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CONCEPTS OF HEALTH AND DISEASE
AMONG THE ARIKALE RENDILLE. HERBAL
MEDICINE, RITUAL CURING, AND MODERN HEALTH CARE IN A
PASTORAL COMMUNITY IN NORTHERN KENYA
//

BY
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ABSTRACT

The Ariaal Rendille are a nomadic pastoralist population who form a cultural bridge between the Samburu cattle-herders and Rendille camel-herders of northern Kenya, East Africa. The Ariaal utilize the intermediate ecologic zone along the highland-lowland interface of the Ndoto Mountains, enabling them to practice a dual cattle-camel economy where the population subsists off the camel and small stock herds and use their cattle for traditional and modern cash exchange.

Despite a nutritious diet of milk, meat and blood and an environment relatively free of water-bourne diseases, the Ariaal face periodic undernourishment and exposure to a variety of infectious diseases including malaria, pneumonia, whooping cough, and measles. Mortality is particularly high in children. In addition, the society faces familiar but debilitating health problems related to childbirth, accidents, old age, and mental illness.

The Ariaal are not helpless in the face of these health problems, but possess a traditional medical system that categorizes, diagnoses, and treats many of the illnesses they experience. An outstanding feature of their ethnomedicine is the rich inventory of herbal medicines prepared as ointments, fumigants, purgatives and emetics. Herbal specialists are widespread and often competent in midwifery, massage techniques, and bone setting. Their skills encompass an extensive empirical knowledge of health problems experienced by the Ariaal.

A distinct but equally important aspect of Ariaal traditional medicine is the belief in sorcery, where human enemies can manipulate supernatural forces to inflict harm and illness. Problems in sexual reproduction and mental illness in particular are thought due to sorcery. To this end, the Ariaal believe only a ritual specialist, the Samburu Loibonok, can treat, cure, and prevent sorcery acts. Both the ritual curing of the loibonok and the mechanico-chemical treatments of the herbal specialists coexist as methods of health care, where either or both specialists will be consulted when illness occurs.

The advent of western medical treatment represents a new component of Ariaal response to illness. Modern Health care has been among the most important changes in Ariaal society and represents a fundamental development in their integration into the wider Kenya society and economy. Of significance both demographically and socially is the health care delivery of preventative medicines, particularly vaccinations, to the rural nomadic populations in Kenya. This dissertation, a medical anthropological description, analyses the concepts and practices of Ariaal traditional medicine and its integration with modern health care delivery in northern Kenya.

PREFACE

This dissertation is the result of many years of endeavor, from its inception as a research idea at the Department of Anthropology, London School of Economic in 1973, to three years research in Kenya, and to two difficult years of writing in the United States. This dissertation is also the result of many people helping me along the way, without whom this work wouldn't be possible, and to whom I wish to express my sincere appreciation:

To the Department of Anthropology, London School of Economics, who encouraged me to pursue pastoralist research in East Africa, particularly Dr. Jean La Fontaine and Dr. James Woodburn;

To the Central Research Fund of the University of London and the Small Grants Award from the Smithsonian Institution who provided the initial funding to undertake the research; to the faculty and staff of the Institute of African Studies, University of Nairobi, who provided a stimulating environment to collect my thoughts and sum-up my field research, particularly Mr. Paul Kavyu, Mr. George Mathu, Mr. James van der Allen, and Miss Rose Macharia.

Eighteen months of my research of the Ariaal Rendille was spent living with Lewokoso Lukumai settlement in the western border region of Marsabit District, Kenya. This experience has been among the most rewarding and exciting periods of my life. Members of Lewokoso Lukumai accepted me as a brother, and I in turn was humbled by their dignity, kindness, and resourcefulness with which they adapted to this

beautiful but hard desert environment. In particular, I extend my deepest appreciation to Mr. Lugi Lengesen, Mr. Lekati Leaduma, and Mr. Lawrence Kilecho Loimusi.

Many researchers and specialists contributed to the findings of this dissertation, either by direct participation or by lengthy discussions. Much of the objective medical data presented in Chapters 3 and 6 was gathered while working with my close friends, Dr. David and Joan Wiseman, who initiated the Marsabit District Maternal and Child Health Care Program for the Ministry of Health, Republic of Kenya. Identifications of plants used in Ariaal traditional medicine were made by Mr. J.B. Gillett, Botanist-in-Charge of the East African Herbarium, Nairobi. Additional material was sifted from the large collections of Dr. John Galaty's research of Masai symbolism, and Dr. Paul Spencer's collection from Samburu. My appreciation is extended for their cooperation in utilizing their research material.

Much of Chapter 2 on the Pastoral Economy was based on direction provided by ecologists studying pastoral societies in East Africa. In particular I am grateful to Dr. Jurgen Schwartz of UNESCO and Mr. Shun Sato of Kyoto University, Japan for their research information on Rendille Camel production, and to Mr. Michael Rainy for his extensive observations of Samburu cattle and small stock production, and to all three for their generous hospitality both in the field and in Nairobi. Discussions with Mr. Neil Sobania of the School of Oriental and African Studies, London, who was researching the Dosenach, and to Dr. John

Berntsen of the University of Wisconsin who was researching the history of the Masai loibonok contributed to my own understanding of the Ariaal and their historical origins discussed in Chapter 1.

I am grateful to assistance and information provided by Mr. Herbert Anderson of the African Inland Church, Logologo and Father Redento of the Korr Catholic Mission in Marsabit District, both of whom discussed their mission's work described in Chapter 6.

I am grateful to Mr. Anders Grum for permission to use his architectural drawings of Rendille houses in Figure 3.1, and for his population pyramid of the Rendille settlement of Rongumo in Figure 3.2, and for his many hospitable and animated meetings in "his" settlement at Wambili Dipsai and Nairobi. To Anne Beaman, of Boston University, my thanks for her permission to use Photograph 6.1 of the Catholic Church at Korr.

My deepest thanks to Miss Arlene Johnson for typing my largely illegible text half-written in the Samburu language, in record time and with remarkable quality.

Finally and most importantly, I would like to thank my parents, Ralph and Mildred Fratkin, who not only provided much of the funds to continue the research and prepare this manuscript, but the constant support and encouragement to see the job done. Without them, this dissertation would never have been accomplished.

Elliot Fratkin
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February 1980

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Chapter 1

Medical Anthropology and The Study of The Ariaal Rendille

1.1 Introduction

The Ariaal Rendille are a nomadic people who herd cattle, camels, goats and sheep in the dry scrub desert region of north central Kenya. Although a small population of 6,000, the Ariaal form a cultural bridge between the much larger Samburu (population 70,000), Masai-speaking cattle pastoralists of the western highlands, and the Cushitic-speaking Rendille (population 10,000) who herd camels in the eastern lowlands towards Somalia. Maintaining close ties through marriage and descent to both societies, Ariaal culture is an interesting synthesis of the two larger societies, and reflects a broader set of values, beliefs, and knowledge than their small population would suggest.

Ariaal social life is determined in large part by their pastoral existence. Living exclusively off their herds, which provide milk, meat, blood, skins, and occasional trade for store-bought grains, tea, and sugar; the daily and seasonal round of social activity is aimed at satisfying the food and water needs of their livestock.

The Ariaal are transhumant nomads, moving the bulk of their livestock towards highland water and grazing sources in the long dry season, and back out to the scrub lowlands during the brief rainy periods in autumn and spring. Because the Ariaal occupy a unique niche along the

interface between the highlands east of the Rift Valley and the broad sweeping desert towards the Indian Ocean, they can keep both highland dwelling cattle and desert-suited camels. Non-milking livestock are separated into highly mobile cattle and camel camps managed by adolescents as well as young men of the circumcised age-grade of Moran, while the remainder of the married adults and children live in larger and more mixed settlements near permanent water sources.

The Ariaal are in contact with modern urban centers along the Nairobi-Addis Ababa road that traverses Marsabit District, but their dry herding environment demands a nomadic existence. Contact with government administration, hospitals, schools and markets are brief, although the trend for a wider integration with these services is increasing. For the most part, the Ariaal must depend on their own cultural and physical resources to deal with the misfortunes of life, from drought to enemy attacks, to sickness and death.

The Ariaal share with other pastoralists the good fortune of a nutritious diet---milk and meat are protein-rich and one seldom sees a malnourished child. Disease and mortality are nevertheless high, however, as the Ariaal face the familiar but cruel inventory of infectious diseases typical of third world countries lacking modern medical care. Malaria, tuberculosis, pneumonia and hepatitis are common and periodically endemic in adults, while two out of every five children fail to reach their fifth year due to gastroenteritis, malaria, and measles. In addition to these major health problems are infections, burns,

injuries, and accidents such as snakebites, as well as persistent aches, arthritis, eye diseases, and a variety of infections responsible for infertility.

The Ariaal are not helpless in the face of these health problems, but like all societies possess a traditional medicine that attempts to treat the illnesses and diseases they experience. Health care for the Ariaal consists of three distinct but interacting medical systems, each different in its conceptualization of disease causes and in its methods and procedures of treatment. These three systems are described as physical medicine, mystical medicine, and modern or western medicine.

The Ariaal have an materialist outlook of life. They are intimately acquainted with their environment, they understand the habits and patterns of the major flora and fauna in their area, and they have a sophisticated understanding of anatomy and physiology, owing to their long experience in raising livestock. Many diseases and illnesses are recognized, diagnosed, and treated based on this accumulation of empirical knowledge.

Ariaal physical medicine consists of empirically verifiable techniques that relieve the symptoms of health problems. These techniques may be mechanical, such as bone setting, midwifery, or surgical techniques, or they are chemical, where soups, teas, ointments or enemics are prepared from plants. Significantly, the Ariaal possess a large inventory of medicinal plants and herbs which are effective in a variety of applications, primarily as purgatives and emetics.

However, there are certain diseases as well as unusual occurrences which are believed to be the work of witches and sorcerers, and which must be treated by mystical medicines and practitioners. From the Rendille, the Ariaal recognize holy men (Lais, Laisi) who possess a powerful curse due to their close association with God. Following the Samburu and Masai tradition, the Ariaal also recognize the ritual powers of two specialists, the blacksmiths and the diviner-prophets known as Loibonok. Of these three types of specialists, the Loibonok are considered the most powerful and consequently the most dangerous. They are consulted to treat acts of sorcery with their mystical medicines, but are also thought to be the source of sorcery poisons sold to malicious users such as witches. In the traditional medical system of the Samburu and Ariaal, as well as Masai and other Maa speaking pastoralists, the Loibonok are called in to treat health problems attributed to acts of sorcery, particularly unusual accidents, infertility in livestock and women, or emotional or nervous disorders such as depression and epilepsy.

Until recently, the Ariaal have had access only to these traditional curers for health problems. In the last fifteen to twenty years, however, modern health facilities including three hospitals have developed in the urban centers of Marsabit District. Recently the government and church missions have developed mobile health clinics, landrovers that visit nomadic settlements periodically for curative treatments or transportation to the larger dispensaries and hospitals for difficult cases.

Although these health services are in the main curative, certain preventative medicine programs have been initiated in accordance with the national health program, including widespread vaccination campaigns against smallpox, measles, tuberculosis, and whooping cough. The Maternal and Child Health Care (MCH) Program initiated in Marsabit District in 1976 attempted to coordinate the activities of existing health care facilities and to promote the training of primary health care workers, predominantly women recruited from local schools to advise pregnant women in prenatal care and assist local midwives. I was fortunate to participate in this program, and material collected during my association with Dr. David Wiseman in 1976-1977 enabled me to analyse the integration of the Ariaal traditional medicine with modern health care system, an analysis discussed in the final chapter. This dissertation in the main will describe and compare how the Ariaal utilize these three medical systems, the physical, mystical, and modern and suggest recommendations for their further integration.

Ethnographic literature on East African pastoralist societies is extensive, particularly those ethnographies produced by British social anthropologists influenced by Evans-Pritchard and Colonial service. These ethnographies and studies have in the main focused on political and social organization, particularly on the institutions of age-set organization and the segmentary descent system. Gulliver's Family Herds (1955) investigated property relations among the Turkana and Jie; I.M. Lewis' A Pastoral Democracy (1961) presented a detailed account of Pastoral

Somali descent organization; Jacobs thesis on the political organization of the Masai (1965a) opened up the field of historical analysis; and Spencer's Samburu: A Study in Gerontocracy (1965) described the complex relationship of age-grading, polygamy and social control. These studies in the main focused on questions of pastoralist social structure, yet each presented in one form or another descriptions and analyses of the pastoral economy, of the interaction of human society and the management of livestock in the complex ecology of arid lands.

Analyses of the cultural ecology of pastoralists, that is of their particular adaptation of livestock management in marginal environments, deepened with Stenning's studies of transhumance and the historical tendency of "Migratory drift" of the Wodaabe Fulani of Nigeria (Stenning 1957,1959). Dysen-Hudson, researching the Karimojong of Uganda, prolifically argued on the importance of ecological studies, and described for the first time objective criteria detailing the pastoral economy as a unique and highly adaptive food production system (Dysen-Hudson:1962, 1966,1970,1972). Recent studies of pastoralists have searched for a larger, more systematic, and theoretically more fruitful description of the interaction of man and his environment, such as the detailed investigations from Kenya of Gabra livestock production (Torry,1973), Masai ecology (Western,1975), and Rendille camel management (Sato,1977; Schwartz,1977).

The emerging ecological orientation in pastoralist studies is highly interdisciplinary, a fact attested by the variety of papers presented at

the Cambridge Symposium on "The Future of Traditional 'Primitive' Societies" that drew on evidence from anthropologists, ecologists, hydrologists, veterinarians and botanists (Leach, 1974). It is both surprising and disturbing, however, that despite increasing attention on ecologic features such as food chains, nutritional yields, and reproduction rates of human and livestock population, there exists no comprehensive research on the medical practices of pastoralists. This is particularly aggravating from an cultural ecologic viewpoint, for as Lieban noted,

"Health and disease are measures of the effectiveness with which human groups, combining biological and cultural resources, adapt to their environments." (Lieban, 1977:13).

The field of medical anthropology is young, and it is only recently that anthropologists have begun to consider biocultural influences such as distribution of disease, diet and nutrition, ethnomedicine, and the influence of modern health care on traditional societies.

Perhaps equally one-sidedly, modern medicine has had a primarily biological orientation, although medical history does not show a lack of concern with social and cultural aspects of health and disease, according to Rene Dubos (1959, 1965).

In dealing with disease, cultural anthropologists and Africanists in particular have focused on the symbolic and ritual aspects, such as divination, witchcraft, and ritual curing. Divination and prophesy are

widespread in Africa as methods of diagnosing the causes of diseases and other misfortunes, particularly if these are thought to be caused by witchcraft and sorcery. Anthropological interest in magic and witchcraft began to systematize with W.H.R. Rivers seminal Medicine, Magic, and Religion (1924), and Evans-Pritchard's thorough research in Witchcraft, Oracles, and Magic Among the Azande (1937), but it wasn't until the 1950's that ethnographic descriptions attempted to analyze the relation of physical misfortunes, including disease, and beliefs in supernatural forces. Studies on divination and sorcery appeared on the Bunyoro (Beattie, 1967), Lugbara (Middleton, 1969), Ife of Nigeria (Bascom, 1969), and Ndembu of Zambia (Turner, 1967). Victor Turner became a leader in the field of ritual symbolism in his studies of Ndembu ethnomedicine (1966), curing "rites of affliction," (1967, 1968), and in "rites of passage" such as age-set ceremonies marking the transition from youth to adulthood (1969).

The field of ritual symbolism has been a fertile one for cultural anthropologists, and has been influenced much by the structural interpretations of Levi-Strauss (1963 and others) in France and Edmund Leach (1976) in England. Examples of structural interpretations of African ritual are well represented by Beidelman's interpretations of Evans-Pritchard's data on the Nuer (Beidelman, 1966, 1968, 1973).

A definite fusion of cultural anthropology and the health sciences occurred in the development of psychological orientation in interpreting African curing techniques. Spirit possession in Ethiopia was analysed

in terms of the low-status and oppressed identity of the female victims which could turn their oppression into a materially and psychologically gratifying role (Hamer, 1966; Lewis, 1971). Shamans and medicine men were described as 'ethnopsychiatrists' and their curative roles recognized not only by anthropologists (Prince, 1964; Kiev, 1964) but medical doctors who encourage the integration of native curers into modern health care in Africa (Lambo, 1964, 1971; Swift and Asuni, 1975).

These contributions have pushed forward our understanding of traditional health practices, particularly in the sphere of Magico-religious beliefs. However, the large field of "home remedies", that is those mechanical and chemical treatments of disease, widespread not only in Africa, but all societies, has been largely overlooked by anthropologists. This is unfortunate as the variety of native cures, particularly of herbal medicines, is immense and often qualitatively effective. The South African botanist and pharmacologist, Watt and Breyer-Brandwijk (1962) compiled descriptions of over one thousand plant species used in medicinal preparations in Africa, but anthropologists have not been keen to explore this knowledge. Some exceptions have been Turner's description of Ndembu curing (1961), and a little known contribution by Spencer on Samburu notions of health and disease (1959), a paper that was inspirational to my own research. Surprisingly, Merker compiled a list of medicinal plants used by the Masai in his pioneering study (1910), but this information was not utilized in subsequent studies of this important pastoral group.

Comprehensive medical studies of African societies began to appear in the last 10 years, such as the Johns Hopkins University Public Health study of Chad (Buck et al., 1970); Vogel's collection of papers on Kenyan health problems (1974), and descriptions of the Sahelian Drought and its effects on the health of its people (Sawadogo, 1974). These studies were produced by non-anthropologists and focused more on the biological aspects of epidemiology than the cultural responses to disease. Yet anthropologists and physicians have intersecting interests, as (Lieban, 1977) points out, because health and disease are related not only to biological factors, but to people's cultural resources and the social behavior that utilizes these resources. Ackerknecht (1947), a pioneer in American Medical Anthropology defined the situation,

"Disease and its treatment are only in the abstract purely biological processes...Such facts as whether a person get sick at all, what kinds of disease he acquires and what kind of treatment he receives depend largely on social factors." (Quoted in Landy, 1977:15).

This thesis is a medical anthropological description of one particular pastoral society, the Ariaal Rendille of Northern Kenya. It attempts to integrate features of their social organization, pastoral economy, belief system, and objective health conditions in order to arrive at a greater understanding of this society as a whole, and of human responses universally to the vicissitudes of disease and misfortune. Richard W. Lieban, a leading medical anthropologist in the United States, summed up the importance of the integration of medicine and anthropology,

"Health and disease are fundamentally connected with the reproduction, quality, preservation, and loss of life. In view of the significance of these phenomena for human societies, it is not surprising that an anthropological study of health and the occurrence and means of coping with disease can involve one deeply in the manner in which people perceive their world, in the characteristics of human social systems, and in social values. In this perspective, medical anthropology is not only a way of viewing the states of health and disease in society, but a way of viewing society itself." (Lieban, 1977:15).

1.2 The Ariaal Rendille: A Bridge Culture

The Ariaal Rendille are a nomadic population of 6,000 people living along the boundary of Samburu and Marsabit Districts in North Central Kenya. The District boundary concords with the physical presence of the Ndoto and Matthews Range Mountains, two tall (2,750 metres) and sharp ranges running north to south that dramatically separate the western highland plateau area (Samburu District) from the broad lowland deserts of Marsabit District. (See Map 1.1). This dry, predominantly scrub desert environment is not suited to agriculture, but supports several pastoral populations herding domestic livestock of cattle, camels, goats and sheep. To the west of the Ariaal live the highland Samburu; to the east and north live the Rendille camel herders. The Ariaal are strongly tied to both these societies. Beyond the Rendille live the Gabra and Boran to the north, Somali to the east, Turkana to the northwest---all traditional enemies of the Ariaal, Rendille, and Samburu.

Although the Rendille and Samburu come from different linguistic and cultural stock, the Rendille and Samburu have been allies for at least several centuries, intermarrying but maintaining their separate linguistic and cultural identities. The Rendille and Samburu alliance has been described in detail by Paul Spencer (1973), who demonstrated their close interdependence based on intermarriage, migration from Rendille to Samburu, and continuous communication. Both societies maintain their independence, however, by their utilization of different ecological niches, the Samburu herding predominantly cattle in the highlands and the Rendille keeping camels in the arid lowlands.

The Ariaal Rendille are a curious cultural mixture of both Samburu and Rendille proper, occupying the particular ecological niche between the highland plateau and the dry lowlands. The highland-lowland boundary of the Ndoto and Matthews Range Mountains is a continuum of topographical zones that drop from 2,500 metres to 700 metres, with corresponding increases in aridity and changes in vegetation type. In this starkly beautiful landscape along the eastern side of the mountain wall, the Ariaal adapt their settlements. Ariaal settlements at high altitudes such as the Langata Valley near Wamba, strongly resemble Samburu cattle-keeping settlements. They are small with four to five squat mud-covered houses that are semi-permanent structures. As one descends the mountain wall northeast towards the Illaut water holes in the Kaisut Desert, the Ariaal settlements become strongly Rendille in appearance: large circles of thirty to forty houses, made of skins and sisal fibers on light wood

frames, surrounding camel and small stock enclosures. These Rendille type settlements are highly mobile and well-suited to camel production, a situation described in detail in Chapter 2.



Photo 1.1 - An Ariaal Settlement.

The key to the Ariaal's cultural identity is their utilization of the intermediate zone between the highlands and lowlands where they can raise both cattle and camels in approximately equal numbers. This is a different economy than the Rendille proper, who living exclusively in the Kaisut and Chalbi Deserts, depend solely on the camel and small stock.

ior food and transportation. While the camel is superbly adapted to the dry desert conditions, it is unable to survive the tick and tse-tse fly infested forested highlands. The Samburu, who occupy the forests and highlands with their cattle, who can better resist the diseases the insects carry, are also restricted from exploiting the desert lowlands due to their cattle's high need for free water, salt and adequate grazing.

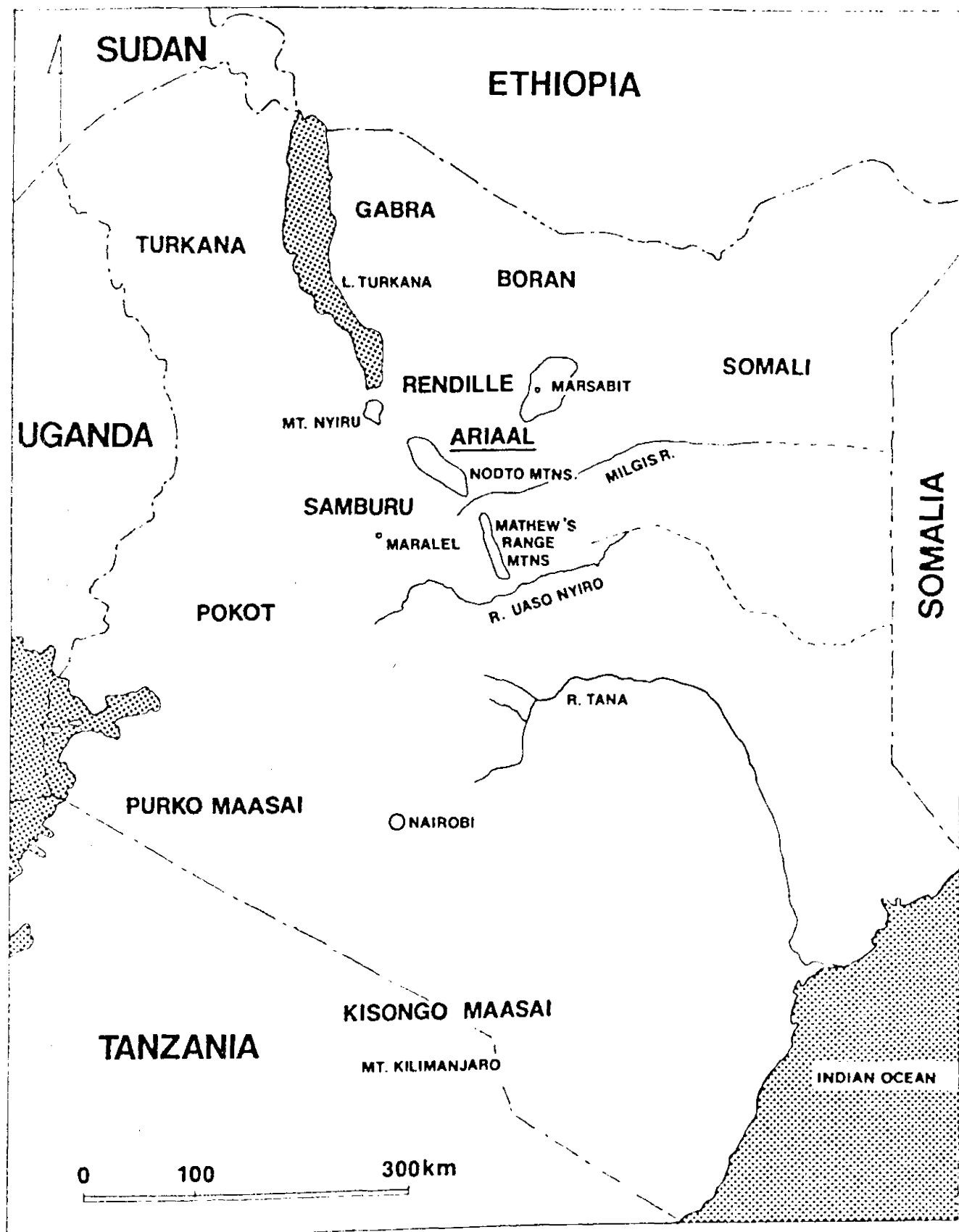
Occupying the intermediate ecological area between the highlands and lowlands, the Ariaal subsist off a dual cattle-camel economy, herding their cattle in mobile camps in the highlands, and camels in the lowlands. The majority of Ariaal live in the lowlands, subsisting off lactating camels and small stock. Cattle are kept primarily for exchange, owing to their high reproductive yield, where they are used as traditional bride price payments and for exchange on the cash market.

