed with the Samburu and even adopted many of them following the disasters, became deadly enemies. In 1913, for example, they invaded a Samburu settlement and raided all cattle. Although the animals were later recovered, the bloody encounter between the raiders and the raided, left thirty-nine people dead. Four French rifles and eighty rounds of ammunition were also recovered (KNA/PC/NFD4/3/1). It would seem that incursions of armed Dasanetch into neighbouring areas to their south, have not ceased and both Ethiopian and Kenyan authorities are still groping
with the problem. In July 1991, for example, five hundred armed Dasanetch (known to the Turkana as Merille) raided Todenyang in Turkana District, wiping out seventeen villagers before escaping with "800 goats, 30 donkeys and 40 camels" (Daily Nation, Saturday, August 3, 1991:5).

British imperialism also made it difficult for the Samburu to wholly recover their grip on the control of their environment through the alien policies they imposed after 1909. The creation of a Samburu "reserve" put boundaries which disregarded both their past history and economic requirements. The setting up of the "reserve" was based on the false notion, officially promulgated by Governor Grigg in Kenya Despatch No. 870 of 1926, which claimed that "the Samburu were not in pre-British times a cattle owning tribe ..." (KNA/PC/NFD4/3/1). With the souring of relations between the communities by the Ethiopians, and the imposition of alien policies by the British, the Samburu environmental control within which their pastoral economy operated, became quite elusive. This would explain why they glorify their pre-colonial history while decrying the state of affairs during the colonial and post-colonial eras.
CONCLUSION

The task this study set to accomplish was to inquire into the interaction between the Samburu community and their physical environment. We have focused on the Samburu environmental awareness and management. From the very beginning, the study has made it abundantly clear that it recognises the central role that ecology plays in the various systems of food production. This explains the reason behind dedicating chapter two to the physical environment of Samburu district. On the other hand, we have argued that, while ecological factors set great limits to the Samburu precolonial pastoral economy, their experiences through the centuries stood them in a good stead in harnessing the sparse resources of their environment. As Aseka (1989:113) points out, the resourcefulness and exigencies of the natural environment acted upon by peoples' potential intelligences, stimulated societal adaptation and inventiveness. Other than the ecological factors dictating terms of survival, they acted as prime movers to human initiative.

The study, in its quest for the roles that both human and ecological variables played in the precolonial
history of the Samburu pastoral economy, rejected theoretical constructs which emphasize the independence of one variable at the expense of the other. While the study adopted some of the ideas that both ecological and demographic theories propound, the two paradigms were found wanting for the reason that, each of them saw systems of food production as being exclusively determined by ecology or human population trends respectively. Further, such theories were deemed unsuitable for this study because, what they espouse seem to be independent of time hence unchanging. In other words, the theories were not infused with a sense of history. Even for the human ecological theory, which on the face of it seems to integrate fundamental constructs of both demographic and ecological theories, fell short of our expectations due to its over-insistence that human initiative, at all times and places, reigns supreme. From its standpoint, it fails to explain why natural forces during the last decades of the nineteenth century totally wrecked the Samburu pastoral economy with dire consequences for the human population.

In order to do justice to issues pertaining to the dynamics of both human and natural forces in precolonial Samburuland, the study adopted a Marxian ecological theory namely, Dialectics of Nature. Being essentially
a product of historical materialism, the theory has assisted us in our insistence that it is difficult to separate human from natural history. We have shown that for man to meet his material needs, he must use his own natural forces, labour power, to appropriate what his physical environment offers. In chapter four of this study, we showed how the Samburu designed elaborate mechanisms through which they harnessed the meagre natural resources of their arid environment for their economic advancement. The chapter (four) depicted the Samburu as people who were conscious of the natural obstacles along their economic path but rather than simply adapt to the situation, they collectively faced these limitations and managed to turn these forces of nature to their advantage.

With their long-time experiences, which in essence constituted knowledge of natural laws governing their ecological areas, their means of reacting on nature also grew. For instance, the tsetse fly having been known to cause nagana led to the identification of its habitat and subsequently, measures to deal with this menace were devised. On the other hand, scarcity of water for human and livestock consumption led people in designing methods of tapping subterranean water. For pasture, transhumance was a good response to the inadequacy of feed for
livestock and a sure way of combating pests and diseases. This form of land use enabled the Samburu herdsmen to effectively exploit their habitat without playing into the destructive hands of erosional forces which today constitute one of the greatest problems experienced by the Samburu, particularly those residing in the drier regions of the district.