The Ariaal represent a culture "betwixt and between" the Samburu and Rendille and they are often ambiguous about their identity. Although affiliated with the Samburu through their segmentary descent system, the Ariaal more often call themselves Rendille and claim such identity on the Marsabit District tax card "so they don't make us move to Samburu District", a situation disastrous for camel reproduction.

The name 'Ariaal' is a Rendille term used to distinguish the cattle and camel herding people from Rendille proper, and probably best translates as "those Rendille who are not Rendille". Spencer (1973) described the Ariaal as Rendille who integrated into the Samburu cattle culture,

MAP 1.1

Kenya: Location of Ariaal



or as Samburu who gained camels in warfare. Although the Ariaal themselves claim Samburu descent, they prefer the term Ariaal to the Samburu term Masagera, a mildly derogatory expression that means "those Rendille who follow the Masai (i.e. Samburu)."

Among themselves, the Ariaal use the more appropriate expression Loikop Lontamesi, (Samb.) or "those Samburu who keep camels." I will continue to use the term Ariaal, however, as it is the name used in the existing literature and acceptable to the Ariaal themselves.

Who are the Ariaal, then, and to what cultural community do they belong? This is an intriguing question to anthropologists, particularly as ethnic boundaries are seldom as sharp and distinct on the ground as they are on paper.

In dress and material culture, Ariaal, Samburu, and Rendille in general resemble each other. All have the male age grade known as Moran, who as in Masai, allow their hair to grow long and braided, while the rest of the population shave their heads. Jewelry, earhole shape, spear snapes, and so on all share the same general appearance. Rendille women will allow their hair to grow if their first born is a male, and they pack their hair in a beautiful style called Doka (Rend.). Rendille women also prefer red and yellow beaded necklaces compared to Ariaal and Samburu, who like the Masai prefer multicolored bands of red, blue, white, yellow, and green.

Major differences in appearance occur in settlement structure, house shapes, and food and water vessels, where one type is suited to the cooler highlands and cattle production and the other to the hot and arid lowlands, where settlements are large and houses are tall, sisal-mat covered structures build more for shade than warmth. (See Chapter 3, Figure 3.1). The majority of Ariaal settlements are of the Rendille type, and it is difficult to distinguish an Ariaal from a Rendille settlement.

The Ariaal have no language of their own; they are bilingual in Samburu and Rendille. The Rendille linguistically belong to the eastern Cushitic branch or the Afro-Asiatic family in Greenberg's (1963) classification, a family that includes Somali, Galla, and Dasanech. Linguistically Rendille is very close to Somali, and it is likely that the Rendille and modern Somali's share the same origin. Rendille and Somali's both practice male and female circumcision, but where the Somali's have been Muslims for many centuries, the Rendille are not and there is no indication they ever were.

The Samburu speak Maa or Masai, a southern Nilotic language of the eastern Sundanic branch of Nilo-Saharan family of languages, a group that includes Masai, Turkana, and Jie. Unlike the aspirated and Arabic-sounding Rendille, Samburu Maa is a synopated tonal language with sharp stops and velar consonants, such as in the word ng'ong (ng' sounds like "k"). Nilotic speaking groups such as the Samburu are often cattle

pastoralists with male age-grade organization. Male and female circumcision however, is practiced only by the Masai, Samburu and Barakuyu of Tanzania, and has most likely been influenced by the Cushitic speaking Rendille and Somali.

The Ariaal, a cultural bridge between Samburu and Rendille, are nearly fully bilingual, although Heine (1976) found that men were more likely to speak in Samburu and women in Rendille, and that children were more proficient in Samburu than Rendille, a fact related to the large size, growing wealth and prestige of the Samburu people. Bilingualism is one of the main distinguishing features between the Ariaal and Rendille proper, who are almost completely monolingual. This is borne out in my small survey of adult speakers in Lewokoso (Ariaal) settlement and Rongumo (Rendille) settlement.

Table 1.1

Bilingualism in Ariaal and Rendille

	<u>Total number</u>	<u>Bilingual</u>	<u>Rendille only</u>	<u>Samburu only</u>
Ariaal men	41	36	4	1
Ariaal women	49	37	6	6
Rendille men	28	3	25	0
Rendille women	27	4	23	0

A major reason for extensive bilingualism in Ariaal is the large recruitment of wives from Rendille proper. In Lewokoso settlement, 55% of the 56 married women were born into Rendille proper clans, 35% were

from other Ariaal settlements, and 10% were from highland Samburu settlements. A trend is developing, however, where the younger men and women are marrying more among other Ariaal than with either Rendille and Samburu. Of the twenty-three men in Lewokoso settlement of the Lkishili age-set who married in 1977, seventeen married other Ariaal women, while only six took wives from Rendille proper.

Spencer (1973) described the Rendille-Samburu alliance as a predominantly one-way migration of Rendille forced to abandon the slow-growth camel economy and integrate into the larger and higher return cattle economy of the Samburu. This occurs by immigration or affinal ties, those relationships created by marriage to Rendille women. Spencer argues convincingly that the camel economy of the Rendille cannot support polygamy; while the fast reproducing cattle economy of the Samburu permits and in fact demands polygamy on a large scale. An additional cultural feature of the Rendille called the Sapaade prohibits certain daughters to marry until the initiation of a new male age-set, and consequently marry of these Rendille women, often in their thirties, run off and marry Samburu and Ariaal men (Spencer, 1973:35).

The Ariaal, like the Samburu are polygamous, although not to such a high degree (1.25 polygamy rate compared to Samburu rate of 1.5 and Rendille of 1.06). Spencer asserted that Ariaal will take their first wife from Rendille in order to live in the lowland Ariaal settlement with the camels, and will take a second wife to live in a highland settlement in the vicinity of the cattle (1973:132). However, my observations do

not agree. both wives will live in the same settlement, while the management of different livestock types is handled by close agnatic relatives, usually brothers, settled either in highland or lowland areas.

The Ariaal have close ties to the Rendille, primarily through marriage alliances. The fact that the Ariaal widely speak Rendille and live in Rendille-structured settlements in the lowlands leads many people to think they are Rendille. Although many members of the Ariaal are descendents of immigrants from Rendille proper, the Ariaal are organized within the Samburu segmentary descent system, where each Ariaal clan settlement is affiliated to a particular Samburu descent section (*phraty*). Furthermore, the Ariaal follow the Samburu age-set system, circumcising their sons inside the settlement in the proper sequence of Samburu ritual seniority, and perform the Samburu age-set rituals (*Lmugit*) rather than participate in the Rendille ritual cycle.

Based on historical and descent ties, the Ariaal consider themselves a special branch of Samburu, those "Samburu who keep camels". Ariaal oral tradition holds that long ago, when the Samburu were being displaced by the Turkana west of Lake Turkana, and by the Laikipiak Masai south on the Loroghi plateau, (i.e. the first half of the 19th century according to Lamphear, 1976), some Samburu came to the eastern Rendille lowlands and made "bond friendship" (*Lengata*) with the Rendille, acquiring camels and taking up the lowland pastoral economy. Recipically some Rendille acquired cattle, and through immigration and intermarriage the alliance was further cemented. Other alliances between camel and

cattle keeping pastoralists are known in northern Kenya, such as between the Somali's and Boran, the Boran and the Gabra, and formerly between the Rendille speaking Kiriman and Laikipiak Masai before their annihilation in the mid 19th century (Fratkin, 1979). The Ariaal claim to have been in their current location since the time the Lkipayang age-set were Moran (i.e., circa 1821-1837 according to Spencer's age-set chronology 1973:33). It is held by Ariaal that they raised cattle until the Lkipeko Moran (1837-1851) went on large scale warfare against the Boran, a situation which heightened during the drought and epidemic years of the Ltarigirik Moran (1865-1879) who are widely remembered for their raids against the Boran, Laikipiak and Kiriman. Spencer describes the Tarigirik wars,

"Hostility between the Rendille and the Kirimani increased to a point where the Ariaal Rendille attacked and utterly routed them, augmenting their own herds considerably. The Rendille proper preferred not to associate themselves with this route of their Kirimani kinsmen and took no part in it....this may well have been a specific opportunity for expansion by the Ariaal." (Spencer 1973:153-4).

The Ariaal, gaining camels through warfare and exchange, grew in size and area, and currently occupy the eastern base of the Ndotos and Matthews, areas previously occupied by Laikipiak, Boran, and Kiriman. The Ariaal's closest ties are with the Rendille proper, with whom they share settlement and grazing locations. In addition to immigration and intermarriage from the Rendille, the Ariaal also have families who trace descent to Laikipiak, Dasanech, Boran, Turkana, Ltiamus from Lake

Baringo, Meru, and Dorobo. Immigration and intermarriage is not unusual in pastoral societies of Northern Kenya and reveals the fluidity and adaptability that characterize ethnic boundaries, particularly between groups occupying different ecological habitats. (See Barth; 1956, 1962, 1969).

The alliance between the Samburu and Rendille is a long and formal one, and it is the Ariaal who form the cultural bridge between them, where in the main the Ariaal trace descent to Rendille origins, they are nevertheless integrated into the Samburu segmentary descent system and age-set organization, an affiliation that formally distinguishes the Ariaal from the Rendille.

The age-set system and descent organization of the Samburu and Rendille have been described with precision and clarity by Paul Spencer (1965, 1973, 1976). I therefore would like to summarize only briefly the descent organization of the Ariaal, who are affiliated into the Samburu descent system.

The Samburu are organized by their segmentary descent system, an acephalous organization of distinct and autonomous local descent groups related to each other by closer or lesser degrees of descent origin. In general, the closer the agnatic affiliation between descent groups, the greater their social solidarity in terms of economic favors, ritual inclusion, and adherence to exogamy rules. Samburu descent groups are composed of Moieties, sections (or phratries), clans and lineages. These

groups are patrilineal and patrilocal, where the clan is the largest localized segment. Samburu society is divided into two moieties, the Black Cattle and White Cattle, each of which is composed of four descent sections each. The Black Cattle sections (Masala, Pisikishu, Ny'parai, and Lng'wesi) are found predominantly in the western highland areas around Mt. Nyiru and Maralel; the white cattle sections (Lukumai, Longieli, Lorokushu, Loimusi) are more associated with lowland areas. Spencer (1965) listed nineteen clans among the Samburu, their population is over 70,000.

The Ariaal's 6,000 people belong to eleven clans of predominantly white Cattle sections, although there exist a few Black Cattle Ariaal settlements. The only ritual distinction between the two moieties is seniority in the order of men's circumcision rituals; there does not exist any formal marriage preferences between or among moieties.

As in Samburu, Ariaal descent sections are the most embracing ritual grouping. Section affiliation determines inclusion in the male age-set rituals, where male initiates of the same section undergo circumcision at the same time, although within their own settlements. The eight sections are arranged in a loose ritual seniority, Black Cattle sections undergo circumcision preceeding the White Cattle moiety in a section by section sequence. The Ariaal clan settlements perform these rituals last, often 2-3 years after the leading Black Cattle section undergo the rites.

While the section is important in age-set and ritual organization (in Samburu Moran associate in section "clubs"), the section has little importance in the day to day affairs of the Ariaal. Rather, the patrilineal clan is the basic unit of residence, economic production, Moran association and ritual life of the Ariaal.

Ariaal clans are large, with one hundred to two hundred married male adults, and are usually split into two local groups: a large camel keeping settlement in the lowlands and a smaller cattle keeping settlement in the highland areas. Clans are strictly exogamous as each Ariaal settlement is made up of close agnatic relatives. The term for the clan settlement is 'nk'ang', or "our family". Elders call all children in the settlement 'my son' or 'my daughter', and children refer to each other as 'brother and sister'.

The settlements are composed of different lineage groupings (ntipat, ntipati), close male agnates and the families who trace descent to an actual ancestor such as a grandfather. These lineage groupings are the most important economic unit in Ariaal, where lineage members share their labor in enclosing and herding their livestock together. It is the lineage grouping that determines the fission points of the clan settlements, as settlements are in a constant flux of fission and fusion throughout the seasonal year (discussed in Chapter 3).

At the time of my research there were twenty major Ariaal clan settlements, nine in the highlands and eleven large settlements in the

lowlands. Every clan with the exception of the Masala (Black Cattle) settlements were split into cattle and camel-keeping areas. Locations refer to major water sources listed on Map 2.1.

Table 1.2

Distribution of Ariaal Settlements

<u>Moiety</u>	<u>Section</u>	<u>Clan settlement</u>	<u>Economy</u>	<u>Location</u>
White Cattle	Lukumai	Lewokoso	Camel Cattle	Ngurunet Lankata
		Mokadille	Camel Cattle	Laisamis Lankata
		Soritari	Camel Cattle	Laisamis Lodosoit
		Parakeno	Cattle	Lankata
	Longieli	Leparsinkir Ltarapasias	Camels Cattle	Ngurunet Logologo
	Lorokushu	Pardopa	Camels Cattle	Eilim Marsabit
		Makelelit	Camels Cattle	Eilim Marsabit
	Loimusi	<u>None</u>		
Black Cattle	Masala	Sortoi	Camels Camels Camels	Illaut Ngurunet Ngurunet
		Lkurtenkerta		
	Lturia (Pisikishu)	Ferlach Dohole Marlene Gobonai	Camels Cattle	Laisamis Lankata
	Le Sarge (Lng'wesi)	Goborre	Camels Cattle	Korr Laisamis
	Nya'parai	<u>None</u>		

There is considerable variation in social organization, language, and customs among these Ariaal settlements. Some large camel keeping settlements such as Leparsinkir Longieli have very strong ties to Rendille. They speak primarily Rendille and are the only Ariaal invited to the Galgulumi ceremony where the new Rendille age-set is given a name. Other clan settlements, such as the Pardopa Lorokushu of Marsabit Mountain and the Ltarapasias Longieli of Logologo (near Marsabit), consider themselves pure Samburu, practicing no camel economy and speaking predominantly the Samburu language. The settlement I lived in, Lewokoso Lukumai in Ngurunet, were camel-keeping and closer to the Rendille in language, customs, and settlement structure. Lewokoso, like all Ariaal settlements, have strong ties with 'brother' settlements practicing the alternative economy. Each clan owns approximately equal numbers of cattle and camels although individual families will concentrate on one type over the other, depending on their residence, inheritance, etc.

In addition to direct ties to other Ariaal settlements, the Ariaal maintain formal relationships with certain Samburu and Rendille descent settlements. These ties are based on both marriage and descent. The Ariaal distinguish two types of descent relations: 'true' brotherhood (Lalache or 'brother'), and 'bond' brotherhood (Lengata), or ties of friendship.

True brotherhood connotes a direct agnatic affiliation, based on historical immigration and a strict recognition of exogamy. For example, certain lineages in Lewokoso Lukumai immigrated directly from the Tubsha

clan in Rendille, and both clans have a true brotherhood relation. Bond brotherhood, however, are historical ties of friendship between two clans or lineages, where exogamy restrictions are not tightly enforced, although they may have been when the relationship first formed. To the Ariaal, the 'true brotherhood' relations are more significant than the bond brotherhood, as they are an important relation representing an alternative local descent group with which to join if the economic situation so demands. Spencer (1965:77-78) described the bond and true brotherhood relations among the Samburu. Below on Table 1.3 are the major Ariaal-Rendille interclan relations.

Table 1.3

Ariaal-Rendille Descent Relationships

<u>Ariaal section</u>	<u>Clan</u>	<u>Rendille clan brotherhood by descent (Lalache)</u>	<u>Rendille clan Bond brotherhood (Lengata)</u>
Lorokushu	Pardopa	Nebei	Urwen
	Makelelit	-	Matarpa
Lukumai	Soritari	Dipsai-Wambili	-
	Mokadile	Matarpa-Feesna	-
	Parakeno	Tubsha-Deele	Uiyam
	Lewokoso	Tubsha-Deele	-
Longieli	Leparsinkir	Uiyam	-
	Ltarapasia	-	-
Masala	Sortoi	Rongumo-Seii	-
	Kurtenkerta	Rongumo-Ungum	-
LTuria	Farlach	Galdeyan	-
	Dohole	Dipsai-Dohole	-
	Marlene-Gobonai	Saale-Gobonai	-
LeSarge	Orbora-Tubsha	Lukumai-Lewokoso	Saale-Nebei

Descent group affiliation is the principle organizing mechanism of Ariaal society. Settlements are localized clans made up of relatively independent lineages. Families may break off from one settlement and temporarily or permanently join another settlement, where integration is based on the descent group affiliation of the husband or his wife. Mobility among and between Ariaal settlements, as well as the political organization within the acephalous segmentary descent organization, is discussed at length in Chapter 3.

A secondary organizing principle in Ariaal is their age-set system. As in both Samburu and Rendille, the Ariaal initiate male age-sets by circumcision every fourteen years. Youths pass through successive age-grades as boys (Loyok), circumcised morán or warriors (murrani), and married elders (Lpayeni). Although girls are not incorporated into named age-sets, they are also distinguished as unmarried, uncircumcised girls (ntoyie), and circumcised (by cliterdectomy) married women (nbarratuti).

Both Rendille and Samburu have ritual cycles that mark transition from one age-grade to the next, and at particular points within the morán age-grade. These rituals are strongly associated with the local descent group, and are considered the most significant rituals in the society.

The two ritual cycles of Rendille and Samburu are distinct and exclusive of each other. The Samburu have a series of five ritual ox-slaughters (Lmugit) performed after initiation by each local age-set of

moran, held in special ritual enclosures near the settlement. The Rendille, however hold several large and inclusive ceremonies for all moran, including the Galgulumi ritual performed one year after circumcision on the eastern shore of Lake Turkana, and the Na'apu ceremony performed in one ritual settlement four years before a new age-set is initiated.

The two ritual cycles of Rendille and Samburu are interestingly in mesh, both occurring in fourteen year intervals, with the Rendille following Samburu initial by two to three years. Spencer (1973) describes the Rendille as following to the Samburu periodic cycle. Both Rendille and Samburu, however, view their ritual cycles and age-set systems as distinct and part of their separate descent group organizations.

The Ariaal, although lying somewhere between these two larger societies, cannot participate randomly in one or the other age-set system. The Ariaal participate exclusively in the Samburu age-set system, in accordance with their descent group affiliation within Samburu. As predominantly White Cattle members living in the north and eastern lowlands, the Ariaal are at the end of the ritual seniority that begins with the Black Cattle Masala settlements on Mt. Nyiru, the Samburu ritual center to the northwest near Lake Turkana. The Ariaal usually initiate their moran set two years after the Masala, and when the last White Cattle section, Longieli, is complete, the Rendille proper begin their circumcisions.

In both Samburu and Rendille, each morán age-set is given its own name, which become historical markers as these societies refer to past events, such as "when the Lmerisho were morán..." meaning somewhere between 1912-1921. Recorded colonial records verify the major circumcision dates, which are listed below. Unknown circumcision dates are preceded by C. (circa), and inferred by backtracking fourteen years re-age-set. The Rendille and Samburu use their own distinct names for the age-sets; the Ariaal follow the Samburu system.

Table 1.4

Samburu, Ariaal, and Rendille Age-set Chronology

<u>Samburu</u>	<u>Chronology</u> <u>Initiation date</u>	<u>(After Spencer, 1973:33)</u> <u>Rendille</u>	<u>Initiation date</u>
Lkipayang	c. 1823	Irbandif	c. 1825
Lkipeko	c. 1837	Dibeles	c. 1839
Lkiteku	c. 1851	Libale	c. 1853
Ltarigirik	c. 1865	Dibgudo	c. 1867
Lmarikon	c. 1879	Dismaala	c. 1881
Lterito	1893	Irbankudu	c. 1895
Lmerisho	1912	Difgudo	c. 1916
Lkiliako	1921	Irbales	c. 1923
Lmekuri	1936	Libale	1937
Lkimaniki	1948	Irbandif	1951
Lkishili	1960-2	Difgudo	1965
Lkororo	1976	?	1979

Spencer's description of Samburu (1965) analyzes those aspects of age-set organization related to the political and social structure of the wider Samburu society, in particular the relation of the morán to the elders over rights to wives, the incidence of polygamy, and social control in the society at large. My description of the Ariaal morán

focuses more on their economic role, particularly on the division of labor that associates the morán age-grade most completely with cattle production in the highlands, as well as armed protection of the herds and settlements from enemy attacks. This analysis is presented in Chapter 2.

The Ariaal strictly follow the Samburu ritual cycle of age-set initiation, yet they have adopted or carried over through immigration certain Rendille religious beliefs and ceremonies. In particular, the Ariaal practice the Rendille annual rituals of Sorio and Almhato, two rituals that bless the livestock and well being of the settlement. Sorio is held four times a year, one day each in two month successions every six months. It serves to bless the camels and settlement, where each household kills and consumes a sheep or goat, marking the blood on the larger livestock. In Almhato all the camel stock are returned one day during the spring rains and blessed by a ritual passing through a constructed gateway outside the settlement.

In addition to these community rituals, the Ariaal follow Rendille customs of childbirth burying their dead, and following the Rendille reckoning of time and direction. They believe in Rendille holymen (Laisi), but also follow Samburu beliefs in sorcery and sorcerers (Loibonok), witches (Larupok) and the ritual powers of Blacksmiths (Lkunono).

1.3 Summary and Scope of Thesis

Concepts of Health and Disease among the Ariaal Rendille is a descriptive dissertation on the traditional medical system of a one pastoral society, the Ariaal Rendille and the effects of modern health care on this society. There are four major areas of analysis that the thesis discusses, each an important facet of medical anthropological research: Ecology and epidemiology; medical aspects of social organization; ethnomedicine, and medicine and social change.

Cultural ecology concerns the interaction of a social group and its physical environment, mediated by that society's cultural resources. Chapter 2, The Pastoral Economy of the Ariaal Rendille, discusses Ariaal pastoralism as a particular food production system in a marginally productive environment. Locating variables in this system such as climatic changes, vegetation types, and water sources, Ariaal nomadic herding and settlement patterns are viewed as cultural responses attempting to achieve maximum food and reproductive yields in their livestock.

Chapter 3, Ariaal Settlement Organization, focuses on the Ariaal social system in the context of their daily and seasonal herding regimen. This Chapter describes habitation patterns, work roles differentiated by age and sex, social relations based on descent and marriage, and age-set ties. Chapter 3, provides the social context within which disease and illness are perceived and treated.

The following two chapters deal mainly with ethnomedicine, the traditional medical system of the Ariaal. Where modern medicine classifies disease in terms of a single biological taxonomy regardless of cultural contexts, ethnomedicine, the study of indigenous and traditional medical systems, is confined to the cultural boundaries of that society. Classification of disease, and of health, varies from one culture to another, with its own etiology firmly rooted in the beliefs and cultural traditions of the society. For example, the Ariaal believe tuberculosis is caused by eating the wrong foods, particularly fats, which congest the lungs and air passages. Treatment consequently is aimed at removing the congestion primarily by strong emetics prepared from herbal medicines.

Chapter 4, Health, Disease and Traditional Curing in Ariaal, begins with an epidemiological description of actual health problems experienced by the Ariaal. Epidemiology is the description of the distribution of disease and their meanings, and this information for Ariaal is derived from hospital records and available medical surveys, including my own. The chapter proceeds to Ariaal conceptions about disease and their causes, and how they attempt to treat them. The Ariaal, like many traditional societies, treat illness in two radically different ways, depending on whether the illness is thought to be the result of natural or physical phenomena, or the result of supernatural, mystical forces.

The first type of illnesses are treated largely by mechanical or chemical procedures. The category of ethnomedicine is well developed

in Ariaal, and includes bonesetting, obstetrics, cautery, and the manufacture of poultices, laxatives, enemas, ointments, etc. from a variety of plants. The pharmacopoeia of the Ariaal, like the neighboring Samburu and Rendille, is immense, where over one hundred and thirty five species of trees and shrubs are used for specific medicinal preparations. Some of these plants are known to have effective pharmacological qualities, a fact that is not surprising as many of our modern medicines have their origins in plants, such as quinine, aspirin, opium, curare and digitalis.

The Ariaal use mechanical or chemical procedures in treating most diseases. However magico-religious elements become an essential part of the treatment if mystical factors are suspected as causing the illness. In Ariaal, as in other neighboring pastoral groups, there is a strong belief in both the curse of a kinsman, or sorcery of an enemy or jealous neighbor. Both involve the manipulation of supernatural forces to inflict suffering on another human, that occur in a variety of forms, including strange accidents, epidemics, or mental illness. The psychiatrists Swift and Asuni (1975:37) write,

"Africans believe in a mystical power in the universe. On the positive side this power is employed for curative, protective, and preventive purposes through the mediation of diviners and native healers (sometimes called witchdoctors or shamans). On the negative side this power is used to bring illness, misfortune, and misery. These aspects are mediated through witches, sorcerers, and evil magicians....To say... that witches and witchcraft don't exist is to confuse the language of one area with the facts of another. For those who believe in its witchcraft does indeed exist."

Chapter 5, Beliefs in Witchcraft and the Role of the Loibonok Ritual Specialists in Health and Disease, analyzes in detail the magico-religious sphere of Ariaal ethnomedicine and particularly the role of the Samburu Loibonok in diagnosing, treating and manipulating sorcery acts. During my stay in Lewokoso Lukumai settlement, I was most fortunate in gaining the friendship and trust of a leading Samburu Loiboni, Leaduma of Lorukushu section, who was my principal informant during my research. Leaduma was concerned about the future of his traditional knowledge, and wanted to see it recorded for future generations. His participation in the research is a unique and unprecedented opportunity to explore the realm of belief and supernatural concepts of disease experienced not only by the Ariaal, but the larger societies of Rendille, Samburu and the Masai from whom the Loibonok institution derives.

The final Chapter 6, The Integration of Modern and Traditional Health Care, is the study of social change in Ariaal society and its relation to medicine. Modern health and medical changes have been among the most important changes in developing countries. In Marsabit District, Kenya, the government and Christian Missions operate three hospitals and nineteen clinics, the first of which appeared only in 1954. Although health care is not regularly available to most of the nomadic inhabitants, most people in the district have experienced the Sindano (needle, in Swa.) and seek out vaccinations and antibiotics is available.

Modern medicine is becoming more accessible, yet the Ariaal still hold to their traditional beliefs and medical practices. Other observers have noted that despite the increasing utilization of modern medicine, traditional medical systems still persist and exert significant influence on health and medical decisions in developing societies. "The fact of the matter is that modern medicine generally has been established in these societies not so much by displacing indigenous medicine as by increasing the medical options available to their populations" (Lieban, 1977:27).

The Ariaal have a pluralistic medical system, utilizing their traditional techniques of herbal medicines, massaging, midwifery and their beliefs in sorcery and the curing powers of the Loibonok, while simultaneously seeking out western medicine for certain health problems they experience. From whom and how often the Ariaal seek medical treatment is determined by many factors, but mainly by the known cause of the illness, the distance to the practitioner, and the cost of treatment.

It is hoped by the government and medical personnel that as education increases the nomads will abandon their traditional beliefs and practices and adapt to the modern world of sedentary settlement, urban services, and modern health care. However, until the traditional pastoralist societies undergo a broader transformation in subsistence patterns and integration into the wider market economy, traditional beliefs in magic, religion and the Loiboni specialist, will persist.

1.4 Notes on Spelling and Pronunciation

Although the Ariaal are bilingual in Rendille and Samburu, all native words used in this text are Samburu (a dialect of Maa or Masai). Samburu is more widely used by Ariaal men, and is the language I communicated in during the two and one half years I lived in Lewokoso Lukumai settlement.

Samburu words, except for family descent group, settlement, or location names, are underlined and usually in parenthesis. Non-Samburu words are followed by their language identification, such as Swa. for Swahili (e.g., "Sindano, the needle, Swa.").

Pronunciation is as Swahili or Spanish. A distinctive sound found widely in Samburu is the ng' sound, an accented velar "K" sound, as in ng'ai (God or heaven, Samb.), pronounced "en-Kai."

Samburu tonation and lexography differs slightly from Masai. Masai do not have the hard ng' sound, but the soft ny' sound, as in Ny'ai (God, heavens). In writing, Masai gender prefixes are written out:

ol, il (s. pl.) masculine gender
en, in (s. pl.) feminine gender
 as in oloiboni, iloibonok; (sorcerer-diviners); or
engang, ingangi (settlements).

Samburu lexography deletes the vowel prefix, and writes:

loiboni, loibonok (s. and pl.) masculine
ngang, ngangi (s. and pl.) feminine

Abbreviations used with native words are:

Samb.	Samburu
Rend.	Rendille
Swa.	swahili
s.	singular
pl.	plural
m.	masculine
f.	feminine

Chapter 2

The Pastoral Economy of the Ariaal Rendille

2.1 Introduction

Perhaps the most embracing description of The Ariaal Rendille is that they are "nomadic pastoralists", for no other concept so succinctly relates the organization of a society with it's subsistence economy. The Ariaal live off their livestock herds: camels, cattle, and small stock of goats and sheep provide milk, meat and blood, as well as supplemental grains acquired by trading livestock.

The social organization of the Ariaal, characterized by the fissioning and fusion of nomadic settlements and their livestock camps, revolves around the fundamental task of achieving sufficient productivity from their livestock within the existing environment. How a society organizes its labor towards the production of food is a fundamental component of an ethnographic description, and to understand herders, it is necessary to understand herding.

Moreover, as Dysen-Hudson (1974) pointed out, the mode of livelihood is also a way of life, where economic production and value-orientation are necessarily interlinked within the society. The Ariaal's wide knowledge of shrubs and trees used in their medical system are undeniably rooted in their familiarity of the environment they are constantly moving about in; and notions of anatomy and physiology are related to experiences in both maintaining and consuming livestock.

Anthropologists studying pastoral societies in Africa have increasingly focused on aspects of pastoral economic production, the subsistence herding and management of domestic livestock. Ethnographies of pastoral societies such as the Wodaabe Fulani (Stenning 1959), Karimojong (Dysen-Hudson 1966), Turkana (Gulliver 1955), Samburu and Rendille (Spencer 1965, 1973), Somali (Lewis 1961), Masai (Jacobs 1965) and Gabra (Torry 1973) have all to some degree analysed pastoral organization within the context of herd management and ecological adaptation.

The Ariaal, living in a semi-desert environment of extremely low and variable rainfall, must move periodically to satisfy the basic needs of both the livestock herds and the human population. The three major types of stock they herd -- camels, cattle, and small stock -- each have particular grazing and water needs, as well as specific types of vulnerability to disease, that require separate herding regimens for each type of stock. In order to satisfy human needs of maximum food production, being primarily milk production and maximum reproduction of the herds, the human settlements are more sedentary, subsisting off of lactating camels, while the bulk of the livestock herds are off in distant and mobile camps managed by young men and women. Only in brief periods during the rainy season do all the livestock and members of the clan-settlement coalesce, separating again as the land increasingly dries up.

This chapter will outline the basic herding regimen of the Ariaal. Particular emphasis will be placed on food production of milk, meat and

blood so that a picture of human subsistence in terms of fundamental nutritional needs can be outlined. Information in this chapter is based on the work of many researchers, and in particular to information collected by Torry (1973) on Gabra pastoralism, northern neighbors of the Ariaal and Rendille, and the Rangeland Survey of Kenya (1971) on Rendille and Gabra food production.

2.2 Environment of the Ariaal Rendille: Climate, Water and Vegetation

The Ariaal Rendille are a population of 6,000 distributed in about 25 settlements along the administrative boundary of Samburu District (Rift Vally Province) and Marsabit District (Eastern Province), which essentially marks the interface between highland (2,700 meters - 1750 meters) and lowland (1,250-800m) north central Kenya. This interface runs in a north-south direction from Lake Turkana (Rudolf) 2°30'N for 300 kilometers south to Mount Kenya on the Equator, and is marked most notably by the NDoto and Matthew's Range Mountains (2,700m), a lengthly volcanic pile to the east of the Great Rift Vally. (See Map 1.1).

The Ariaal, located at this topographical interface, form a social and ecologic bridge between the lowland Rendille (population 9,000) who predominantly herd camels in Marsabit District, and the highland Samburu (population 70,000), who practice cattle husbandry in the cooler and wetter Samburu District. Although the area occupied by the Ariaal, along the eastern side of the NDoto's and Matthew's, is considered too dry by the Samburu to support large cattle herds, and too tse-tse fly infested

by Rendille for large concentrations of camels, the Ariaal effectively maintain both camels and cattle, as well as large small stock herds, in this essentially intermediate ecological zone, by their system of mobile livestock camps.

Because of their close ties through kinship and marriage to Samburu cattle herders in the western highlands and Rendille camel herders to the northeast, the Ariaal, though settled primarily along the eastern wall of the NDoto and Matthew's Range Mountains, have access to grazing areas 60km both east and west of their settlements, providing a herding environment of over 11,000km² in the eastern portions of Samburu District and the western area of Marsabit District in Northern Kenya. (Map 1.1).

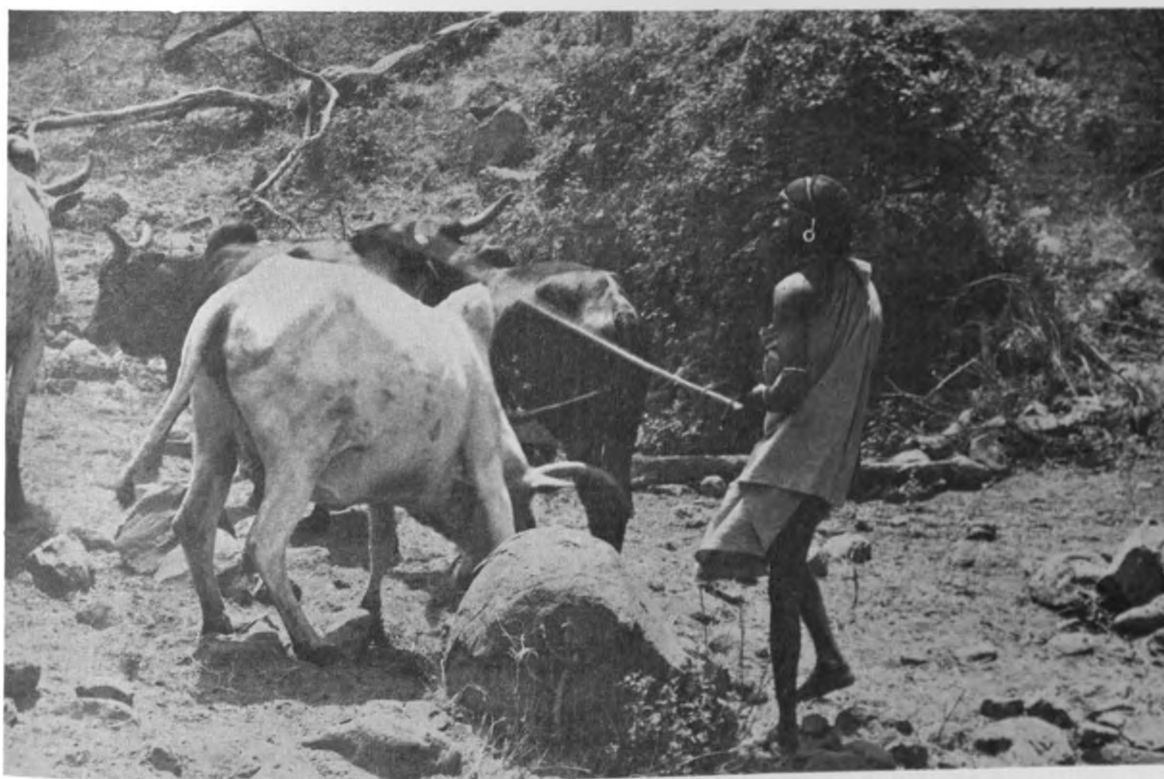


Photo 2.1 - Highland Cattle Camp

Marsabit District is the most arid region of Kenya, receiving less than 500mm of rainfall each year and experiencing ambient temperatures of 22°C (72°F) to 48°C (118°F). The rainfall is erratic and irregular in quantity and timing, so that no prediction of more than 50% accuracy can be made as to where, when, and how much rain will fall within a five year period. Rainfall tends to be concentrated in two seasons: the Southeast monsoon (March-October) and the northeast monsoon (November-March). This pattern conforms in theory to the rainfall schedule of the Inter-Tropical Convergence Zone (ITCZ), where a broad low pressure zone exists along the equator and responds to the meeting of dry, high-pressure NE trade winds from the Asian land mass in winter, and the moist low-pressure SE trade winds from the Indian Ocean in the summer, giving rise to a confluence of air and thus rain at two peaks, in November and April. (Griffiths 1972:107).

The local climate, however, is subjected to variations of topography, latitude, and proximity to large water bodies like Lakes Turkana and Victoria, so that it is impossible to accurately predict the occurrence of rain. The following figures for rainfall, taken in Marsabit and Samburu District in 1970, show the wide variation in quantity and timing of rains. Higher altitude locations such as Baragoi show higher rainfall; but isolated topographical masses, such as Marsabit Mountain, have their own idiosyncratic pattern of rainfall.

Table 2.1

Mean Monthly Rainfall (mm), Marsabit and Samburu Districts

	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug</u>	<u>Sept</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
Marsabit (1,345m)	40	24	73	245	162	8	17	22	12	117	150	68
North Horr (800m)	9	2	24	34	10	0	3	6	0	9	40	25
Baragoi (1,370m)	24	32	67	101	53	17	22	25	5	61	76	40
Archer's Post (860m)	8	11	42	86	42	2	5	5	22	28	99	40

(Rangeland Survey, 1971)

Where rainfall tends to be highest in April (SE monsoon) followed by November (NE monsoon), all stations show a very low annual mean rainfall:

Table 2.2

Annual Mean Rainfall (mm), Marsabit and Samburu Districts

	<u>Annual Mean (mm)</u>	<u>Statistical Error</u>	<u>Period</u>
Marsabit (1,345m)	875	46mm	1931-70
North Horr (800m)	161	-	1960-70
Baragoi (1,370m)	525	27	1939-70
Archer's Post (860m)	370	41	1946-70

(Rangeland Survey, 1971)

The Ariaal area at a general altitude of 850 meters can expect less than 500mm of rain a year, occurring in two peaks: a larger rain in April and a smaller rain in November. The Ariaal recognize two wet periods, "the large rain" (Lng'erng'erwa) in the spring and the "small rains" (Ltumerin) in the fall, followed by seasonal droughts called appropriately "the long hunger" (Lamai O'odo) from June through October and "the short hunger" (Lamai dorrop) from December through March. The recognition of these seasons is a general schedule for settlement and herding camp dispersal, where the cattle will push off to higher altitude grazing following the appearance of the Pleiades (nkakwa) in June.

Rainfall, however, might fail not only at the expected season, but for several years running, as it has from 1970-1975 in Ariaal. Thus the pastoralists can expect not only the seasonal drought which follows each rain, but intermittent drought lasting indefinite periods, causing a re-orientation in herding location choices and possibilities. These choices are described in detail in Section 2.4 of this chapter, where in a 28 month period from June 1974 to October 1976 the area received rainfall only twice, in June 1975 and October 1976.

The incidence of rainfall is of two essential concerns to the Ariaal: the occurrence of green pastures and the availability of drinking water for the human and livestock populations. It is not surprising that the Samburu-Ariaal word used for rainfall (nchan) is used interchangeably with the term for God the Creator, (nkai).

In the wet periods, Ariaal can expect to find an abundance of surface water in rain pools, semi-permanent streams, and swamps. In the dry periods, however, the only effective water sources are obtained from rain falling over the highlands to the west, where the water, retained by mountain vegetation, can seep over periods of weeks and months into the low areas. This drainage is trapped underground by subterranean dams of non-porous rocks, giving rise to water points that are temporarily dug as water holes.

The amount, availability, and quality of water resources in Ariaal are determined by the climate, geology, topography, and vegetation of the area. The most influential topographical features in Ariaal are the NDoto and Matthew's Range Mountains, from and through which flow the three primary rivers of Milgis, Merille, and Uaso Nyiro from the highlands of Samburu District and Mount Kenya. All these rivers are sand-bedded, but only the Milgis passes into a seasonal swamp of use to the Ariaal, called Larapasie and located along the western side of Baiyo Mountain, a large inselberg between Ngurunet and Laisamis that by itself provides no spring water or rain storage of any useful order. The Larapasie swamp, however, is of considerable importance to the Ariaal, where a waterpool of over 30,000 cubic meters forms seasonally from the Milgis River runoff from the highlands. Baiyo Mountain has traditionally been an important settlement location for both Ariaal and the Rendille proper.

In addition to the runoff sources along the mountain walls of NDoto and Matthew's range, the Ariaal can obtain drinking water from underground sources, often at great distances in the lowland plains, where water accumulates from lateral percolation. In the absence of local rainfall and surface water, groundwater assumes a vital importance in the arid regions, particularly in dry periods. Although groundwater tends to be more saline than surface water, it has the advantage of being unpolluted, and use of these groundwater sources in dry periods contributes to the lower incidence of water-borne diseases in human and livestock populations (Hills et al, 1966).

The most important groundwater sources for the Ariaal as well as the southern Rendille, are at Laisamis, Halisuruwa (Korr), and Logologo. Trade centers have developed around these important water sources, and western missions have provided mechanized pumps for these water sources. Of interest are the existence of medical dispensaries that accompany these missions, discussed in Chapter 6.

a) Vegetation

The variation of vegetation types in Marsabit and Samburu Districts ranges from scrub-deserts to high mountain forests. The extent and limits of these vegetation types are determined primarily by geomorphological features of altitude and soil formations. The productivity of these vegetation zones, however, is determined by the amount

of rainfall. According to Pratt's classification of ecological zones in Kenya (1966), Marsabit District is characterized by four ecological zones:

1) Ecological Zone II: Sub-humid Climate: 1% of total area.

This zone is characterized by highland evergreen forest found above 2,000 meters, and includes the summits of Mount Marasabit, Kulal, Nyiru, and the NDoto and Matthew's Range, where annual rainfall is 700-1,500mm. The evergreen forest is characterized by Olea, Croton, Strychnos, or Juniperus, and although the grass cover is low, the trees act as an excellent catchment so that immediately below the forested zone lies a belt of wooded grassland (Ecological Zone IV), providing abundant deciduous browse and perennial grasses, making it an excellent grazing area for cattle and small stock in the dry periods.

2) Ecological Zone IV: Semi-arid Climate: 3% of total area.

Open wooded grassland, at an altitude of 1,000-1,400m, receiving rainfall of 500mm-1,000mm each year. This zone characterizes the slopes of the mountain sides with Acacia (A.hockii de Willd. A.nilotica (L.) Del., A.etbaica Schweinf.) and Combretum trees, and with a dense grass cover of Themeda, Pennisetum, Digitaria, and Chrysopogon. On steeper stonier slopes, other perennial but less palatable grasses appear: Hyparrhenia, Heteropogon, and Sehima. Although comprising less than 3% of the District, Zone IV is the most exploited by Ariaal cattle and small stock, particularly in the NDoto and Matthew's Range.

3) Ecological Zone V: Arid Climate: 31% of total area.

Includes hills and masses between 700 and 1,000 meters and is characterized by wooded bushland. This zone is the most exploited by Ariaal for wet-season grazing of cattle and small stock, as well as dry-season grazing for camels. The dominant physiognomy of this arid zone is mixed Acacia-bushland on stony soils or Acacia-Commiphora on deeper soils. The bush is half deciduous in character and includes many trees such as Melia, Delonix, and Stercula. The volcanic hill masses of Marsabit and NDoto's are marked by a belt of succulent shrubs such as Euphorbia, Kleinia, Aloe, and Sarcostema, important to the Ariaal not as livestock food but for their medicinal properties and source of fibre for material construction.

Zone V is characteristic of Ariaal settlement locations, in the area west to east between the NDoto's and Laisamis, and north to south from Illaut to Archer's Post. Acacia tortillis (Forsk.) Hayne and Acacia senegal (L.) Willd. predominate in the low dense bushland, interspersed with the perennial grasses Leptochloa, and Enteropogon protected by spiny bush.

4) Ecological Zone VI: Very Arid Climate: 65% of total area.

This zone encompasses the largest proportion of land area in Marsabit District and includes the southern Chalbi Desert and Kaisut Desert in the center of the district. This zone is characteristic of

Marsabit District in general, with altitudes of 200-900 meters and annual rainfall of less than 200mm. The grazing season of Ecological Zone VI is extremely short, lasting no more than two months after a rain. However, the rains produce a massive if short-lived growth of annual grasses and shrubs including Aristida, Tetrapogon, Tephrosia, and Portulaca that are seasonally exploited by camels and small stock. The vegetation is Acacia-Disperma dwarf shrubland on stony volcanic formations, which even after a slight rainfall responds with a short (maximum 4 weeks) but abundant bloom of minute annual grasses and legumes making it a highly valued small stock grazing area. An unusually tall and succulent Indigofera spinosa provides all year emergency browse for both camels and small stock.

In wetter areas, such as along the Milgis River, open Commiphora-Sporobulus - Panicum bushed grasslands predominate, which after a good rain provide, in the opinion of the Rangeland Survey, the best balanced and diversified rangeland for cattle grazing in the District. This area, particularly along the Milgis River, is exploited by Ariaal cattle in the wet periods (Rangeland Survey, 1971).

These four types of ecological zones - sub-humid, semi-arid, arid, and very arid, provide a general picture of vegetation types and grazing possibilities for Ariaal livestock. Two other ecological habitats also occur within these four larger zonal groupings, and are important as grazing and water sources for the Ariaal:

1) Lava plateaux (Marti) of 700-1,000 meters are found east and west of Laisamis as well as north of Illaut. These plateaux are flat and open on the top, covered with a mosaic herbaceous layer of dense Desperma shrub and tall perennial grasses, providing abundant grazing for all types of livestock. In the dry periods, these plateaux are much exploited by Ariaal and Rendille camels and small stock.

2) Riverine woodlands are found throughout Ariaal country, formed by temporary rivers descending from the highlands into the low-lying plains. These woodlands cross all ecological zones in the course of the water paths and have a characteristic vegetation that contrasts with the surrounding areas. In Zones II, IV, and V (sub-humid, semi-arid, and arid) they are merely narrow torrents, marked by Ficus trees such as in the highland gorges in the NDoto mountains. But in the very arid plains (Zone VI) evergreen riverine woodlands can become 2 kilometers wide and provide useful browse and shade, and include trees such as the Doum Palm (Hyphaenae), Salvadora, Acecia elatior Brennan and Lawsonia which generally mark the occurrence of shallow groundwater. Ariaal domestic settlements are often found close to these riverine basins, for accessibility to drinking water as well as grazing for the residual milk stock of camels and small stock in the dry periods. (Description of vegetation types discussed in this section are found in Lind and Morrison, 1974 East African Vegetation.)

In concluding this section on the physical resources of the Ariaal area, the topography and rainfall permit four basic types of

ecological zones, divided into highland and lowland areas. The highlands (above 1,000m, Zones II and IV) have a satisfactory grass cover and support cattle and small stock populations, although the grazing pressure is acute in the dry periods. The lowlands (below 1,000m, Zones V and VI) provide seasonal abundance of perennial and annual grasses and shrubs conducive for year round grazing of camels and wet-season grazing for cattle and small stock.

Due to the high variability and unreliability of rainfall throughout the area, herding patterns must vary by the condition and availability of green pasture. In order to exploit a variable environment, where good pasture may appear for only a few weeks in one location, Ariaal must practice a herding nomadism, following green pasture where and when it appears, in order to keep the productivity of their livestock stable.