In general, we have argued that there is a direct relationship between the ecology of a region and the type of economy a society adopts. For the Samburu, the rearing of different species of livestock (species diversification) and the separate grazing of the animals (herd dispersal), led to an effective and hence efficient method of land use. It is in this light that this study viewed these domestic animals as viable tools through which nature could be appropriated for food production.

In our analysis of the Samburu precolonial environmental management, within which their pastoral economy operated, we have avoided what has been dubbed as the "myth of Merrie Africa" approach which regards precolonial African husbandmen as happy-go-lucky people (Hopkins 1973:10). In chapter three, we saw the struggle between the Samburu and the droughts which characterised the last and first decades of the eighteenth and nineteen
centuries respectively. These ecological exigences had the effect of transforming the Samburu pastoral economy, in which cattle predominated, to one where goats took precedence. Likewise, these ecological dictates were partly responsible for the migration of the Samburu from the region to the southwest of Lake Turkana to their present day homeland. These two responses (change in economy and migration) to drought were rational alternatives undertaken by conscious beings. It is in this direction that the ecological arena is viewed as a fundamental determinant to resource availability and therefore an index-marker of that being (Aseka 1989).

While chapter four gives a detailed account of the ways and means through which the Samburu effected change in their environment, chapter five is indeed a kind of an anticlimax for this study. Here, natural forces which prior to the 1880s this community had, to a considerable degree, managed to tame, are shown to be in the ascendancy with very severe consequences for the community and its pastoral economy. The catastrophes that afflicted the Samburu and their livestock wealth, graphically described in this chapter (five), affords a good testing ground for our theoretical framework which we said holds that nature is in a continuous change, renewal and development, and where things take shape and
finally disintegrate.

The ecological crisis experienced by the Samburu between 1880s and 1900, ushered in a period when a lot of what had been previously gained in terms of stock wealth and human population was lost. The decimation of livestock, which we said constituted an important instrument of ecological control, and the fatal blow dealt on the human resource, brought in its wake unprecedented disruption of the environment. With the economic base of the community having been undermined, the society could no longer hold together and the end result was disintegration. This disintegration created what we called ecological refugees who sought solace among the neighbouring communities, particularly those whose economies had not suffered as much. The ease with which these refugees got incorporated into neighbouring communities and their ability to adopt new economic alternatives other than their own pastoralism, reveals that precolonial societies were not as static as some Western scholars would have us believe. Further, it exemplifies the fact that pastoralism, sedentary agriculture and foraging are not fixed points. Societies moved, in a continuum, between these points depending on a number of factors, key among them ecological.
In the same chapter (five) the indomitability of the human spirit was very well-demonstrated. After the ecological crisis had dealt a hard blow on the Samburu and their economy, it was shown how they managed to overcome great odds, revive their shattered economy and once more attempt to put a stamp on their disharmonious ecology. Through long-established institutions such as stock associateship, intermarriage, exchanges and raids, the Samburu had by 1909 reverted to a pastoral mode of life. However, the process through which this revival was accomplished was long and tortuous, requiring patience and skill in the management of the cattle that either survived the ecological holocaust, or those that were later acquired.

The Samburu however, could not attain a pre-disaster level in environmental control. The coming of the white man and the colonial policies established thereafter, usurped the responsibility of environmental management from the Samburu to a handful of men from the West whose policies and ideas were biased against pastoralists and their way of life. From then, the Samburu were to be confined to a specific geographical area which had no relevance to their past history and economic needs. For the first time, the Samburu received orders on the number of cattle each household was expected to keep and even
lost their rights of defending themselves or their stock from wild animals which were now crown property protected by harsh laws. The imposition of quarantine and fire bans led to over-grazing, serious soil erosion and the proliferation of pests and diseases. It is not surprising then, that the Samburu, whose precolonial historical ecology has been the subject of our study, remember their past with a lot of nostalgia.
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**APPENDIX**

**Samburu Age-Sets.** Initiation dates, particularly for the precolonial period are but approximations. The duration of each age-set is fourteen years on average.

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Source: (i) Oral Interviews conducted by the author (See Bibliography, oral sources).

(ii) Paul Spencer (1973)