2.3 Livestock Management: Camels, Cattle, Small Stock and Donkeys

The semi-desert area inhabited by the Ariaal is too arid to support agriculture on a wide scale, and both Samburu and Marsabit Districts in Northern Kenya are occupied almost exclusively by pastoralists: Samburu, Rendille, Ariaal, Turkana, Boran and Gabra, Somali and Galla tribesmen from Ethiopia. Only in certain highland areas such as Marsabit Mountain or Maralel, the district capital of Samburu, is agriculture practiced on a small scale, and these appear to be modern innovations with the encouragement of government and church agencies. In certain

forested areas, there exist Dorobo tribesmen, Masai speakers who subsist off hunting and gathering and the sale of honey, but they represent a very small proportion of the population.

The Ariaal herd camels, cattle, small stock of goats and sheep, and donkies. Like the Rendille, the Ariaal depend on their camels as their primary food producer of milk, and also as transport animals. Donkies are used exclusively for transport, but are usually only found in areas uncondusive to camels such as near highland Samburu areas.

Unlike the Rendille, however, the Ariaal have large cattle herds which graze in highland areas. These animals play a minor role in food production, but are important as both a means of exchange, such as in bride wealth payments and their ritual use, as in the ox-slaughters in age-set ceremonies. The Samburu, unlike the Ariaal, depend on their cattle as primary milk producers, and their herd are larger than the Ariaal. All three societies keep large flocks of goats and sheep, which are used primarily as meat producers and as a ready medium of cash exchange. Small stock play only a minor role in milk production, but goat's milk is preferred by young children and old people, as well as ill individuals, because of its easy digestibility.

The following table indicates approximate livestock populations in Ariaal, Samburu, and Rendille. These figures are based on small samples in Rendille (Sato, 1977), Rendille and Samburu (Rangeland Survey, 1971), and my survey of two Ariaal settlements (human population 572). Figures

for livestock per person are listed at the bottom of the table, and offer a relative comparison in livestock between these three societies.

Table 2.3

Human and Livestock Populations in Ariaal, Rendille and Samburu

	<u>Rendille</u>	<u>Ariaal</u>	<u>Samburu</u>
Human population	9,000	6,000	70,000
Camel population	24,000	11,000	2,000
Cattle population	10,000	21,000	300,000
Small stock population	65,000	60,000	250,000
Donkey population	500	1,000	20,000
Camels per person	2.6	1.85	0.02
Cattle per person	1.1	3.5	4.2
Small stock per person	7.2	10.0	3.5
Donkies per person	0.05	0.16	0.28

As can be seen, the Ariaal lie roughly between the predominantly camel-herding Rendille and the predominantly cattle-herding Samburu in livestock composition. Exploiting the intermediate ecological area between the Samburu highlands and the Rendille lowlands, the Ariaal can maintain a dual cattle-camel economy, as well as keep large herds of small stock.

As pastoralists, the Ariaal depend almost exclusively on their herds for food, where milk constitutes 70% of their diet and meat and blood an additional 15%. Store bought grains, particularly corn meal, are an important component of the diet in the dry season, but in all constitute less than 15% of the total calories consumed by the Ariaal. (See Section 2.5).

Livestock management is oriented towards producing both the highest growth rate in the herds and simultaneously the highest milk yield. These two objectives can contradict each other, when prolonging lactation inhibits reproduction.

Where all domestic livestock used by the Ariaal need good grazing and adequate water, different types of livestock require different types of resources, and the herding regimens of each type of stock will accordingly differ. Ariaal livestock are segregated into camel, cattle, or small stock camps (lalei, s. and pl.), each managed by a specific section of the labor force. The camps orbit around the domestic settlements (nkang, nkangi) that include those members of the society not active in the camps, i.e., married adults and young children, who subsist off a residual herd of lactating camels and small stock. Both livestock camps and domestic settlements engage in nomadic movements of various degrees, which are in constant adjustment to changing conditions of the habitat, food and water needs of the human and livestock populations, and the fluctuating social pressure of competition for resources from either allies or armed enemies.

Stenning (1957) described how pastoralists, when faced with variations in resource productivity based on seasonal differences of temperature, rainfall and appearance of vegetation cover, will respond with transhumant nomadism, or seasonal movements of the human and livestock populations between dry-season and wet-season resources. Where Stenning

described the north-south movements of the WoDaabe pastoral Fulani in the western Sahel who move south as water-resources dry up and north again when they return, the Ariaal practice a similar type of nomadism. As the lowland area becomes drier, cattle and small stock are taken west into the higher altitudes of the NDoto and Matthew's Range Mountains, returning east to the lowland settlements as the water supply and vegetation cover improves. Similarly camels are taken to various lava plateaux (Marti) to the east in the scrub desert during the dry season, returning to the lowland settlements when rain reappears.

Unlike the Pastoral Fulani, Ariaal transhumance is not characterized by a movement of the entire population in one direction for part of the year and returning again towards the same area at the other half of the year. Ariaal settlements are semi-permanent while the livestock camps are mobile to several possible areas that are defined more by their altitude, and hence richer grazing potential, than a specific east-west route. It is not unusual for cattle herds to spend three months in one highland area, returning to the lowland settlements for two weeks during a brief rain, and then pushing off to an entirely different highland location as the resources deteriorate.

The length and location of Ariaal nomadic movements vary from year to year and season to season. General patterns that emerge include a westerly movement of the cattle herds from the settlements towards highland grazing areas in the NDoto and Matthew's Range Mountains, and

easterly movement of the camel herds into the scrub-desert occupied by Rendille. Ariaal settlements and most of the small stock stay semi-permanently along the eastern wall of the NDoto Mountains, near permanent water sources and adequate shrub grazing for the lactating camels and small stock.

a) Camel Management

The bulk of the non-lactating camel herds are herded in camel-camps in outlying lowland scrub-areas, while immature and lactating females are kept in the domestic settlements. A typical camel camp consists of about 450 camels managed by 15 uncircumcised boys of one clan settlement (the circumcised Moran and young women manage cattle and small stock), although several settlements may herd their camel stock together in prolonged dry periods. For most of the year, the camels are in camp locations, although all camels will return to the settlement during the Sorio ritual, held 4 times a year (Spencer, 1973).

Camel camps are simple thorn-bush enclosures, where the herders sleep in temporary thorn-bush shelters in the center of the camp. Food for the herders consists exclusively of milking the existing lactaters (older dams whose offspring are old enough to endure the rigors of the camp herding) and blood tapped from camel oxen. Camel camps will remain in one location for two to four weeks, but must move after that time due to tick infestation.

Camels graze over large areas, often dispersed over a square kilometer, as they are extensive browsers eating annual grasses and perennial shrub trees. The camel can graze ten days before being taken to water holes, and thus effective grazing area is much wider than cattle who are limited by their higher water needs. Managing camel camps is arduous work in the semi-desert regions characterized by high temperatures and few water resources. The actual limiting factor on camel herding, as Spencer (1973) has pointed out, is the capacity of the herdsman to travel on foot, for the camel can easily jog 50km in one day at a steady pace of 5-7km per hour.

Camels are remarkable animals in their ability to thrive in areas characterized by high temperatures, lack of water, and plant life too saline for other ruminants. Their adaptation to arid regions are based on their efficiency in moisture utilization and economical expenditure of body fluids, a feature when coupled with their prodigious milk yields in both wet and dry periods, make the camel an extraordinarily useful animal in arid regions.

Although uniquely adapted to arid regions, camels have a very low growth rate due to a late maturity, (a first calf won't be dropped until the 6th year) a long gestation period (13 months), and a long lactation period (12 months). Of even greater effect on the growth rate is the high mortality, particularly of young camels, who are most vulnerable to malnutrition and disease, particularly typanosomiasis (a

protazoan blood parasite transmitted by the tse-tse fly), tick fever, brucellosis, and gastroenteritis. In prolonged drought periods, an estimated 40-50% of the camels might die before their fifth year (Range-land Survey, 1971).

Despite the low growth rate and arduous herding routine, the rewards of camel husbandry are substantial. Camels have the highest milk productivity of any type of domestic livestock, providing an average yield of 1.5 litres of milk per day for human consumption, even in the dry periods. Torry (1973) reports for Gabra that at an early stage of lactation during a good wet season a good milker can yield 10 litres a day for human consumption, although in a very dry period the same animal could yield no more than 1 litre of milk.

Compared to cattle, which produce slightly more than 1 litre in wet periods and as little as 250cc in the dry season, one camel in year-round lactation can support as many people as four cows. Furthermore, camel's milk is more nutritious than cattle milk, where on a weight to weight basis it has more protein, more carbohydrates, and the same fat content. (Schwartz, 1976).

It was difficult to determine the size and composition of Ariaal camel herds, for outside comprehensive counting in both the settlements or the camps, it was impossible to elicit reliable information from interviews about herd size. ("How many camels do you have?" "Camels, Many!").

Of 504 camels in Lewokoso Lukumai settlement during a Sorio ceremony in 1975 (human population 270), 66% were female and 16% immature camels. These figures compared to the larger and more accurate sampling of Sato (1977) among the Rendille, who although having larger herds than Ariaal, showed a similar herd composition with 70% adult females, 14.5% castrated males, 3.3% bulls, and 11.1% immature camels.

Camels are an important livestock to the Ariaal much of whose existence revolves around their management. Although the Ariaal are Samburu in descent group affiliation, they strongly resemble the Rendille in settlement organization geared primarily to camel production, and characterize themselves as "Samburu of the Camels" (Loikop lontamesi).



Photo 2.2 - Watering Camels in Lowlands.

Cattle, however, play a very important role in Ariaal social and ritual life, and as in Samburu, cattle become the most prized possession of an Ariaal stockowner. Although not depended on for food, cattle are a measure of a man's wealth, for they constitute the most important medium of exchange.

b) Cattle Management

Unlike camels which are bulk feeders and can graze for long periods in arid areas of relatively low productivity, cattle are quality feeders with high protein, mineral and water needs. They must graze in high altitude areas where rainfall and water catchments exist and where vegetation cover, particularly grasses, are plentiful.

The Ariaal, like other East African pastoralists, herd cattle of the "Borana" zebu type, characterized by their thoracic hump, short horns, and loose dewlap. These cattle have a hardy reputation for surviving in dry and marginal rangeland, eating grasses when possible, but surviving off browse if necessary. These cattle cannot, however, subsist in the arid lowlands where the camel is so well suited, primarily because of their need for free water at least once every four days and preferably every other day. In addition, cattle have large mineral requirements and must be taken to natural salt licks, usually found along river beds, as the mineral content in vegetation dries up (Meyn, 1970). Despite the hazards of arthropod vectors of disease such as ticks and tse-tse fly, cattle must be grazed in the highlands and could not survive in the arid lowlands.

Ariaal cattle are herded for long periods of time, often 6-9 months, far from the domestic settlements, and their management is more removed from the daily and seasonal routines of the settlement than the camel. Furthermore, the demands of cattle herding are of a different quality than that of camels, for their management requires a different work routine and different type of labor force.

Cattle are herded by Moran (the circumcised "warrior" age-set), adolescent boys, and to a lesser extent adolescent girls. Although the Moran make up less than 25% of cattle camp labor force, fully 75% of a settlements Moran are with the cattle, while only 15% or less are with the camels. As in Samburu, there is a strong association between the Moran and cattle, whose task as "warriors" primarily entails protecting and safeguarding the cattle herds when in distant areas.

Life in the cattle camps, as in the camel camps, is hard and lean. The herdsmen live off the milk and blood of their cattle, although those in the cattle camps have an advantage of butchering an occasional goat as the small stock are often herded with cattle.

Unlike camels who can browse in a wide area over several weeks, cattle must always have fresh pasture, close to water, and must therefore move often from one mountain valley to the next as they exploit these resources. There are however certain grazing areas, particularly the Langata Valley below Matthew's Peak and the LBarta Plains to the west of the NDotos, that provide rich grazing and water, and where the livestock can remain for often many months.

In well watered areas, the cattle are grazed in one direction one day, and watered in the opposite direction the following day. Managing cattle at a watering point, usually consisting of several man-made wells each with a hollow wooden trough, is demanding work that requires 3-4 hours of labor. While one to two men scoop the water up with wooden buckets into a wooden trough, other herdsman must regulate the number of cattle watering at any trough, usually 10-12 cattle at a time. An average watering point may have 5-10 wells and troughs accommodating 50-100 cattle at one time, and it is quite a task to hold back the remaining 500-1,000 cattle, all thirsty and anxious to drink.

Much time is spent by the herdsman in maintaining the wells, which get spoiled by cattle moving large stones or else completely destroyed by nocturnal animals such as elephants. Keeping a well open is difficult work, and often elders, if in the area, will undertake this task.

Unlike Ariaal camels, which often share grazing areas with Rendille, Ariaal cattle have access to isolated grazing areas unused by the Samburu. Most of the Ariaal grazing is performed along the inner recesses of the eastern face of the NDotos and Matthew's Range, which has higher rainfall and richer vegetation growth than the western Samburu side. Samburu, who live on the plateaus to the west of these mountains, use their own rich grazing areas and seldom venture to the eastern side of the NDoto mountain wall.

Cattle do not play a major role in Ariaal food production. Although their milk and blood maintain their herders in the camps, cattle provide little food to the domestic settlements. Meat from cattle slaughters is consumed infrequently and only at ritual occasions such as age-set ceremonies and marriages. Cattle are most valued for their ritual role. Each Moran in a settlement will slaughter two oxen each in four age-set ceremonies (Lmugit) which mark transitions in their fourteen year period of Moranhood, and each man will present eight oxen to his father-in-law as bridewealth.



Photo 2.3 - Moran Repairing Cattle Well.

Cattle play an important ritual role among the Ariaal as it does among other "cattle cultures" such as the Samburu and Pastoral Masai.

Of even greater significance is the contemporary role cattle play as an exchange medium in both the traditional and modern economies. In a survey of Lewokoso Lukumai settlement of 270 people in 52 households, the following livestock transactions were made from June 1975 to June 1976:

Table 2.4

Use of Livestock in Ariaal Economic Exchanges

	<u>Camels</u>	<u>Cattle</u>	<u>Small stock</u>
Number owned	560	1,228	2,683
Number given away	13	17	27
Number begged	11	7	29
Number sold	0	140	727
Cash value each	0	250 K.sh.	25 K.sh.
Total cash income	0	35,000	18,175
Kenyan shillings			
U.S. dollars	0	\$4,216.80	\$2,189.75

Cattle sales provide fully 65% of the Ariaal cash needs. Cattle are increasingly being sold in the cash market where trade has flourished in the last ten years with the building of better roads and the influx of stockbuyers from the south. Camels are not sold because of their slow growth rate and importance as food, but cattle are sold in large numbers, precisely because of their high growth rate.

This high rate of growth in cattle herds is due in several factors. Cattle have twice as a high a reproductive rate as camels, with nine months gestation and 8 months lactation, as well as a year round mating period. A cow can be expected to reproduce after 17 months, and the herd show a reproductive rate of .75 of all adult females per year.

Furthermore, cattle are less prone to disease than camels, particularly in their greater resistance to trypanosomiasis. (Meyn, 1970:22).

The growth rate of cattle is 20-30% higher than camels, but their milk productivity is substantially lower. Their value to Ariaal is not in their food production but in the quantity of herds produced. In an economy that depends on all available camel stock to nourish the human population, only the surplus found in high cattle growth can provide the medium for exchanges, both for modern cash needs and in the traditional brideprice payment of eight cattle necessary for a man to marry.

The role of cattle as a cash provider is particularly important. The Ariaal, as Rendille and Samburu, are depending more on store-bought maize-meal to supplement dry-season milk yields in the settlements. Where an average Samburu stock-owner was spending K.sh. 140 in 1959 for all store bought commodities including cloth, blankets, tobacco, sugar, tea and maize-meal, (Spencer 1973), the Ariaal in 1976 were spending

K.sh. 360 per year in maize-meal alone. The widespread notion that pastoralists won't sell their cattle is not true in the Ariaal case: they sell cattle willingly and would probably sell more if the price were better and marketing facilities more accessible.

c) Small Stock

The Ariaal keep large numbers of small stock, 50-60 per stockowner on the average, while some Ariaal have large herds of 400 or more. Small stock are an important part of the Ariaal pastoral economy due to their high reproductive rate, easy convertibility to cash, and ready source of meat.

The Ariaal keep goats of the "Small East African" type and sheep of the short-haired "Persian" or "Somali" type, weighing about 20 Kg each. Ariaal have more goats than sheep in a ratio of about 6:4, a fact attributed to the goat's better adaptability to arid environments (Torry 1973).

Sheep and goats are herded together and called by a collective name (ntare). Like camels, small stock prefer the hot tickless plains where they browse as well as eat grasses, but their high water needs demand they be herded close to the mountain foot hills. Small stock are usually resident in the domestic settlements where they are herded by younger children 1 to 6 Km from a water point, watered every three to four days. In the wet season, the small stock can obtain all the moisture they need from vegetation.

In prolonged dry periods, the small stock will be herded with the cattle in highland camps. They are difficult to herd, however, as they easily develop infections when thorns or stones enter the skin between the hooves. When small stock are herded with cattle, they are made to graze away from the cattle as they provide unnecessary competition, eating grasses essential to the cattle.



Photo 2.4 - Small Stock Returning Home.

Small stock can take in all the water they need from green, wet-season vegetation, but the amount of water necessary for their survival is the same as cattle, when measured in litres/day/kg. The following table shows the water needs of small stock, cattle and camels taken by the Rangeland Survey (1971) in Marsabit District, Kenya.

Table 2.5
Dry Season Water Consumption of Cattle,
 Small Stock and Camels

	Interval between water		Consumption		
	<u>Days</u>	<u>Average days</u>	<u>Litres/watering</u>	<u>l/day</u>	<u>L/kg/day</u>
Cattle (350 kg)	2-3	2	45	18	0.05
Small stock (30 kg)	2-4	3	5	1.7	0.049
Camels (400 kg)	9-17	11	110	10.0	0.025

Where goats and sheep have a wider feeding environment than cattle, their water needs are the same, restricting their feeding environment by the availability of water. Camels, on the other hand, have one half the water needs of cattle or small stock (0.025 l/kg/day compared to 0.050 l/kg/day for cattle and small stock), and therefore have a greater grazing area accessible by virtue of the fact that they don't have to return to a water points as often as cattle or small stock.

Goats and sheep are poor milk producers, but goat's milk provides an important food to young children and old people unable to digest camels milk. During a 3 month lactation period a goat can be expected to provide 200cc of milk per day in wet periods, and as little as 50cc in the dry periods, where 20 goats are necessary to provide one litre of milk in the dry months. Nevertheless, Torry (1973) points out that with a short interval between birth and first pregnancy, short

gestation periods, and year-round sexual activity, sheep and goats have a higher reproductive performance than any other category of livestock.

More important than milk production is the small stock's role as meat producer. They are killed with increasing frequency in the dry-season, and it is not unusual for 2-3 goats and sheep to be butchered in one week in any one settlement. All parts of the carcass are used - the men eat the meat parts of the chest and legs, and the women receive the head, backbone, hooves, and internal digestive organs for soup. Both groups will eat the clotted blood, although the women would never consume it uncooked. The skins are scraped of hair and either made into women's skirts or sold out-right to traders for a small amount (5 k.sh. or .60 cents U.S.). Goat's meat is preferred to sheep, as it is sweeter and less fatty, but sheep's fat is broiled as a delicacy and stored in small wooden containers until it is crisp. Sheep skin is thought inferior to thicker goat's skin, and is usually sold to traders.

The sale of small stock contributes up to 40% of a household's cash needs. Said one friend, "Small stock are our bank. When we need cash or something to settle a dispute, we have our goats and sheep." Small stock are sold at a rate of 25-30% per year, compared to cattle at 10-15%, and often Ariaal will acquire credit with Somali traders and pay their debts in small stock, at a terrible price of 20 k.sh. (1.66 dollars).

The Ariaal value their small stock for their high reproductive rate, but attach no great ritual importance to them as with cattle. Small stock are killed at the Sorio rituals, where their blood is marked on the male participants and on the large livestock, and their sacrifice is seen as invoking God's blessings for the entire community. There is a symbolic association of sheep and women, where the groom at a wedding presents his mother-in-law with a sheep and henceforth calls her Paker, "receiver of the sheep" (Pa-nker).

Small stock thrive well in the marginal forage cover of the Ariaal settlements, and they can propagate quickly, recovering from droughts and epidemics much more successfully than cattle or camels. They play a important role in meat production and as supplementary milkers, especially in the hard dry months. They form a solid part of the Ariaal cash economy (40%), a growing sector arising from increasing communication and marketing needs with the modern world.

d) Donkies

Donkies are kept by the Samburu and some Ariaal exclusively as pack animals and not as food producers. Donkies are not widely found in Ariaal, who prefer to use camel oxen as transport animals. Donkies are found in highland settlement areas, or in the lowlands by women who are recruited from Samburu and have no experience or little inclination to handle the more difficult camels.

Because of their use in transport, donkies are kept in the settlements and herded with the domestic stock of goats and sheep. Like cattle and small stock, donkies have high water needs and must be watered every other day in the wet periods and every third day in dry periods. Donkies have a broad feeding regimen, eating both grass and browse but preferring browse, and thus are quite suited to the lowland locations of the domestic settlements of Ariaal. Interestingly, donkies have a strong symbolic association with women in Ariaal and Samburu, who say "we are both like each other, carrying heavy loads all the day."

2.4 The Herding Routine of Lewokoso Lukumai Settlement

Given the specific grazing, water, and mineral needs of the individual types of livestock, the Ariaal, nevertheless retain a degree of choice in herding locations for their livestock, and stockowners will decide, based on reports from herders, scouts, and visitors where the most favorable conditions exist to herd their animals.

The locations of Ariaal herding are determined by the nutritive needs of the livestock, the carrying capacity of the available pasture, the duration of the wet season, the presence of other herds utilizing the pasture, and the incidence of enemies, predators, or disease in particular grazing areas. Perhaps the most limiting factor on choice of herding locations is the presence of enemies: Turkana Tribesmen to the west of Lake Turkana (Rudolf), Boran to the north, and Somali raiders to the east pose a serious problem. Livestock raiding is not an unusual

occurrence to Ariaal, Samburu, and Rendille, who will ally in mutual defense or retaliation against common enemies. Stockowners will choose a different, although poorer grazing area, if they feel their livestock and herders are threatened.

To illustrate the complex herding operations of the Ariaal, the movement of livestock and people from one clan settlement, Lewokoso Lukumai, is described (Table 2.6) for the 28 month period from June 1974 to October 1976. Lewokoso is one of the larger clan settlements in Ariaal, with membership varying from 50 to 80 houses (260-415 people). Like other large Ariaal settlements, Lewokoso generally herd their livestock in their own camps without joining other clan groupings.

The period from June 1974 to October 1976 is typical of the dry and near drought conditions that prevailed in Marsabit District for the first half of the decade. Light rains were experienced in October 1974 and October 1975, and exceptionally good rains fell in April 1975 and October 1976. However, the complete failure of rains in April 1976 effectively caused a 16-month drought between April 1975 and October 1976. Lewokoso livestock had to seek distant and dangerous pasturage during this period, particularly, in the western area around the LBarta Plains (near Baragoi) and Tum (on the western side of Mt. Nyiru), where raids from Turkana were not infrequent.

a) The Settlement (s)

Ariaal settlements are semi-sedentary, residing for several months in areas close to the NDoto mountains that have suitable water and grazing for their residual livestock herds. Settlements will move when an area has dried up, and also when certain ritual occasions occur, such as before a Sorio ceremony (4 times a year), the Almhato ceremony (in the spring), and after a death in the settlement.

As shown on Table 2.6 Lewokoso settlement shifted four times to three different locations in the 28 month period. When I joined Lewokoso in June 1974, several sub-clan units were converging on Lependera wall near the watering hole at Ngurunet in the NDoto mountains, to hold their final age-set ceremony for the Lkishili Moran. The settlement remained in Lependera until April 1975 when large rains made the Larapasie swamp at Baiyo Mountain attractive for the domestic livestock. They moved 10Km southeast to the Larapasie plains about 8km west of the flooded Larapasie swamp. The settlement remained in the Larapasie area for 18 months, shifting locations 2km west in June 1976 (S4). Lewokoso residents assert that the Larapasie plains is their traditional home, and prefer that location to all others as long as the pasture and water remains sufficient to support the domestic stock.

b) Cattle (CT)

Lewokoso cattle spent very little time near the settlement during the 28 month period, returning from distant grazing only during

the age-set ritual (June 1974, CT1), the spring rains of 1975 (CT3), and the October rains of 1976 (CT8). For the most part, they grazed at the rich Lankata Valley 60km south in the Matthew's Range Mountains, or in the equally rich area of the LBarta Plains, 100km west near Baragoi, which experienced good rains in October 1975 and again in April 1976 when the rains failed on the eastern side of the NDoto Mountains.

Not all the cattle went to the LBarta Plains in June 1975 (CT4) and April 1976 (CT6), as half of Lewokoso's stockowners sent their cattle south to Lankata, preferring to take their chances with reports of Boran raiders rather than expose their herds to the increasing threat of Turkana. To the northwest an important feature to note in the cattle-herding pattern for Lewokoso is that in the 28 month period from June 1974 to October 1976, the cattle were near or within the settlement for no more than 4 months.

c) Camels (CM)

Lewokoso's camels were predominantly herded at the Irrer "marti" plateaux 25km south of the settlement. Within a day's walk of the settlement, the camels were returned for the one day Sorio ceremonies held periodically throughout the year.¹

¹ Sorio is held on the 10th day of the new moon (9th day for the Dispai clan of Rendille) of two successive months followed six months later by two successive months. Actual Sorio dates were: (1974) July 30, August 28, December 24; (1975) January 22, July 20, August 18, December 14; (1976) January 12, July 8, August 7, and December 2.

Table 2.6

The Herding Pattern of Lowokoso Lukumai Settlement
June 1974 - October 1976

	Settlement	Cattle	Camels	Small stock	Notes
June 1974	S1 - shift from Korr to Lependera	CT1 - Lankata return to Lependera	CM1 - Irrer	SS1 - Lankata return to Lependera	Final age-set ritual
October 1974		CT2 - return to Lankata	CM1 - Irrer	SS2 - return to Lankata	Light rains
January 1975			CM1 - Irrer		
April 1975	S2 - shift from Lependera to Larapasie A	CT3 - return to Larapasie	CM1 - Irrer	SS3 - to Keno (Milgis River)	Heavy rains
June 1975		CT4 - cattle split to LBarta and Lankata	CM2 - to Korr	SS3 - to Keno (Milgis River)	
October 1975	S3 - shift from Larapasie A to Larapasie B	CT4A - LBarta cattle return to Lankata	CM3 - return to Irrer	SS4 - to Irrer	Light rains
January 1976		CT5 - cattle to Milgis River	CM4 - to Tum (Mount Nyiru)	SS4 - to Irrer	Rain along Milgis River
April 1976		CT6 - half the herd to LBarta	CM4 - to Tum (Mount Nyiru)	SS5 - to Lankata or LBarta	No spring rains
June 1976	S4 - shift from Larapasie B to Larapasie C	CT7 - other half to Lankata	CM4 - to Tum (Mount Nyiru)	SS5 - to Lankata or LBarta	
October 1976		CT8 - all cattle return to Larapasie	CM5 - all camels return to Larapasie	SS6 - all return to Larapasie	Heavy rains

Brief rains in October 1975 brought Lewokoso's camels to the usually dry but salt-rich Korr area (Halisuruwa) 30km to the east of the settlement. When the drought became serious with the failure of the spring rains the camels were taken north and west 60km to the Tum area on the western side of Mount Nyiru (CM4), where they remained, saving extensive trips to the settlement for Sorio, until October 1976 when the onset of the fall rains brought the camels back to Irrer Plateaux (CM5).

e) Small Stock (SS)

The small stock of Lewokoso settlement generally followed the cattle herding routine, grazing in the Lankata - Keno (Milgis) area from June 1974 to June 1976, although they too were split into two herds, one grazing south in Lankata and one north at the LBarta Plains in April 1976 (SS5). Both herds returned to the Ngurunet-Larapasie area in October 1976 (SS6).

The herding pattern of Lewokoso Lukumai-clan is typical of Ariaal nomadic movements in general during the period described. The Lankata valley to the south in the Matthew's Range is used by all Ariaal as a traditional cattle grazing area, and the LBarta Plains, traditionally a Samburu grazing area in the northwest, saw many Ariaal herds of cattle and small stock during the 1976 drought. Similarly, not only Lewokoso but many Ariaal as well as Rendille were able to exploit the Tum area near Turkana District for their camel herds suffering the same drought.

The 28 month period recorded here saw two good rains, in the Spring 1975 and Fall 1976, separated by a 16 month period of extensive drought in which cattle, camels, and small stock had to push off to distant and hazardous locations to the west near Turkana. For the Ariaal, as for Rendille, it is only by the extensive use of livestock camps orbiting around a central settlement in several locations that livestock production, if not maximised, can at least be maintained in an environment offering scarce and variable resources.

2.5 Livestock Production and Human Nutrition

The pastoral economy based on the management of camels, cattle, and small stock provide four types of foods consumed by the Ariaal: milk, meat, blood, and stone bought maize meal acquired by trading livestock.

Camels are the most important livestock in food production. Yielding an average 1.5 litres of milk per day, in both wet and dry periods, the camel provides the Ariaal population with fully 70% of its food needs. Milk is the staple of the Ariaal diet and is consumed fresh, sour, or mixed with blood. Although butter can be made from cattle milk, cheese manufacture is unknown. A camel herd of 500 for 270 people (Lewokoso Lukumai settlement) has 100-120 lactating females during a year and can consequently produce about 600cc of milk per person per day. Although cattle herds are large and can produce an additional 0.5 litre of milk per person, per day, cattle are absent for most of the year from the

settlements, and their yield feeds only their herders and nursing offspring. Small stock are poor milk producers with only a 3 month lactation period with yields varying from 50-200cc a day. Torry (1973) calculated that Gabra with similar small stock herds received only 0.08 litre of milk per person per day.

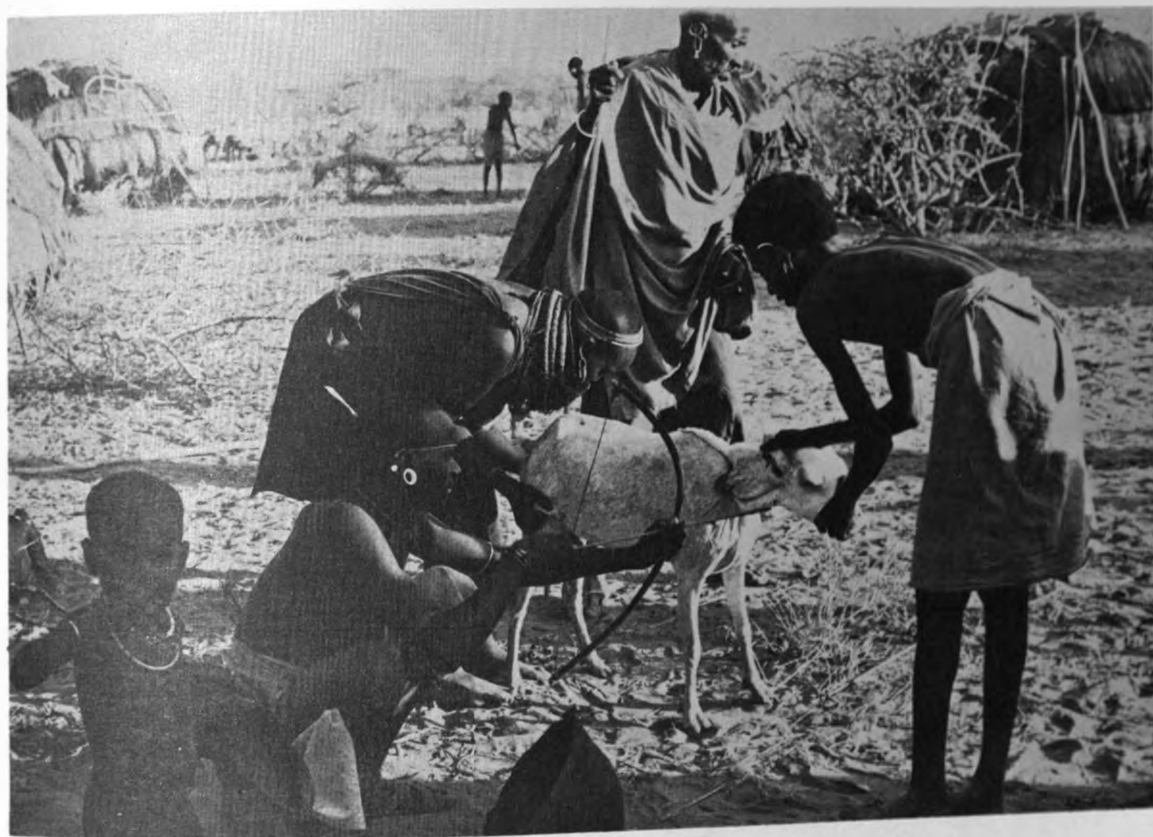


Photo 2.5 - Tapping Blood From a Goat.

Small stock are important to the Ariaal as meat producers, providing about 10kg of meat per person per year. Cattle, which are slaughtered only for ritual occasions provide another 10kg per person per year. Camels are never purposely killed, but Ariaal will consume flesh if they are killed by predators or disease. It is estimated that camels provide

4.0kg of meat per person per year (Rangeland Survey, 1971). Blood from cattle, camels, and small stock is also consumed usually in small amounts and only by men in livestock camps.

The milk and meat yields per person were determined by the Rangeland Survey by calculating the size of Rendille and Ariaal livestock herds, multiplying their annual milk and meat productivity consumed by humans and dividing this figure by the total human population. This average daily consumption of food can be described in calories accepting the Rangeland Survey's estimate that one litre of milk yields 700 calories and one kilogram of meat 3,520 calories. The results of the Rangeland Survey's analysis of caloric intake from milk and meat is listed in Table 2.7.

Table 2.7

Caloric Intake of Ariaal and Rendille
from Milk and Meat Consumption

<u>Meat</u> (per annum)	
Camel	3.4kg
Cattle	16.8
Small stock	<u>8.6</u>
Total	<u>28.8</u>
<u>Milk</u> (per day)	
Camel	0.551
Cattle	1.25
Small stock	<u>0.06</u>
Total	<u>1.86</u>
Calories per day	1,580

The figures used by the Rangeland Survey are not exact. Both their cattle population (122,000) and Ariaal-Rendille human population (19,600) figures used in the calculation seem too high. Nevertheless, it is likely that the Ariaal are receiving on the average 1,300-1,600 calories per day from milk and meat consumption. These figures are only average and don't reveal differential consumption. Where the Rangeland Survey describes daily human milk consumption as 1.86 litre, Sato (1977) calculated camp consumption was 3.0 litre per person, per day and settlement consumption was 600cc per person, per day in the dry season. Additional calories also must include grains, tea, and sugar, which are consumed in the settlements, and blood consumed in the camps. Caloric intakes from these foods are on the order of 250 calories per day, giving an approximate average of 1,550-1,850 calories per person, per day.

This figure is strictly an estimate and describes an average annual consumption of food stuffs. It does not reveal enormous differences and fluctuations in diet that are related to seasonal changes, food prohibitions related to age and sex differences, and whether one is resident in the livestock camps or domestic settlements.

The most conspicuous difference in food consumption is between residents in the livestock camps and those in the domestic settlements. It is not unusual for 50% of the population to be away with over 90% of the herds in the livestock camps. Sato (1977) reported that Rendille herders in the camps have access to 4-5 times the amount of milk consumed by settlement residents.

Table 2.8 on the following page shows the distribution of Lewokoso Lukumai members in the settlement and camps according to sex and age differences.

Nearly 50% of the population, all adolescent or young adult men and women, are in the livestock camps. In terms of milk consumption, 18% of the population have access to 100% of the cattle milk, and 7% (20 boys) have access to 25-40% of the camel's milk. In terms of total food available to the population, the herders can expect 2-3 times as much milk as the settlement residents.

The inequality in food distribution is seen by the Ariaal as an unfortunate but necessary condition of their pastoral economy. The separation of camp from settlement is a sacrifice the population must make to ensure the long term productivity of the herds, and the only way the Ariaal can guarantee a regular daily supply of food to both camp and settlement population. Available pasture near the settlements is not enough to maintain all the herds, thus most are taken away to camps. On the other hand, there is a competition between humans and young calves in the settlement for available milk, and the pastoralists must ensure that neither group deprives the other less the entire food production system is disrupted.

Table 2.8

Dry Season Distribution of Ariaal Population: Lewokoso
 Lukunai Clan - August 1976

	<u>Village</u>	<u>Cattle</u>	<u>Camels</u>	<u>Small Stock</u>	<u>School</u>	<u>Wage</u>	<u>Miscellaneous</u>	<u>Total</u>
Married men	26							26
<u>Moran</u> (23-35)		13	2	1		1		17
Adolescent boys (12-22)		27	14	9	3	1		54
Boys (6-11)	33	33	4	8			1	19
Boys (0-5)	8							8
Married women	48							48
Married daughters	4						7	11
Adolescent girls	10	2		23			1	36
Girls (6-11)	10	5		14	1		4	34
Girls (0-5)	<u>17</u>	—	—	—	—	—	—	<u>17</u>
Total	<u>126</u>	<u>50</u>	<u>20</u>	<u>55</u>	<u>4</u>	<u>2</u>	<u>13</u>	<u>270</u>

Herders in the camps have the widest access to milk, meat and blood, and considering their age (men 12-32 years, women 12-20 years), it could be argued that as the next reproductive unit of the human population, the herding labor force are afforded the best nutrition to ensure the survival of the society. But it is in the domestic settlements, with its resident population of old people and young children, where disease and malnutrition take their highest toll.



Photo 2.6 - Milking Camels in the Settlement.

The Ariaal show a sub-standard caloric allowance when compared to adults in the United States who receive 2,800 cal/day for men and 2,300 cal/day for women (Holvey, 1972). However, the average caloric intake does not sufficiently describe the nutritional status of the Ariaal.

Their diet is very high in protein and low in carbohydrates and fats, which means less energy is wasted converting the foods into calories. Furthermore, their daily work routine conserves energy expenditure because they perform the most active labor in the cool hours of morning and evening, resting or sleeping during the hot mid-day hours.

The Ariaal are not a malnourished people. On the whole, their diet is varied and nutritionally good: children make an easy transition from mother's milk to livestock milk, and show no signs of the severe malnutrition or related diseases found in other areas of Kenya. However, it can be said that the Ariaal periodically face undernourishment, due both to seasonal changes in the quantity of foodstuffs produced, and the unequal distribution and consumption of food by various segments of the society.

The relation between nutrition and resistance to infectious diseases is apparent during dry periods, particularly in young children. This question is raised in Chapter 4. However, in terms of the difficult environment in which the Ariaal live, their food production system based on the management of camels, cattle, and livestock herds is probably the best available in the given context.

Certain problems accompany the necessity of dividing the bulk of the herds into livestock camps while the domestic settlement must subsist on a small residual herd. Why, for example, couldn't the Ariaal accompany their cattle or camel herds as the search for grazing? Torrey (1973)

describes how the Gabra settlements, for example, are quite mobile, and often close to the settlements. The answer is simply that the cattle or camel herds by themselves could not support the population exclusively without the supplemental nutrition afforded by each other's yields, or the use of small stock as meat producers and ready source of exchange for maize meal. If, for example, the 175 people of Lewokoso Lukumai (excluding 50 people in the cattle camps) accompanied the 500 camels in search of grazing, each person would receive less than one litre of milk a day, given a lactating population of 120 camels producing 1.5l a day each. One litre of milk provides 700 calories, simply not enough to satisfy the population. The separation of camp from settlement allows the settlement population to receive 600-900cc of milk per day plus meat and grains from small stock, for a total of 1,500 calories per day, while the personnel in the livestock camps can have 2-3 litres of milk per day, or 1,400-2,100 calories per person.

2.6 Summary

The Ariaal pastoral economy is characterized by the dual management of cattle and camels in relatively equal numbers, a situation that contrasts sharply with neighboring Samburu, who primarily keep cattle, and the Rendille proper, who keep large camel herds. The Ariaal occupy the highland-lowland boundary that separates the Samburu and Rendille, and owing to the long standing political and social alliance between these two larger societies, the Ariaal have grazing access for their livestock in the wide territories of both Samburu and Rendille.

This transitional region, however, is less productive than either the highland areas for cattle and the lowland areas for camels, and the Ariaal keep fewer cattle per person than the Samburu and fewer camels than the Rendille. The dual economy of the Ariaal has certain advantages, however, as the Ariaal depend on their camels exclusively for food and transport needs, and not for exchange as the Rendille (who must pay 8 camels brideprice). Similarly, the Ariaal do not depend on their cattle for milk production, and have a high surplus of cattle which with they can sell for cash as well as meet traditional exchange requirements such as brideprice.

Camels contribute 45% of the total milk production, and 80% of the milk consumed in the domestic settlements of adult men and women and young children. Milk is the staple food, consumed either fresh or soured, and is often the only food for weeks at a time, broken occasionally by meat and blood and supplemented in the dry periods by grain porridge and tea.

Cattle, although producing 45% of Ariaal milk, are primarily meat and exchange producers. Their meat, usually consumed at ritual slaughters such as marriage and age-set rites, provide 40% of all meat eaten by Ariaal. The sale of cattle for cash produces fully 65% of the cash income, and cattle are used in the traditional exchange sector as bride-wealth payments.

Goats and sheep are kept primarily as meat and exchange producers. Contributing less than 10% of Ariaal milk production, they provide 40% of the meat consumed and 35% of Ariaal cash needs. Small stock are ritually killed and consumed at the Sorio ceremony four times a year, and are eaten quite regularly in secular slaughters, particularly in the dry periods when milk supplies are low. They are traded or sold also on a regular basis, and are the predominant guarantee of credit obtained at local shops.

The relationship of pastoralists to the management of their livestock herds is a complex one and determines much of the character of their society. Nutrition, social organization and cultural values very much revolve around this economic relationship. By exploring the pastoral economy of the Ariaal, we have reached a clearer perspective in which to gauge specific social institutions and cultural values associated with their concepts and treatment of health problems and disease.

Chapter 3

Ariaal Settlement Organization

3.1 Introduction

The Ariaal represent a bridge culture between the highland cattle-keeping Samburu and the lowland camel-keeping Rendille of Northern Kenya. While these two larger tribes are distinct in language, material culture, and social organization, the Ariaal represent a synthesis between the two. Formally constituted into the Samburu segmentary descent system, the Ariaal nevertheless are nearly fully bilingual and resemble the Rendille in settlement organization, material culture, and social customs.

The synthesis of the two larger cultures, Samburu and Rendille, represents a unique adaptation to the marginal ecologic area that separates the western Samburu occupied highlands from the eastern Rendille occupied lowlands. Practicing a dual cattle-camel economy characterized by nomadic mobile livestock camps, Ariaal settlements will vary in structure and composition according to their location. Those Ariaal settlements in the highlands are Samburu in appearance, with small settlement size and heavy house construction suited to the colder climate, while Ariaal settlements in the lowlands are large with house construction patterned of the Rendille.

Although the Ariaal settlements vary in appearance from highland to lowland locales, their internal organization is remarkably similar and

provides a high degree of patterning and predictability. Ariaal settlements are organized within the Samburu segmentary descent system, where each settlement constitutes a local descent group made up primarily of patrilineal clan agnates of several lineages. Up to 10 lineages may constitute a large lowland settlement, while the highland settlements may represent one or two lineages.

Each settlement is autonomous in its political and economic decisions such as herding patterns or relocation. Decisions are made by a collective council of elders, and unlike the Rendille, are independent of the decisions of neighboring clan settlements. Internally the settlements may periodically break apart along lineage boundaries such as times of climatic variability, and periodically fuse together with other lineages of the same clan in periods of plenty and at ritual occasions such as the Lmugit age-set ceremonies for the morán age-grade.

The age-grade system, along with the segmentary descent system, is one of the major organizing principles of internal life within the settlements. The existence of the morán set, which separates all male youths for 14 year periods from the wider society is a fundamental feature which organizes economic labor. Furthermore, the isolation of the morán set from the marriage pool for 14 years affects the population composition of the settlements, providing the interesting population pyramid characteristic of Ariaal, Samburu, and Rendille societies.

This chapter will analyze Ariaal settlement organization and demonstrate how the two organizing principles of descent affiliation and age-set organization are aimed at achieving maximum productivity from their pastoral economy. Distribution and composition of the settlements, settlement construction, descent organization, work patterns, and decision making are looked at in detail in this chapter to provide a sociological description of the Ariaal. Coupled with the analysis of Ariaal economic production in Chapter 2 this ethnographic description provides the context in which Ariaal concepts of health and disease can be analyzed.

3.2 Distribution, Composition and Construction of Ariaal Settlements

The Ariaal are a population of about 6,000 located in roughly 25 settlements over an area approximately 100 x 150km to the east of the Ndoto and Matthews Range Mountains in North Central Kenya. Because the local settlements are mobile and subject to periodic fissioning and regrouping, any description of the distribution and internal composition of the Ariaal settlements are subject to change.

Despite the difficulties in determining accurately the distribution and composition of the Ariaal settlements, certain general features can be described based on my small sampling of three settlements (Lewokoso Lukumai, pop. 270; Makelelit Lorokushu, pop. 320, and the Lenkata highland valley, pop. 348), as well as Grum (1976) and Spencer's (1973) descriptions of Rendille.

a) Settlement Construction

Ariaal settlements, like Rendille and Samburu, are arranged with the houses forming the perimeter surrounding the livestock enclosures in the center. The settlements are well suited to the nomadic pastoral economy, for the houses and enclosures can be easily dismantled and reconstructed. Defense against predators such as hyenas and lions as well as enemies stealing livestock is facilitated by an outer thorn fence surrounding the entire settlement (with removable gateways for each house) as well as the protective situation of the houses around which marauders must pass.

Settlement size varies in Ariaal according to the type of livestock kept. In highland areas near Samburu, settlements are small with 5-15 houses each and are densely situated among other settlements. These highland communities are more sedentary than those in the lowland's due to greater humidity and vegetation resources that enable the livestock to permanently graze and water close to home. Settlement size is restricted probably because of tick infestation that would become intolerable with many cattle residing in the same settlement.

Lowland settlements on the contrary are quite large and resemble Rendille Villages in house type and the large central enclosures for camels. Varying in size from 15 to 80 houses, lowland Ariaal settlements are not densely situated amongst each other but may be the only settlement in a large area. As described in Chapter 2, camel herding requires a larger labor force than cattle as the herds must travel wide distances

in the scrub desert in search of adequate grazing. For both grazing and defense needs, the Ariaal and Rendille herd large numbers of camels, often 500, with a labor force of up to two dozen boys.



Photo 3.1 - An Ariaal Settlement.

The lowland settlements have a higher frequency in nomadic resettling than highland communities, owing to the aridity of the climate and the necessity to seek fresh pasture for the residual milk herds of camels and small stock. House construction in the lowland settlements consequently differs from the highland house types, reflecting both the higher mobility of the lowland settlements, and the hotter and drier climate.

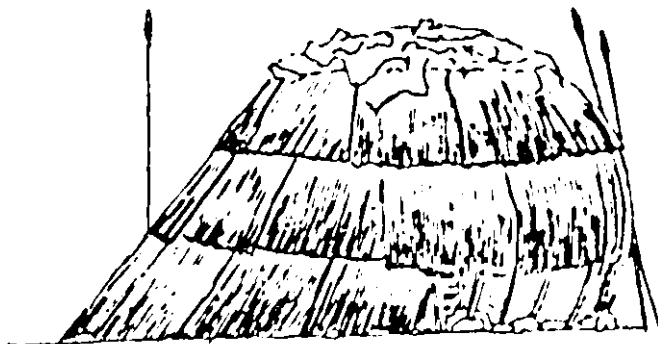
Highland Ariaal houses are predominantly Samburu in design, which are short, squat domes made of heavy wood frame with a mud-covered roof and sides made of skin, reflecting highland needs for warmth and sedentary occupation. Lowland Ariaal houses are Rendille in design, taller and airier and reflecting lowland needs for mobility and coolness. Lowland Ariaal settlements will typically have a few houses of the squat Samburu shape, reflecting the origins of the wife who built the house.

A Rendille house, described in detail by the architect Anders Grum (1976), is a portable structure consisting of a frame of sixty long poles cut to five specific sizes that can be unloaded from a pack camel and erected in less than three hours. The outside and roof of the frame is covered with fifty square shaped mats woven from wild sisal fibers, while the inside walls and floor is covered with four or five cattle skins. The door consists of two ox-hides forming a narrow vertical opening into the sloping front wall, offering excellent protection from wind and dust. (See Figure 3.1.)

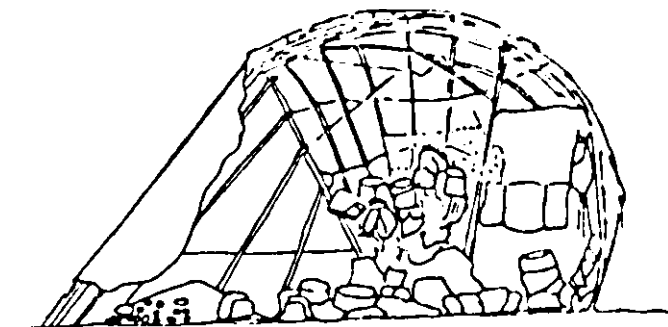
Figure 3.1

Ariaal House Construction

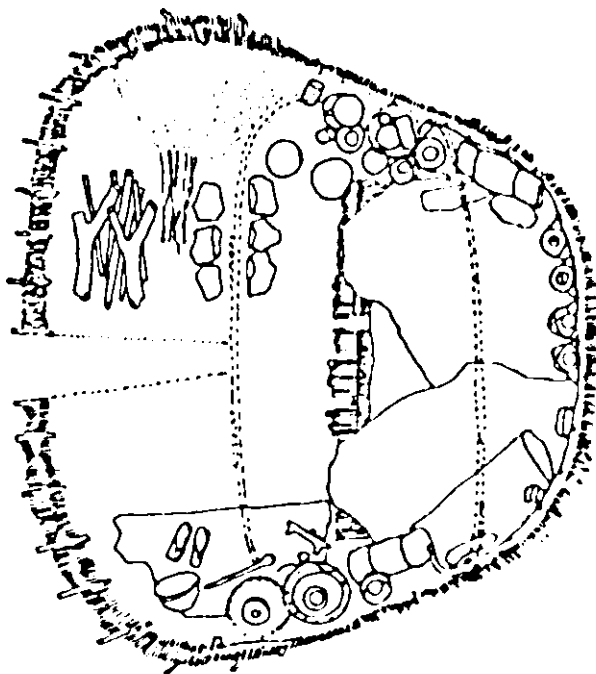
South
Elevation
1:50



Cross
Section
1:50



Plan
1:50



(Drawing by A. Grum)

The houses are built and maintained by each married woman, and are meticulously organized within to provide functional space suited to cooking, cleaning, resting, visiting, etc. Grum described the Rendille house as one space, which though unpartitioned, has several different functional spaces:

"The domed back part is the actual living area. It has the best rain protection and height. The lower front part is more for storage, where to the left of the door is the hearth and fireplace, to the right are stored belongings used outside the house including water containers and camel milking vessels. All belongings to be used in the house, as well as clothing and personal ornaments, have their fixed places on the end and back walls or on the floor along the wall". (Grum 1976:56)

Mobility is an essential feature of Ariaal settlements. Lowland settlements will usually shift locations every two-or-three months, depending on both the availability of livestock resources and the occurrence of specific ritual occasions. Settlements will shift only a short distance, if resources are good, on the Sorio rites held four days a year twice in two month successions and again six months later, and the Almhato ceremony held each spring, as well as after a death and burial in the settlement.

b) Population Composition

An average Ariaal settlement consists of 30 houses, and has five people per house. The population pyramid of an Ariaal settlement, as Rendille and Samburu is characterized by its age-set organization,

which marks 14 year intervals between first male marriages, thus causing a bulge in the pyramid as the birth rate increases dramatically every fourteen years. The narrowness of the pyramid, where the ratio of children under five to adults is low, suggests a low infant mortality rate for the Ariaal.

It was not possible to determine accurate birth, fertility, or mortality rates for the Ariaal, although crude rates are estimated as follows from the sample of 253 residents, Lowokoso Lukumai,

The crude birth rate is calculated as:

$$\frac{\text{Number of births in one year}}{\text{Total number of population}} = \frac{5}{253} = .02 \text{ or } 2/100$$

The fertility rate, or average birth rate, is calculated by the:

$$\frac{\text{Number of births per year}}{\text{Number of women of child bearing age (15-45)}} = \frac{5}{62} = .08 \text{ or } 8/100$$

The mortality rate is determined by the:

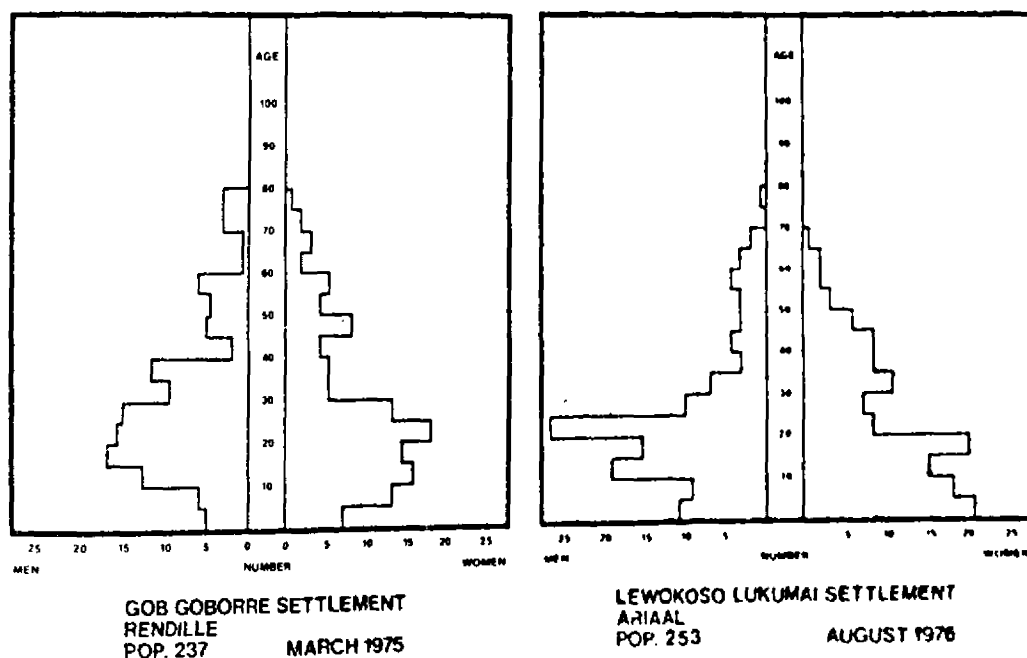
$$\frac{\text{Number of deaths per year}}{\text{Total population}} = \frac{4}{253} = .016 \text{ or } 1.6/100$$

Table 3.1

Comparative Census of an Ariaal and Rendille Settlement

<u>Ariaal Settlement</u>			<u>Rendille Settlement</u>	
(Lewokoso Lukumai (July 1976)			Gob Goborre (March 1975)	
			(after Grum 1976:74)	
Population	253		237	
Number of houses	52		46	
<u>Men</u> (by Age-sets)	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>
LMerisho (81-95)	1	.03%	3	1%
LKiliako (66-80)	2	.08	3	1
LMekuri (51-65)	10	4	11	4
LKimaniki (38-50)	10	4	20	8
LKishili (25-38)	18	7	24	10
Boys (5-22)	71	28	56	23
Boys (0-5)	11	4	5	2
<u>Women</u>				
Married women	48	19	53	22
(married daughters-out)	(13)		(29)	
Girls 5-25	61	24	55	23
Girls 0-5	21	8	7	3
Average interval between live births		2.6		2.3
Average number people per house		4.86		5.15
Number of live births (1975-76)		5		2
Percent herding labor force		59%		56%
(Boys and girls 5-25 years, <u>morán</u> age-set)				
Polygamy rate		1.35		1.06

Figure 3.2

Population Pyramid of an Ariaal and Rendille Settlement

These population pyramids for Ariaal and Rendille were compiled at the end of the LKishili age-set in Samburu and Ariaal (Difgudo set in Rendille). In 1975-1976, and one would expect a new bulge in the population to occur between 1978-82 when most of the former morán have taken first wives and reproduced at the maximum fertility rate.

The population pyramid for the Ariaal and Rendille settlements are remarkably similar. Their reproductive behavior is similar in both the lower infant mortality rate (about 15%) and the low birth rate, where the average interval between births is 2.3-2.6 years. The lower birth rate is attributed to similar cultural prohibitions shared by the Ariaal, Samburu, and Rendille regarding sexual intercourse after child-birth, where abstinence is encouraged until the infant is weaned at about 13-18 months.

The polygamy rate, which differs between Ariaal (1.35) and the Rendille (1.06) has little effect on the birth rate of either society as all reproductive-aged women have the same statistical fertility. More children are expected in Ariaal than Rendille, however, because there are more child-producing women in this polygamous society.

Both pyramids show more men than women in the 20-30 years age group, as the young women marry out of the settlement, usually at an earlier age than their moran brothers bring wives into the settlement.

Of considerable importance, particularly in regard to health patterns, is the low infant mortality rate, estimated at 15% (compared to the national average of 25-48%), and the low birth rate, determined by a lengthy interval between births. The low mortality rates suggest a better-than-average nutrition for the children and/or environment relatively free of certain infectious diseases, a situation examined in Chapter 4.

3.3 Settlement Recruitment: Descent and Non-descent Affiliation

Ariaal settlements are typically composed of patrilineal clan agnates and their families, that is, fathers, sons, brothers and half-brothers belonging to same patrilineal clan descent group. In addition, 20-25% of a settlement's population will include non-descent group members, such as affinal kinsmen (related by marriage ties) and non-kinsmen such as age-mates and friends.

Table 3.2

Ariaal and Samburu Settlement Recruitment

	<u>Ariaal</u>	<u>Samburu</u> (Spencer 1965:15-16)
Number of stock owners	38	230
Close kinsmen (same clan)	71%	77%
Distant kinsmen	13%	4%
Affinal kinsmen	8%	12%
Friends	8%	7%

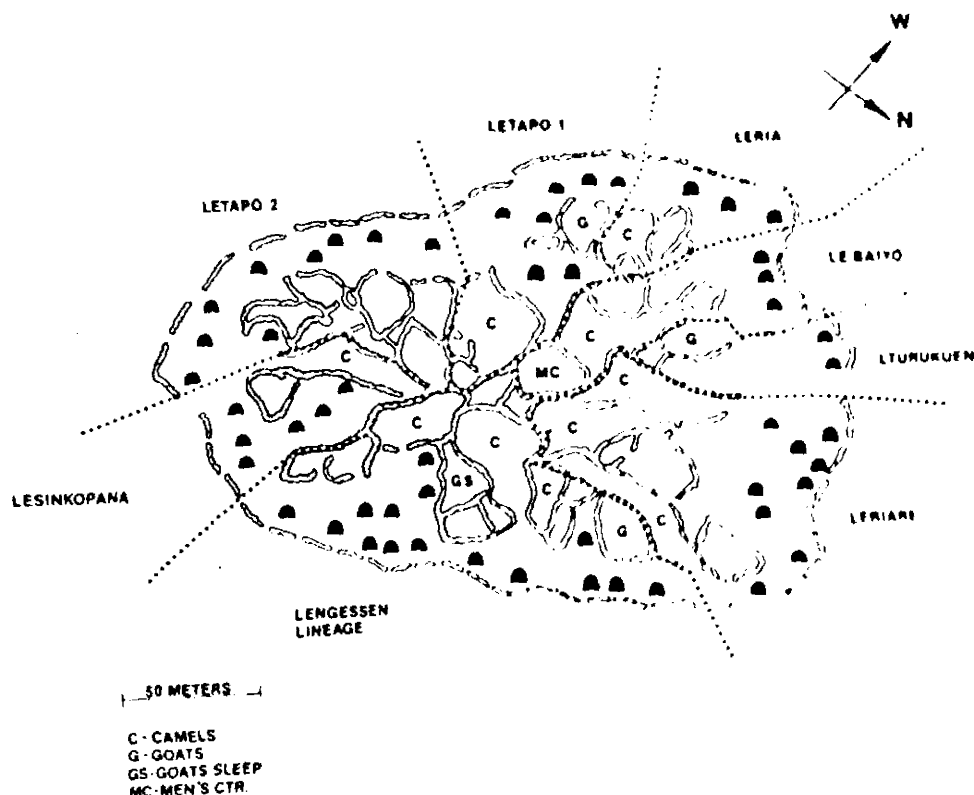
The clan is the basis of Ariaal and Samburu settlement organization as described in Chapter 1, the segmentary descent system organizes Samburu (and Ariaal) society into 2 moieties of four descent sections each, each section (phratry) composed of 2-3 clans.

Ariaal settlements are local descent groups, composed primarily of male members of the same patrilineal clan and their families. The term for settlement, nkang, means 'ours' or 'our family', and thus the name

of the settlement, such as Lewokoso Lukumai (the name of a particular clan of a particular section) denotes both descent affiliation and settlement residence. Where each clan settlement is segmented into distinct lineage groupings living adjacently in the settlement. Lineages are composed of members who acknowledge descent to a more common ancestor, who often share the same family name, and who perform certain rites de passage exclusive of other lineages in the settlement, particularly ceremonies of birth, marriage, and death. An Ariaal settlement may consist of one to twelve lineages of five to ten men each.

In addition to descent members affiliated to the Samburu (and Ariaal) segmentary descent system, Ariaal settlements will also include a few Rendille members who are 'blood brothers' (Lalache), a situation described in Chapter 1 where a Rendille lineage or clan acknowledges a descent relationship with an Ariaal or Samburu lineage or clan based on previous historical migrations. Three Rendille stockowners and their families from Tubsha clan, Deele lineage, reside in Lewokoso Lukumai settlement, and although retaining their Rendille descent affiliation, follow the exogamy rule and ritual obligations of the Lewokoso clan.

Figure 3.3

Lewokoso Lukumai Settlement and Internal Lineage Groupings

While the majority of a settlement's population are related by descent ties, Ariaal settlements are not exclusively local descent groups. Families related to local descent members by marriage or friendship ties are welcomed into Ariaal society, indicating the importance of non-descent ties in Ariaal society.

A small but significant number of the settlement's population are those related by marriage ties, sons-in-laws and brother-in-laws residing temporarily or permanently with their wife's patrilineal family. Often these men are Rendille who are seeking better conditions for their newly-acquired cattle added to their camel stock.

Such is the case of Legombe, a Rendille of the Uiyam clan who joined his widowed sister in the Ariaal settlement of Lewokoso Lukumai. Legombe had a cattle herd of forty head in addition to a sizable camel herd, and chose permanent residence among the Ariaal to better manage both herds. Although the cattle had been in Legombe's family for three generations (they were stolen from Turkana), they had previously been managed by Ariaal on Marsabit Mountain. Joining the Ariaal was a move by Legombe to increase his cattle herd directly by his own management, without forsaking his camel herds.

Another type of relation living in an Ariaal settlement are non-kinsmen, or 'friends' with previous associations with a particular stock-owner in the settlement. Often these friends are age-mates, men of the same age-set who developed friendship relations while moran.

An example of a non-descent relation in Lewokoso Lukumai is the case of Leaduma, the loiboni from Lorokushu section who settled among the Lengessen lineage based on his friendship with a particular age-mate of the Lkimaniki age-set. Leaduma settled at Lewokoso ostensibly to build-up a following of clients for his ritual cures among the Ariaal, having previously practiced among the Highland Samburu where competition among the loibonok is intense. (See Chapter 5.)

Ariaal settlements are fluid in composition, and will usually welcome non-descent members to join the settlement. A resident may join even if he has no previous relationship with the settlement based on descent, marriage, or age-set affiliation. Such is the case of Arge Ledihakishe, a Rendille of the Nahagan clan. Arge developed a positive relationship with the Lengesen lineage, and eventually moved in with his wife and mother. Like the Rendille Legombe, Arge had intentions of building up his cattle herd by joining the Ariaal. Ultimately Arge wanted to sell or trade all his camel stock for cattle, and to join the highland Samburu. Arge felt that cattle were more profitable than camels in the market place, and thus was making a break from his Rendille background and acculturating into Samburu via the Ariaal.

Spencer (1973) has argued correctly that the Samburu-Rendille Alliance is characterized by a one way migration of Rendille to Samburu society. Spencer argues that where the Rendille human population grows at a faster rate than their camels herds sufficient to support them (a fact borne out by Sato, 1977), some Rendille turn to cattle ownership and join Samburu society either directly or via recruitment into Ariaal. Both the cases of Legombe and Arge acquiring cattle and settling among the Ariaal are examples of this motion. Since the time of Spencer's research, the Rendille and Ariaal have increased their cattle herds markedly leading to both further growth of the Ariaal and competition between Ariaal, Samburu, and Rendille herds for available grazing and water. This development and its affects on the Rendille-Samburu alliance are discussed in Section 3.5.

Ariaal settlements, made up principally of members of one patrilineal clan but also including residents affiliated by marriage and friendship ties, are internally organized and segmented along lineage lines. These lineage groupings called ntipati (s.ntipat or 'relatives') consist of roughly five male stockowners and their families who live adjacently along the settlement perimeter and who share livestock enclosures distinct from other lineage groupings in the settlement.

The lineage groupings are an important economic and social unit within the settlement. Membership in the lineage grouping, based primarily on descent but including affines and friends, determines in large part one's social obligations and labor responsibilities. All member of the lineage grouping share collective labor in terms of house building, child care, water procurement, and livestock herding. Each married woman however takes major responsibility for her family's housing, cooking, and child care, while each male stockowner will have his own personal gateway into the ntipat's livestock enclosure, through which he passes his herds through daily. Although herding of large livestock necessitates the collective labor of the entire lineage grouping, ownership of livestock is strictly individual, and an important mark of one's prestige and reputation.

A typical Ariaal lowland settlement is composed of five to eight lineage groupings, while highland settlements are smaller with one to three units. One lowland settlement, Longieli consisted of eleven ntipat units in July 1975, although this settlement is untypically large.

At the time of my residence, Lewokoso Lukumai settlement consisted of six lineage groupings ranging in size from one to seventeen houses each. Listed on Table 3.3 are the names of the groupings, the constituent families and their affiliation, and the number of houses and population. This settlement is portrayed in Figure 3.3 on page 115, based on an aerial photograph.

Table 3.3
Lewokoso Settlement Lineage Groupings
February 1977

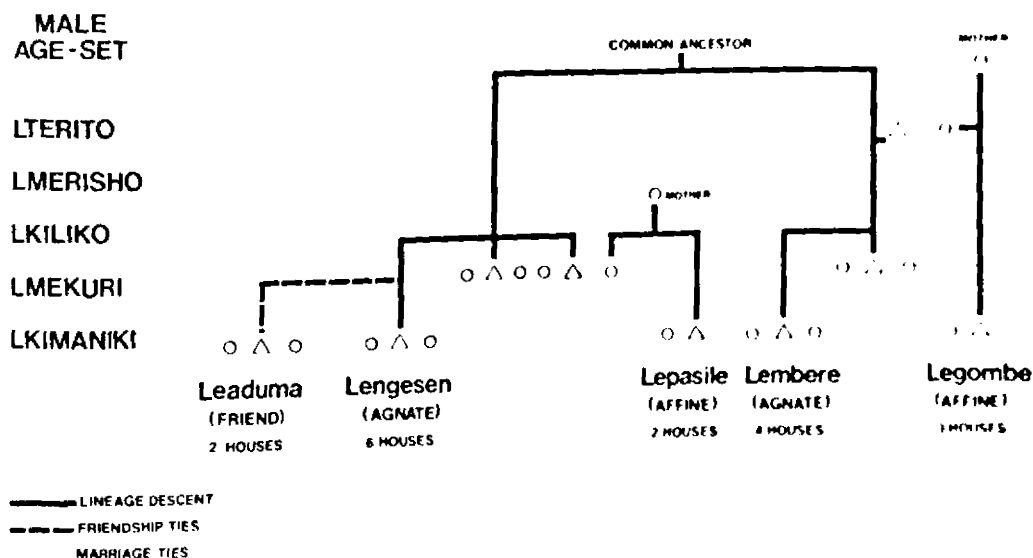
	<u>Name</u>	<u>Relation- ship</u>	<u>Houses</u>	<u>Living stockowners</u>	<u>Population</u>
1.	<u>Lengesen</u>				
	Lengesen	Agnate	6	3	26
	Lembere	Agnate	5	2	21
	Lepasile	Affine	2	1	9
	Legombe	Affine	2	1	8
	Leaduma	Friend	<u>2</u>	<u>1</u>	<u>5</u>
	Subtotal		<u>17</u>	<u>8</u>	<u>69</u>
2.	<u>Leriare</u>				
	Leriare	Agnate	3	2	9
	Lekirima	Agnate	3	1	13
	Lenkiribe	Agnate	2	0	12
	LeSeper	Agnate	1	0	5
	Gahale		<u>1</u>	<u>1</u>	<u>7</u>
	Subtotal		<u>10</u>	<u>4</u>	<u>46</u>
3.	<u>Lebaiyo</u>				
	Lebaiyo	Agnate	1	1	8
	Lesupir	Agnate	1	0	4
	Leria	Affine	3	1	9
	Laule	Affine	<u>1</u>	<u>1</u>	<u>7</u>
	Subtotal		<u>6</u>	<u>3</u>	<u>28</u>
		Agnate	<u>7</u>	<u>4</u>	<u>35</u>
4.	<u>Letapo I</u>				
5.	<u>Letapo II</u>				
	Letapo	Agnate	8	3	43
	Ledurte	Agnate	<u>1</u>	<u>1</u>	<u>6</u>
	Subtotal		<u>9</u>	<u>4</u>	<u>49</u>
6.	<u>Lesinkopana</u>				
	Lesinkopana	Agnate	3	1	20
	Letapo	Agnate	<u>2</u>	<u>1</u>	<u>12</u>
	Subtotal		<u>5</u>	<u>2</u>	<u>32</u>
	Total		<u>54</u>	<u>25</u>	<u>259</u>

While lineage affiliation is the basic criteria of ntipat membership, it is not a rigid criterion. The large Letapo lineage, for example, is represented in three ntipat groupings, where two full brothers live in separate groups based on historic rivalry and conflict.

Furthermore, membership in a lineage grouping does not necessarily denote descent affiliation. Within the Lengesen lineage grouping, two thirds of the stockowners are members of the same descent lineage, while two stockowners in four houses are affinal relations (Legombe, brother of Lengesen's wife). Two additional houses belong to one stockowner, Leaduma, an age-mate friend from Lorokushu section. The relations of the Lengesen lineage grouping are as follows: (black triangles are men of the same descent group, white triangles of different descent groups; circles are women, representing also the number of houses).

Figure 3.4

Lengessen Lineage Grouping, Lewokoso Lukumai Settlement



The lineage grouping is an important social unit in Ariaal society, for it is the main location of daily social and economic interaction. Yet the ntipat group is not a corporate. Except for true lineage mates, there are no formal ties that bind the ntipat group together, only informal ties of friendship and cooperation that permit descent relations affines or friends to live and work together.

The ntipat unit have only a few rituals of its own. Lineage members within a ntipat unit will perform rituals of marriage, birth and death, which include consultations among male lineage members. The performance of the morr goat slaughter at childbirth, and the shaving of male heads and observance of certain taboos at the death of a lineage member, rituals described in depth by Spencer (1965:74, 1973:80-112). Non-descent members within the same lineage grouping however, will not participate in these ceremonies.

All members of the settlement, regardless of descent affiliation, will participate in large and inclusive rituals, including the Lmugit age-set ceremonies. The Sorio small stock feast is held in two month successions every six months, and the Almhato camel ceremony held each spring.

These elaborate and important rituals serve to promote the identity of the clan settlement as the most important social grouping in Ariaal society, composed of independent lineages, affinal relations and non-kinship relations, the settlement as a whole constitutes the fundamental entity of social relations and economic production within Ariaal society.

3.4 Work Roles

The organization of labor in Ariaal society revolves around the fundamental task of livestock management as the major feature of their food-production system. Specific tasks such as herding, well-digging, settlement construction, child care and food preparation are determined in part by the ecologic restraints of their environment, but more importantly by the specific cultural values and methods of organization that characterize this pastoral society. Within Ariaal society, sex and age categories are the two dominant criteria that determine one's labor activities.

The Ariaal, like the Rendille and Samburu, are an age-graded society where both men and women pass through successive stages during life development that are marked by ritual transitions and specific rules of behavior and obligations. Ariaal men pass through three age-grades -- as uncircumcised youth (Laiyoni, Layok), circumcised warriors (Lmurran, Lmurrani) and married elders (Lpayeni, Lpayak). As described in Chapter 1, Ariaal men are recruited into specific age-sets, a named group whose members are initiated by circumcision during a certain period of time, and who undergo specific age grade ceremonies together. Membership in an age-set is like long, where age-mates have particular duties and friendship to one another, while participation in an age-grade lasts for only a definite period of time, such as the fourteen year period of moranhoo.

Women are not recruited into formal age-sets as men, but do pass through two specific age-grades -- as uncircumcised girls (nDito, nToyie) and as circumcised (by clitorrectomy) married women (nbarratut, nbarratuti). Each specific age grade has particular behavior and economic tasks assigned to them, although these tasks and behavior will be less distinct between female age-grades than the male age-grades.

Equally if not more important than age distinctions are sex roles, where men are predominantly responsible for livestock management while women are responsible for the tasks of the home.

Women are responsible for house construction, milking cattle and small stock, food preparation and child care. House construction is considered a primary task, where in addition to dismantling and reconstructing the house so many times per year, the women must constantly repair or make anew necessary house components. A typical scene in an Ariaal settlement is that of several women sitting in the shade by a house, weaving sisal fibers into roof mats while engaging in conversation.

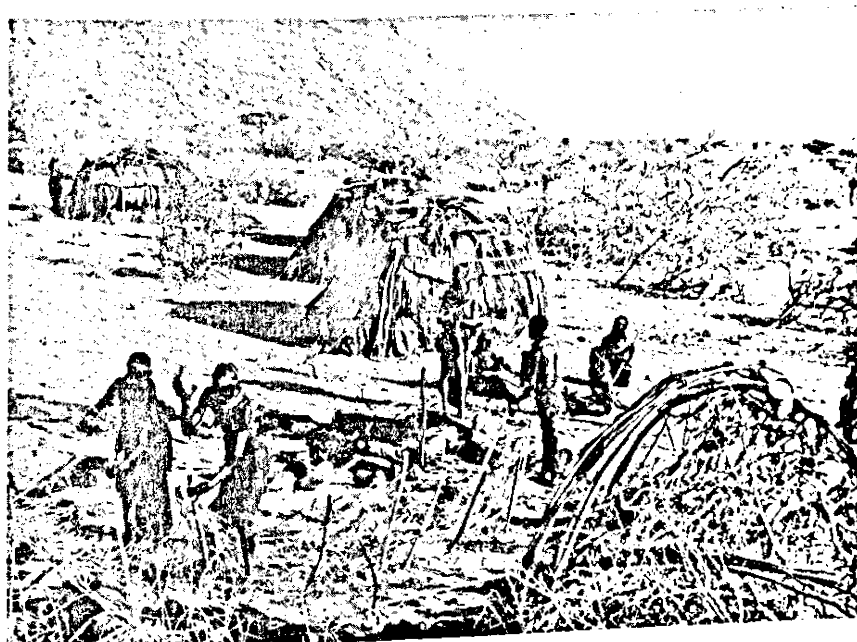


Photo 3.2 - Ariaal Women Constructing a House.

Women are responsible for procurement of drinking water and firewood, time consuming tasks that involve the use of pack animals (camels or donkeys) and treks of four to eight hours to water sources. These tasks, as well as child care, are shared by all women in the ntipat lineage group. While both married women and unmarried girls will perform these same tasks, responsibility for their completion falls on the married women. Single girls, particularly those in adolescence, will aid the boys and moran in herding livestock to water and grazing sources, but the bulk of herding responsibilities fall on the men. It is interesting that married women are usually the first to respond to wild animal or enemy attacks on the settlement, alarming the village until the moran and other men can give chase with weapons. Ariaal women are admired for their strength, as well as beauty, but are relegated to inferior positions and participate only marginally, if at all, in the political, economic, and ritual decisions of the settlement.

Division of labor and allocation of responsibilities are more formally defined among men than women, a feature that corresponds with male age grade organization. Boys join the herding force as early as six years old, beginning with tending the settlement's small stock close to home. When male youths are eight or nine years old, they are expected to join the livestock camps, where they must subsist for long periods on the milk and blood of the herds. By the time boys approaching circumcision, from 15 to 20 years old, they are already carrying themselves like moran, spending time in the bush with their future age-mates.

Because they have not been formally initiated, they are still able to perform settlement tasks such as milking camels, and continue to eat and sleep in their parent's homes.

After initiation into a morán age-set, the youths must adhere to ritual prohibitions such as eating in the bush, sleeping and eating only with other age-mates, and not participating in certain settlement activities such as milking livestock or associating with women. During their 14 year moránhood, these young men are required to manage the livestock camps, spending months at a time in the highland forests with the cattle or in lowland camps with the camels. In addition to their herding activities, morán are looked upon as the primary fighting force, and much time and thought is spent in preparing for warfare, although such incidents occur infrequently. The morán are perhaps the most conspicuous social group of Ariaal, as in Samburu and Masai. Their appearance of long braided hair adornment with ivory earrings, jewelry and weapons, as well as their proud deportment, separates the morán from settlement life.

Moránhood is considered the most exciting period of one's life, yet Ariaal men are relieved to shave their braids, put away their weapons, and assume the responsibilities of elderhood and marriage after 14 strenuous years. Elders occupy the paramount position in Ariaal society; they are responsible for the most important political decisions of the settlements and the economic management of the settlement's herds. One is amazed at their inactivity, however, where women perform most of

the chores in the settlement, and the morán, youngmen, and girls perform most of the herding labor, the elders spend their time reclining in the men's shade (Loip) playing board game (Ndotoi) and discussing events of the settlement. They are nevertheless ultimately responsible for the life and security of the settlement, and the men will spend hours in formal and informal discussions concerning moving, warfare, and ritual ceremonies. In addition, elders are responsible for certain physical labor, such as digging wells, searching for lost stock and constructing animal enclosures. It is the younger elders who show the most initiative and labor in these activities, for older men are not expected to perform arduous physical tasks.

In sum, labor in Ariaal society is formally allocated according to age and sexual categories. Specialization of labor is reinforced by ritual prohibitions and social customs, such as women milking cattle in the settlement and men milking camels, women responsible for house construction and men for animal enclosures, morán for cattle herding and older boys for camels, and so on. Social prohibitions serve to separate and distinguish social categories, such as an avoidance between morán and married women, or between older girls and married men.

Role specialization and social categories help organize labor in the various tasks that must be completed to maintain the complex pastoral economy. Every member of the society knows his or her task and is expected to perform them. Neglect of work obligations is strongly disapproved (it is the main cause of child punishment), while initiative and

hard work are strongly approved. Although labor is specialized by age and sex divisions, it is nevertheless highly collective, and social cooperation is strong value in the society.

An interesting example of teamwork and role specialization can be seen in the complex task of 'shifting' settlements. The following is a description of this full day's activity, recorded in my field journal on May 9, 1975.

Today the entire settlement moved four miles east to Tunguar, a large rock near Lenyori Pesho (a peak on the eastern wall of the Ndoto Mountains). It is Friday (Gumaat) the most propitious day to move after a sorio ceremony.

Most of the settlement was active at dawn, while the women and older girls were dismantling the houses and loading them on pack camels, the morán, large boys and a few elders set off with cattle, small stock, and the remainder of the camel herd. The elders had previously chosen the new location, and Lugi, Leaduma, and four morán had arrived early to make the ritual fire (na'apu) that would be the center of the new settlement.

By noon, the rest of the members arrived with their entire belongings stacked high on pack camels and donkies. Occasionally, an infant is seen nestled deep in the belongings; everyone else is walking.

The new location is very lovely -- closer to Baiyo Mountain (an important water source) on a wide open plain blooming is purple, yellow and red wildflowers.

The women unload their animals at places forming the perimeter of two wide and adjacent circles, some setting up their houses next to families as before, some changing to new locations. Leaduma's three houses (including mine) are on the far eastern side, next to Senterin's mother and old widow Lengessen to the south. Lugi moved to the other side of our nTipat circle, next to his brothers on the west and the old widow on the east. Lepasilo is between Paker and Leaduma.

Most people are resting in the shade, or sitting on their sprawled out belongings. By 3 P.M., the community is active with the industrious members starting right in (Senterin's mother, Lepasile), the women and older girls get busy constructing the house frames, while the men start cutting down and arranging thorn-tree bushes into livestock enclosures.

Moran, large boys and girls, are off collecting the thorn trees, hauling them with pack camels, each led by a girl. The livestock enclosures are arranged patiently and efficiently, to some plan unarticulated but known from many years of experience and cooperation. The men and moran take to this task with vigor, using their forked wooden stick (nKonchor) deftly to pile bushes together, one against the other, making right angles and portions, entrances and pathways.

By 6 P.M., most of the work is done. Women can be seen walking in the dusk, carrying firesticks from the ritual center to their newly covered houses to begin their domestic fires. Children are brining in the small stock and calves, while the moran and elders place the camels and cattle in the enclosures. Already the goats and sheep are eating clean the bright green leaves of their thorn-tree enclosures; camels are returning with water, creating a path through the dense scrub bush. In several days, the settlement will look like its been here for years.

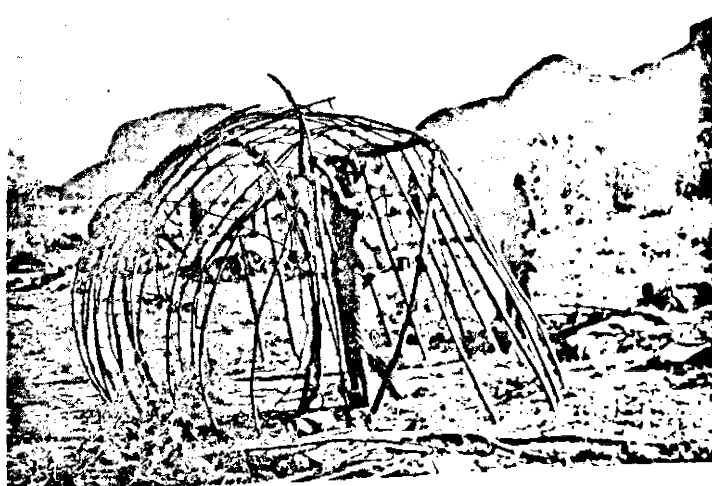


Photo 3.3 - Shifting Settlements.

The description of work roles in Ariaal society is viewed from the perspective that social categories of age, sex, and descent affiliation are organized around the fundamental tasks of economic production. The elaborate cultural customs surrounding age-set formation, prohibitions between men and women and senior and junior age-grades, or settlement rituals blessing livestock are particular cultural expressions delineating social categories. In the final analysis, social organization is the organization of labor, where in Ariaal, serves to maintain, manage and subsist off their pastoral herds.

This economic perspective is crucial in understanding the existence of the age-grade organization in Ariaal. As described in Chapter II, members of the moran age-grade are in the main responsible for herding cattle in mobile livestock camps for periods ranging from three to twelve months a year. Although the settlements will subsist in the lowlands almost entirely off their camel and small stock herds, the accumulation of cattle, with their high growth rate, is essential for generating cash and traditional exchange in the Ariaal economy.

Life in the cattle camps is both arduous and dangerous, and requires labor force that can spend prolonged periods away from the settlements and who can readily defend the herds with their lives. The moran age-grade, made up of the strongest members of the society and free from family responsibilities before marriage, are ideally suited to this task. The elder age-grade, that of married men, must take on responsibility for decisions affecting the herds and the settlement as a whole.

Recognition of the economic role of age-grades in pastoral societies has not been extensively analysed, although both Spencer (1965) and Gulliver (1955) described their economic duties among the Samburu and Turkana.

Spencer views the age-grade organization of the Samburu primarily as a device "which enables the elders to retain power in the society and to practice polygamy or on a large scale." (1965:101). He argues that the prohibition restricting the morán from marrying for fourteen years until a new age-set is initiated, isolates a large male sector from the marriage pool and enables elders to acquire additional wives. This restriction in the age-grade system enables elders to accumulate more wealth (in the main by having a larger labor force of children), resulting in the gerontocratic political organization characteristic of the society.

I have no disagreement with Spencer that the Samburu age-grade organization enables polygamy to exist on a large scale by the elders. What I find lacking, however, is a larger orientation on the role of the morán age-set; after all, age-grade organization exists in non-polygamous societies such as the Rendille. To this end, the age-grade organization must be placed in its economic and historical context, an analysis I have presented elsewhere comparing the role of Masai and Samburu morán in warfare and economic production (Fratkin, 1979).

While it can be argued that both age-grade organization and polygamy are social choices rather than social imperatives, they cannot be acknowledged as random or accidental. Polygamy is valued in Ariaal society primarily because it produces more heirs, both sons who can perform herding tasks and daughters who can generate a bride price of eight cattle and establish affinal ties. Similarly, the age-grade organization permits both the occurrence of polygamy on a wide scale and the organization of labor within the pastoral economy. These social institutions must be analyzed from the perspective of their material base, their role in food production. Again, to understand herders, one must understand herding.

3.5 Decision-Making and Conflict Resolution

The Ariaal settlement, large, integrated, and composed primarily of clan agnates and their families, is politically autonomous. Decisions affecting the settlement as a whole, such as shifting locations or warfare with tribal enemies, are made by the collective consensus of all male elders, meeting formally or informally daily in the ritual center or in the men's shade. The Ariaal have no larger political structure than the local descent group organization; there is no inter-settlement or tribal council, there is no segmental seniority among descent groups nor are there traditional political headmen or chiefs.

Like the Samburu, Ariaal political organization is a decentralized structure where each local descent group is politically autonomous within the segmentary descent system. Ariaal local descent groups are much

larger than Samburu, however, and their settlements are based on the residential unity of several lineage groupings. In Spencer's comparison of the Ariaal and Samburu, he concluded that the large Ariaal and Rendille settlements are products of social choice rather than "direct economic reasons" (1973:20), but I disagree, having argued that large-scale camel management requires an extensive human labor force and settlement pattern for both optimum grazing and defense against marauding tribes.

Although indistinguishable from lowland Ariaal settlements, Rendille settlements are centrally organized within the context of a ritual segmental seniority, where each clan settlement performs rituals in a defined sequence to each other. Representatives from all Rendille clan settlements will meet formally at ritual occasions, and thus there is a basis for a higher degree of centralization than Samburu or Ariaal.

The Ariaal, like the Rendille and Samburu, hold that all married men (elders) have an equal voice in political affairs. Discussion and collective decision-making are considered ideal means for dealing with conflicts. Although there are no "chiefs" in a traditional sense in this segmentary society, there are influential leaders, based on wealth, prestige, or reputation for political leadership, who will lead and direct settlement discussions. These men are known as Laiguenak Lol nkishu (Lit. "Leaders of the cattle"), as contrasted with Laiguenak Lol sirkali (Government-appointed spokesmen), who may or may not be influential community leaders.

Consensus and collective decision-making are upheld as correct political procedure, and the desire for unity and unanimity is often stressed at the elders' meetings. Nevertheless, disagreements and conflicts do occur, and the Ariaal have various methods for resolving contradictions both within and outside their settlements.



Photo 3.4 - Elders at Discussion.

Conflicts in Ariaal society fall into several categories, each representing a level of social and territorial cohesiveness arranged in concentric rings of closer association. These circles of interaction are distinguished as:

- 1) Those within an Ariaal descent settlement
- 2) Those between Ariaal settlements
- 3) Those between Ariaal and their Rendille and Samburu allies;
- 4) Those between the Ariaal-Samburu-Rendille allies and hostile enemies including Turkana, Boran, Somali;
- 5) Those between Ariaal and the Government Administration, foreign missions, and international development agencies.

Within an Ariaal settlement, conflicts can occur both within a lineage group or between members of different lineage groupings. Causes of disputes range from jealousy between co-wives, refusing a neighbor a favor, or rivalry over property rights. Disputes are seldom public, and rarely reach the point of physical violence. Shouting and arguing in public is a severe breach in social custom, and someone, often a respected elder, will intervene and try to resolve the conflict peacefully. More serious altercations necessitate involvement of the whole community in ritual blessings, lest disharmony brings about mystical misfortune.

On one occasion, a married elder beat his younger brother with a camel stick, accusing him of disrespect. The younger brother had returned home to find his second wife missing, having been sent on a long errand to town by the older brother. The younger brother was angry and told his older brother to send his own wife on errands, and leave his family alone. These were the conditions for the beating, but the basis

was a deep seated rivalry between the two men, where the younger brother was more successful, owned more livestock, and had two wives compared to his poorer older brother.

The elders met in ritual council and found both brothers guilty of disturbing the peace, fining them each one goat and a case of beer. All elders in the settlement then underwent a ritual blessing by a Rendille holy man (Lais) to prevent the settlement from supernatural retribution. (Chapter 5 discusses cursing and supernatural misfortune).

Social relations in the settlement are noticeably peaceful, and are not characterized by the more intense rivalry, jealousy, and social gossip that typify sedentary agricultural villages in Africa. In large part, the social harmony in Ariaal society is ensured precisely because of the possibility of mobility, of splitting off from the settlement and joining temporarily or permanently, another settlement. Fission and fusion is characteristic of Ariaal settlements, where under certain conditions, individuals, families, or entire lineage groupings will break off and join other settlements. Settlement fission often occurs in periods of great climatic variability, where pasture may be temporarily green in one area and available in next month in a completely different area. At this time, segments of the settlement will break off and join lineage mates or affinal in-laws living in the better areas.

Fusion of different segments into the descent settlement occurs in times of climatic stability -- either prolonged rains in the autumn and

spring, or, ironically, prolonged drought in the winter and summer months. Large rituals such as the age-set ceremonies, and weddings, are usually held in the wet spring months of April and May, when the pastures are green and there is a large surplus of milk and livestock for ritual consumption. Drought will also bring lineage members together, to share what little food stuffs are available.

Relations among neighboring Ariaal settlements are usually peaceful and cooperative. In part, this cooperation is based on the network of marriage ties that connect all Ariaal settlements. Ariaal settlements are interrelated by affinal ties and mutual interdependence based on economic exchange, such as loaning or giving each other livestock. Competition does occur between neighboring settlements, however, and can lead to open conflict. Often this conflict reaches violent proportion, such as when the moran set from one local descent group fights with those from a neighboring settlement. In 1976, the Lewokoso Lukumai and Desirite Longieli settlements had a feud over some Lukumai moran beating up some Longieli girls due to sexual betrayal. The Longieli elders were prepared to curse the Lukumai moran. The dispute between the two settlements was not based on jealousy and love affairs, but actually on their intense competition over scarce grazing resources. The dispute was settled, most ingeniously, by a large number of Longieli girls marrying the Lukumai moran that year, and the two large settlements became cooperative in-laws.

Relations between the Ariaal and the two larger societies of Samburu and Rendille in the alliance are also ideally peaceful and cooperative.

In practice however, these three societies are in an uneasy alliance, and disputes do occur. However, homicide among Ariaal, Rendille and Samburu is strictly forbidden. A man guilty of killing an ally or brother would be deprived of all property and banished from the region.

The basis for the Rendille-Ariaal-Samburu alliance is economic and grounded in marriage ties and mutual compatibility of different livestock regimens---Samburu keep cattle in the highlands, the Rendille keep camels in the lowlands, and the Ariaal keep both in the interface between the two larger societies. However, in the last twenty years, the Samburu have been acquiring some camels, while the Rendille on a much larger scale have been acquiring, through trade, loans, and warfare, larger cattle herds.

Cattle ownership among the Rendille is generated by the modern cash needs, where Rendille must pay taxes as well as buy sugar, grains, and manufactured goods such as clothing, jewelry, utensils and tools. The development of cattle ownership has led to both a greater immigration of Rendille into Ariaal and Samburu societies, and to outright competition between Rendille, Ariaal, and Samburu cattle herds for available grazing.

Twenty years ago, Spencer described the Rendille and Samburu alliance as characterized by Rendille immigration into Samburu, due to Rendille human population exceeding the growth rate of camels necessary to feed them. Yet Spencer doubted that the Rendille would ever totally

integrate into Samburu, lest they lose their identification and cohesiveness as a separate tribe (1973:137-141).

I agree with Spencer that although the Rendille are acquiring cattle to meet their cash needs, it is unlikely they will abandon their camel economy and exclusive occupation of the Chalbi and Haisut Deserts in North Central Kenya, primarily because of the stable and copious milk supply produced by camels as opposed to cattle. Rather than merge imperceptibly into Samburu society, the Rendille will probably become greater competitors of the Samburu in the future. Whether this competition will weaken their alliance is uncertain, for both the Samburu and Rendille must periodically unite to fight hostile enemies such as the Turkana and Boran.



Photo 3.5 - Ariaal Moran.

Unlike the Masai who are surrounded primarily by non-threatening agricultural peoples, the Rendille, Ariaal and Samburu are surrounded on all sides but the south by hostile or competitive pastoral neighbors. To the south lie Kikuyu and Meru agriculturalists, with whom Samburu and Rendille have very little contact. To the west, in the Rift Valley, lie the Pokot, neither allies nor foes and where there is no competition for grazing. To the Northwest, however, lie the Turkana, a Nilotic speaking group related to the Karimojong and Jie pastoralists, who are traditional enemies to Samburu and Rendille. Due to conditions of poorer grazing areas and over population, Turkana have for at least the past two hundred years, raided and pushed Samburu and Rendille peoples south and east of Lake Turkana (Lamphear 1976). Armed with World War II vintage carbines acquired from Ethiopia and Sudan, the Turkana are fierce and relentless attackers, moving in large groups with great speed and attacking unarmed Samburu and Rendille settlements in large numbers. Although the Samburu and Rendille have counter-attacked and won back stolen livestock, they are often forced to return the livestock by the police administration, which has a better network of roads and stations in the Samburu and Rendille Districts.

Another enemy of the Samburu and Rendille are Boran tribesmen, cattle and camel herders who occupy the northern area between Ethiopia and Marsabit Town. Although raids from Boran are less frequent than Turkana, they will attempt livestock raids, particularly on the Ariaal and Rendille camel settlements in the lowlands.

The Ariaal and Rendille must also contend with Somali pastoralists, immediate neighbors to the east. In addition to an uneasy relationship with Somali shop keepers, the Rendille and Ariaal faced frequent livestock attacks by "shifta" raiders, Somali secessionists who fought an unsuccessful five year war in Northeast Kenya from 1966 to 1971.

The Samburu, Ariaal, and Rendille are predominantly defensive fighters, that is they are more often attacked than attack others. A major reason for this is the Rendille-Samburu occupation of the richest grazing area in Northern Kenya, where a large human and livestock population is located in a relatively small area. According to estimates of the Rangeland Survey (1971), the Samburu have a larger livestock productivity and greater concentration of herds than neighboring Turkana, and are therefore wealthy targets of attack.

Livestock raiding among pastoralists is not a sport, but a life or death decision where stock must be gained quickly if food resources are low, such as in a drought situation. During the severe drought from June 1974 to June 1975, the Samburu, Ariaal, and Rendille were attacked four times by the Turkana and twice by Boran. Over 7,000 large livestock were stolen and fifteen Samburu and Rendilled killed. In March 1975, a large force of four hundred Samburu, Ariaal and Rendille moran counter-attacked, killing sixteen Turkana, losing five, and recovering three thousand cattle and camels. This victory is unusual, for most Samburu and Rendille feel that a cow's life is not as important as a man's, and they are reluctant to venture deep into Turkana territory.

Threats of marauding enemies are always a serious consideration when the Ariaal settlements are deciding to move their herds or homes. The presence or absence of enemies is as important a consideration as the presence or absence of good grazing for the livestock. On one occasion, I recorded such a decision-making meeting in Lewokoso settlement between the elders, the morán, and a loiboni, a Samburu prophet. The area they occupied was very dry and the livestock were producing very little milk. Although a large valley to the south was reportedly green and wet, many elders feared reports of Boran raiders in that area. The other alternative was moving the livestock north over the Ndoto mountains to the Samburu area bordering Turkana land, but the morán argued that Turkana raiders were operating in that area. During the meeting, all opinions were listened to. The morán who do much of the herding, were pressing for livestock to move south despite the Boran, saying they feared Turkana more than Boran. The elders argued they should stay in the same place a few more weeks, but the morán accused them of laziness and refusal to see how serious the situation was for the animals. Finally, the loiboni who spent much of the time listening, argued that the herds should move north towards Turkana.

"Don't fear Turkana, I can see that you will be taking their cattle and not them yours; but if you go south I see the tears of our women for what the Boran will do".

The loiboni's word was not final, however, and the discussion continued for several more hours. Said a morán later,

"Actually we agreed to go north, but do you think the people will say yes to the first thing a loiboni says? Its' better to argue at length to understand everyone's reasoning to find out what is really true or not".

This meeting exemplifies how the Ariaal make decisions affecting the settlement as a whole. All opinions are listened to and thought out, and attempts at concensus and unity are made. If all the elders cannot agree, it is possible for the settlement to temporarily fragment, with some lineage groupings going south, for example, and others going north. In the main, the strength of the Ariaal settlements are their large size, and settlements will move than not stay together as the best defense against enemies.

A final sphere of Ariaal relations concerns relations with modern institutions including the government administration, religious missions, and international development agencies. Government administration dates back to British colonialism, when nine years after the discovery of Lake Rudolf by von Hohnel and Teleki in 1888, Lord Delamere met with Samburu elders at Marsabit. By 1900, the British established administrative police centers at Archer's Post, Rumuruti, and Marsabit. In 1921 the administrative boundaries of Samburu and Marsabit Districts were demarcated, after which forty years of tighter administrative control was established. This included the appointment of settlement headmen, collection of taxes, and dispute adjudication by formal British justice, a period described adequately by Spencer (1973). Tumultuous social change and upheaval did not occur among the pastoralists of Northern

Kenya as it did among agricultural groups of the south, where urban growth and a settler population caused severe transformations in societies such as the Kikuyu and Luo. Rather, the Rendille, Ariaal, and Samburu kept to their pastoral economy with little social change. More changes have come about, however, in the last twenty years, as these pastoralists were thrust into the competitive cash market of livestock sales and the spread of western culture and values by European and American missionaries and international development agencies, a situation described in detail in Chapter 6.

Since national independence in 1963, the Rendille and Samburu have been under tighter scrutiny and greater integration in the national economy and political organization. Each large Ariaal, and Rendille settlement have appointed headmen, under the supervision of a regional chief answerable to the District Commissioner of Marsabit District. Samburu are administered by the Samburu District Commission.

Relations between the Ariaal settlements and government administration are peaceful and cooperative. The Ariaal look to the government for such services as veterinary medicines, hospitals, policing, education, and famine relief. Many Ariaal moran (as well as Samburu and Rendille) join the administrative police and national army as a means of acquiring employment and cash for livestock purchases. Interaction with government agencies are however, minimal, owing to poor communication and roads as well as the Ariaal's continuing nomadic residence patterns. Marsabit District, although Kenya's largest in area, has the

lowest population and the least expenditures in government services. It is likely that the Ariaal and Rendille will retain their pastoral economy and traditional way of life for some time to come.

3.6 Summary

Despite inclusion in the Samburu segmentary descent system, the Ariaal strongly resemble lowland Rendille in their settlement organization, material culture, and social customs. Fully bilingual, the Ariaal represent a bridge culture between the highland Samburu and lowland Rendille, and practice a dual camel-cattle economy on the highland-lowland interface.

Ariaal settlements are large circles of 30-50 houses, where camels and small stock are the main form of sustenance. Settlements are primarily made up of patrilineal clan agnates, and is segmented into various lineage groupings living adjacently along the circle perimeter. The lineage grouping (ntipat) is the most important unit in the settlement, where members share internal livestock enclosures and herding labor. Although the settlement is primarily a local descent group, non-descent residents including affinal relatives and friends, make up 25% of the total population.

Composition of the settlement is fluid, where individuals, families, or entire lineage groupings can break off and join other settlements on a temporary or permanent basis. The population pyramid of Ariaal is characterized by both an age-grade system that causes periodic bulges in

population growth every fourteen years as former moran marry and reproduce on a collective basis, and by a low infant mortality rate due to both a high birth interval (2.3-2.6 years) and probably the protein-rich diet. The practice of polygamy, while not directly affecting the birth rate, results in a larger number of births than in monagomous settlements such as Rendille.

The age-grade system of Ariaal has an important impact on the distribution of labor, where work roles are formally defined based on age and sexual categories. Men in general are responsible for the herding and well-being of the livestock, the moran are in the main responsible for the extensive grazing regimen of cattle in mobile highland camps. Women are responsible for the well being of the children and household, and perform activities such as house building, cooking, and fetching water on long treks, tasks differentiated by a woman's status as a married woman or a single girl.

Elders, or married men, are responsible for decisions affecting the settlement as a whole. As in Samburu and Rendille, decision-making in Ariaal is a collective process where consensus is the ideal resolution of conflicts. If conflicts between members of the settlement occur elders will intervene and attempt to arbitrate the altercating parties. Failing that, the elders as a collective body will exert pressure through fines and ritual sanctions to promote settlement harmony.

Relations between Ariaal settlements, as well as with Samburu and Rendille Tribesmen, are on the whole harmonious and cooperative. A wide

economic network exists within and between the Samburu-Ariaal-Rendille alliance, based on descent, marriage, and age-set ties as well as mutual compatibility of different livestock herds, namely cattle and camels. In the last twenty years, tensions have increased within the alliance due to greater acquisition by Ariaal and Rendille of cattle to satisfy modern cash needs.

Current relations with the government administration as well as foreign missions and development agencies are on the whole peaceful. Their presence does not prevent, however, traditional warfare with competing tribes such as Turkana and Boran, and livestock raiding between tribes has not diminished in the last twenty years.

The traditional social organization of the Ariaal, based on the patrilineal descent settlement and the age-grade system, will in most probability exist in its present form for sometime, for it is inextricably involved in their food production system of pastoral herding. Only when the food production system improves or transforms can large-scale social change expect to occur in the society as a whole.

Chapter 4

Health, Disease and Traditional Curing in Ariaal

4.1 Introduction

As transhumant pastoralists, the Ariaal attempt to live in a state of balance with their environment, herding their livestock from the rich grazing grounds in the highlands to the harsher lowlands, resplendent in grass and water during the few months of rainfall. When the lowlands are exhausted, the herds will move back to the highlands, searching deeper and higher for resources as the country grows drier.

This balance, however, is delicate, and can be disturbed by a variety of hardships. Drought can set in at any time, bringing with it hunger, disease, and death. The period between the Fall and Spring rains is known as the long hunger (Lamai O'odo). If the rains fail, as happened from 1959-1961 and again from 1973-1975, famine can occur. As the grasses burn yellow and the water holes dry up with sand, most of the herds are taken away from the main settlements. Women, children and older men residing in the settlements must subsist on undernourished milk. Camels and small stock, producing less than one-quarter the wet season yield. Occasionally a goat or sheep is sold to buy posho (maize meal) or killed and eaten as a necessary supplement to the monotonous milk diet.

Even in non-drought periods the dry season is long and hard. The incidence of disease on human and livestock populations is increased in this undernourished state. A good wet season, although a time of feasts and joy, is no guarantee against disease. On the contrary, certain diseases, such as malaria, hepatitis, eye infections, and livestock diseases can reach epidemic proportions during these periods.

Despite these hard conditions the Ariaal, like the Samburu and Rendille, are on the whole healthy people. One seldom sees a severely malnourished child, as infants make a healthy transition from breast-feeding to protein-rich livestock milk. In addition, the dry environment of Northern Kenya does not encourage the spread of water borne diseases such as bilharzia (schistosomiasis) or cholera found in other parts of Kenya.

Nevertheless, the Ariaal are situated great distances from modern health care facilities, and they suffer and die from infectious diseases that plague most societies in third world countries: malaria, pneumonia, tuberculosis, gastroenteritis and gonorrhea. Children show the highest mortality from infectious diseases, particularly from measles, chicken pox, tetanus and whooping cough. National Kenyan statistics show that 60-70% of all mortality occurs in infants and children under five years old, and it is estimated that in Ariaal and Rendille two out of five children born do not live past their fifth year (Wiseman, 1976).

The Ariaal, like other societies, are concerned about health and disease, providing care for sick members in the community and taking particular attention to see that their children are well fed and free from undue hardship. The Ariaal have concise ideas and practices concerning health and the treatment of diseases. They share, with the Samburu and Rendille, a wide knowledge of herbal medicines prepared from over 150 plant species that have verifiable effects in reducing fevers, treating infections, and attempting to control serious diseases.

Traditional treatments of disease cannot be divorced from traditional concepts of disease, for much of Ariaal folk medicine attempts to relieve conceptualized causes of the illness as well as their symptoms. This applies to health problems attributed to strictly physical or natural causes and those thought to be brought by mystical causes such as witchcraft.

This chapter will present an objective portrayal of the prevalence of disease in Ariaal from hospital records and observations of western health workers, and proceed to a description of Ariaal beliefs related to diet, anatomy and pathology. Health problems thought caused by witchcraft are discussed in Chapter 5, while this chapter focuses on the traditional curing of naturally-caused diseases. The description of Ariaal herbal medicines will be discussed from the perspective of both their beliefs in these cures and the known pharmacological effects of their plant preparations, both of which contribute to the often successful treatment or reduction of disease symptoms.

4.2 Incidence of Disease in Ariaal

There are no accurate statistics for health problems among the Ariaal, Rendille, or other residents of Marsabit District. Available information is based on inpatient records from Laisamis Catholic Mission Hospital, and outpatient records from the Ngurunet Dispensary of the African Inland Church, two health care centers serving Ariaal and southern Rendille populations. Most useful is the preliminary survey of Wiseman (1976) who undertook a comprehensive maternal and child care program among the Rendille in 1975.

Marsabit District does not have any unusual parasitic diseases except Hydatid disease along Lake Turkana. Hydatid, a tapeworm that lives off canines, ungulates, and humans is found among Turkana and Dosanech tribesmen who allow their dogs to clean their children by licking, but it is absent among Samburu, Ariaal, Rendille, Somali and Boran Tribesmen owing to their better sanitation and avoidance of contact with their dogs (Wiseman, 1976). Hookworm, tapeworm and roundworm are not common in Ariaal because of the dry alkaline soils, but they are found on Marsabit Mountain and other humid locations. Although certain anthropod vectors of disease such as chiggers, ticks, fleas, mosquitos, tse-tse, sandflies and midges are found in high-altitude areas as well as throughout Ariaal and Rendille areas during periods of rain, they do not carry diseases found elsewhere in Kenya such as Kala-azar (leishmaniasis), a parasite transmitted by sandflies or Rift Valley Fever (Metselaar, 1974).

Flies, however carry feces-borne diseases such as gastroenteritis bacteria and are responsible for widespread eye infections including trachoma and conjunctivitis (Wijers, 1974).

The most dangerous anthoropod carried disease is malaria, which is surprisingly common. It occurs in epidemics after every rain, however brief, and is endemic in the few areas that have constant stagnant water which breeds the anopheles mosquito (Wiseman, 1976).

In general, the health problems facing the Ariaal are similar to other groups in Kenya. The common diseases are:

- 1) Malaria
- 2) Respiratory infections
- 3) Gastroentiritis
- 4) Wounds and skin infections
- 5) Tuberculosis (lung and lymph gland)
- 6) Gonorrhea.

In addition, there are several diseases of high prevalance among the pastoralists of Marsabit District:

- 1) Anemia (due to malaria and chronic iron deficiency)
- 2) Eye inflections (due to flies carrying trachoma and virus conjunctivitis)
- 3) Brucellosis (from the bacteria Brucella abortus transmitted from cattle and goat's milk and meat)
- 4) Anthrax (from the bacteria Bacillus anthracis transmitted by cattle, horses, dogs, etc.).

Malaria and respiratory infections including pneumonia and tuberculosis are the most common infectious diseases among the Arianal. These diseases accounted for over 30% of 1,085 patients seen in Ngurunet Dispensary and 50% of the 239 inpatients at Laisamis Hospital in 1975-76.

The following figures summarize the incidence of most common health problems reported in Ngurunet (May 75-April 76) and at Laisamis (1974, 1975, January-June, 1976).

Table 4.1

Incidence of Health Problems Reported at Ngurunet
Dispensary and Laisamis Hospital, 1975-1976

	Ngurunet Dispensary Outpatients, May 1975-April 1976		Laisamis Hospital Inpatients, January-December 1975	
	<u>Adult</u>	<u>Children</u>	<u>Adult</u>	<u>Children</u>
Malaria	121	41	46	34
Respiratory infections	91	49	30	17
Pneumonia	14	22		
Tuberculosis	7	0	13	1
Gastro-Intestinal	32	18	5	0
Gonococcal-Urinary	46	0	19	1
Eye Infections	131	109	0	0
Musculo-Skeletal	133	17	4	2
Accidents, burns	105	44	30	5
Brucellosis	6*		0	1
Anthrax	2*		2	1
Miscellaneous	97*		16	12
Total	680 (105*)	300	165	74

*Sex or age unspecified.

The disease categories are not very accurate due to the lack of testing materials in these dispensaries and patients are often treated for several possible agents of disease. "Respiratory" category may include bronchitis, pneumonia, pleurisy, or simply coughing; "gastro-intestinal" includes diarrhoea, constipation, ulcers, vomiting, etc.

The category "Accidents" includes sores, cuts, infectious, burns, thorns, animal and insect bites, fractures and dislocations. The "Miscellaneous" category includes rare or undiagnosed illnesses such as hepatitis, mumps, measles, chicken pox, meningitis, anemia, malnutrition, tetanus, or heart ailments.

These figures list only those health problems reported to western health care centers. The majority of Ariaal, who do not live close to these centers, will not generally report health problems unless they are quite serious. Although no statistics exist on health problems in the settlements, Dr. Wiseman treated or examined, the following health problems in Lewokoso Lukumai settlement (population 249) in January, 1977:

Table 4.2

Incidence of Health Problems reported at
Lewokoso Lukumai Settlement, January 1977

Eye Infections	14
Malaria	7
Gonorrhea	4
Gastro-intestinal	3
Tuberculosis	1
Accidents	3
Skin problems	5
Cancer abcess	1
Lymphaditis	1

Most health problems reported to medical centers are in adults. Children are subject to common infectious diseases, particularly whooping cough, measles, polio, tetanus, and chicken pox. Although these diseases are only mildly debilitating in western societies, they are responsible for high mortality in tropical areas. Although children under 5 years accounts for less than 20% of the Kenyan population, 60-70% of all mortality occurs in this age group.



Photo 4.1 - Women and Children in Settlement.

Much of this high mortality is related to malnourishment. A severely malnourished child has 400 times the risk of dying from measles than a well nourished child (Morley, 1973). In general, however, Ariaal children are well nourished. Wiseman (1976) found very little gross malnutrition among Rendille living in nomadic settlements, a feature he attributes to the high protein diet. Residents in the district capital of Marsabit, however, showed high malnutrition, where of 210 children seen by health workers, 26 suffered Kwashiorkor, 44 Marasmus, and 120 were undernourished. This was attributed to the lack of milk and other protein sources in this diet, which was made up primarily of posho maize meal porridge.

Although Ariaal and Rendille children have a nutritionally adequate diet, they suffer high mortality as infants largely because of the dehydration that accompanies high fevers and diarrhoea associated with these diseases. Anemia, which is widespread due to lack of iron in the diet and high incidence of malaria, is among the top ten causes of death in children. It is thought that anemia decreases resistance to other infections, often contributes to respiratory disease such as tuberculosis and whooping cough (Morley, 1973).

Mortality figures are difficult to determine in Ariaal. Deceased family members are never referred to after death, nor is their mode of death discussed. Furthermore, there exists no comprehensive documentation of mortality in Marsabit District. It is helpful however to look

at mortality figures from Kajiado District Hospital, an area in southern Kenya inhabited by the Pastoral Masai who closely resemble the Ariaal in culture, diet and habitat.

Table 4.3

Mortality in Kajiado District

<u>Adult deaths</u>	(Kajiado District Hospital, <u>Republic of Kenya, Annual Report 1975</u>)
Cancer malignancies	6
Pulmonary tuberculosis	7
TB-Peritonitis	1
General peritonitis	1
Lobar pneumonia	3
Starvation	1
Tetanus	1
Intestinal fistula (hysterectomy)	1
CCF	1
Paraphegia (transvers myelitis)	1
Road accidents	<u>2</u>
	25
 <u>Children</u>	
Bronchial pneumonia	4
Gastro-enteritis	4
Neonatal asphyxia	2
Anemia	1
Meningitis, septic	1
Meningitis, viral	1
Prematurity	1
Spina bifida and meningo- myelocele	1
Pulmonary tuberculosis	1
Brain contusion	<u>1</u>
	17

4.3 Traditional Concepts of Health and Disease

The Ariaal are not passive in the face of disease and hardship. They depend on a wide variety of herbal medicines, as well as healing specialists, to deal with disease and illnesses. For the most part, these cures are based on scientific, i.e., observable, principles. Many of the plants employed medicinally are emetics or purgatives: plants containing a variety of poisonous or irritating substances that cause vomiting or diarrhea and serve to "clean" the body of impure disease elements.

Although Ariaal attribute most diseases to natural causes, i.e., brought about "by God alone", there are certain illnesses or misfortunes that are thought to be mystically brought about by supernatural forces. Certain misfortunes, such as infertility, blindness, insanity or unusual occurrences such as death by drowning or attacks by wild animals are often attributed to the sorcery or an enemy or curse of a family member. If a person is suffering from acts of witchcraft, no physical cure is thought effective. Rather, a ritual specialist must be consulted to defeat the witchcraft and thus cure the patient. Health problems attributed to witchcraft are discussed in the following chapter. In addition to these ritual specialists, there exist health specialists in Ariaal who are skilled in the knowledge of herbal medicines, massaging techniques, setting fractured or dislocated bones and midwifery. Although not afforded the special recognition of ritual specialists, these health specialists (Lkursa, Lkursan) are a valuable component of the traditional health care system.

a) Beliefs about Diet, Anatomy, and Pathology:
Avoidance of Unclean Influences in the Body.

Ariaal and Rendille beliefs and practices closely resemble the Samburu. These three societies are pastoral and show a marked degree of autonomy, conservatism and self sufficiency. Although nomadic, their pastoral economy ensures that their food resources stay with them and never vary. The livestock the Ariaal spend so much attention looking after ideally provide all the nourishment on which they depend - meat, milk, and blood.

Although the Ariaal, like other pastoralists, often face shortages and must supplement their ideal diet with wild game or store-bought grains, they rigidly believe the only food they should eat is food from their domestic livestock. Like the Masai, the Ariaal and Samburu believe God gave them cattle and small stock to look after, for these animals in turn will sustain the society. To eat food from outside that domain would be a risk of suffering untold misfortune, both natural and mystical. "Unclean" foods include most of the non-domestic animals - fish, birds, eggs, wild mammals, reptiles of any sort. Wild carnivores do not distinguish clean from unclean foods, and hence are not eaten. Only those wild animals that resemble domestic livestock in their diet and behavior, such as giraffes ("camel"), antelopes ("small stock") and eland ("cattle"), will be eaten but only in a severe shortage of domestic food.

Zebra and wild dog, from which the donkey and domestic dog are believed to descend, are considered unclean because of their diet, and Ariaal are repulsed at the thought of eating them.

The Rendille are considered by Samburu to be "clean" as they uphold the same dietary prohibitions, but neighboring tribes that eat "unclean" food, such as the Elmolo (who eat fish), the Dorobo hunters (who eat bush pig and zebra) and the Turkana (who are said to eat anything but hyenas, "their cousins"), are considered unclean and the Ariaal will not by choice intermarry with them.

Distinctions of 'clean' from 'unclean' foods mirror social categories within Ariaal society that may also be 'unclean' or 'clean'. The Moran age-set are ideally considered ritually pure, and they are removed from ordinary society by prohibitions that distinguish their behavior. After their circumcision ceremonies which initiate the new age-set, they are not permitted to eat meat inside the settlements, nor food that has been seen, touched or prepared by women. They may drink milk when in the settlement, but they cannot milk the animals themselves. Ideally, the Moran should live and eat in the bush, in camps such as when with the livestock.

Women are considered unclean and do not participate in most ritual activities except in very limited and defined roles. Unlike Moran, they may never eat in the bush, nor may they consume meat that has been roasted nor blood, except at particular times such as childbirth.

Women, however, are "made clean" at their wedding ceremonies by the female circumcision procedure (cliterodectomy), which ensure the culturally approved birth of children. Female circumcision is found among other East African pastoral societies including Rendille, Samburu, Masai, and Somali, and probably has origins in Cushitic-speaking cultures and Arabia. It is thought that a child born to an uncircumcised girl will bring misfortune to other children and a 'bastard' (nkarai lendito, or "child of a girl") will be sent to live with other relatives.

Premarital pregnancies are undesirable, and attempts will be made to either abort the fetus with strong medicinal purgatives and massage, or failing an abortion, circumcise the girl before childbirth, that is, marry her off quickly.

Distinctions of 'clean' and 'unclean' pervade Ariaal culture. Much attention is paid to avoiding polluting influences that may enter the body.

Men refrain from sexual relations during female menstruation, lest polluted blood enters their system; all Ariaal avoid eating substances whose origins aren't known, lest polluting agents enter the body and cause serious damage.

Most diseases are thought to be due to unclean or inappropriate substances in the body. These substances are thought to block vital systems such as blood circulation or food digestion, and must be

removed before serious poisoning results. Spencer (1959) noted the great deal of attention Samburu paid to irregularities in bowel movements, where constipation and concern about not urinating properly are causes of great anxiety.

The Ariaal have a fairly broad knowledge of physiological functions such as digestion and circulation, derived in no small measure by their familiarity in butchering livestock. They have extensively defined concepts of anatomy and pathology.



Photo 4.2 - Killing an Ox at a Wedding Ceremony.

By Ariaal reckoning, food enters the mouth (nkutuk, nkutuki) and proceeds to the stomach (lgosheke, lgoshekie), which separates waste (nkik, or excrement) and conveys the nourishment through surrounding fatty tissue (lmanyit) directly to the kidneys (lare, larie). The kidneys extract urine (nkola) and pass the remaining food to the liver (lmunyua, lmunyuaishi) via blood vessels (ng'onyo, ngony).

The liver is considered the most vital organ next to the heart (ltau, ltauya) as it converts food into blood (mpuro). The blood is conveyed directly to the heart, which "breathes" blood into the rest of the body through blood vessels. Rich red blood is the final product of food, it brings life to all parts of the body, and its contamination, where blood turns black and hard, will ultimately poison the body. Meat is considered the best food for blood production although animal blood is also good as it "strengthens the system". Milk is considered of little use for blood production, but thought valuable for growth in muscles and bones. The gall bladder (lodua, or the "bitter one"), helps to filter out poisons, using much water in the process. "Camels and giraffes don't have a gall bladder, and thus don't need much water. Maybe it would be better if we didn't have one either, but we do and drink much more." Bile (olodua) is poison filtered from the stomach, formed from eating too much sugar and posho (maize porridge). The spleen (ntanu, ntana) is thought to be of no value. "It is the only useless thing God gave us. A person can live without it."

Many of the symptoms of illness are associated with a malfunctioning of these organs or the physiological processes between them.

Invariably, these malfunctions are thought to be due to congestion and obstruction of the pathways, causing a build-up of poisonous substances. Invariably, the cure is to relieve this congestion.

1) Illness caused by Food Congestion

The Ariaal are fond of the stomach. One refers to the stomach in much the same way as westerners do to the heart - as a location of emotional and moral sensitivities. "The stomach has goodness" (Keatta gosheke sopat) is said after a good meal, or when one is simply feeling fine. "The stomach has friends" (Keatta gosheke soltwa) is said after feasting together, and implying a social bond reinforced by eating the same food together. An upset stomach is more than a discomfort, it can be life-threatening. Problems in the stomach are thought to be due to improperly digested foods, and if that food doesn't digest and pass readily out of the body, measures will be taken to forceably remove it before it turns bad and poisons the body.

One of the more common and most dangerous (to Ariaal) of the illnesses caused by undigested foods is ng'onny, the congestion and swelling of the blood vessels conveying food to the liver. Undigested food "sticks to the stomach; blood gets trapped and blocks further food from passing". Ng'onny is usually the result of mixing the wrong types of food, often meat and milk, or mixing posho (porridge) and meat.

One who suffers ng'onny feels nauseous, and gurgling sounds can be heard in the abdomen that attest, to the Ariaal, trapped blood

in the vessels. The trapped blood is thought to turn black and hard, "like boiled blood", and if it occurs near the liver, can poison the entire system. This stage became evident when blood is seen passing in excretion.

Cures for ng'ony include a variety of herbal purgatives, taken both orally and by enemas inserted via goat's horn. If a medicinal specialist (Kursa) is available, the abdomen will be massaged to move the "trapped blood" away from the liver and towards the bowels. In one cure I witnessed with a specialist and a visiting western physician, repeated enemas were given alternatively with the patient drinking volumes of milk. The man was suffering ng'ony due to mixing blood with "new milk" (manang), i.e., watery milk in the first days of lactation. After a thorough massaging, the specialist beamed in triumph at his weary patient, "Tomorrow you will look like a Moran, your blood will change and you will be able to eat anything without trouble."

Besides stomach troubles, other diseases are thought to be caused by improperly digested foods. Tuberculosis (Tibi or Shurr) is thought to be due to fat clogging the windpipe. If later blood or sour milk is eaten, they stick to the windpipe and "block" the lungs, which tear and bleed. Ariaal recognize the contagious aspect of TB, noting that once the disease has set in, it can pass from one person to another by sharing drinking cups or coughing in another's face. There is no local cure for TB, only a policy of containment. "The best thing for TB is to leave the man alone. Give him his own plate and cup to use, and don't let him eat sour milk or fat."

2) Insect-borne Diseases

Where stomach disorders are usually associated with eating the wrong foods, the more serious "systemic diseases" (sisen po'oki) are thought to come from outside "infections", i.e., invisible poisons that lodge in various parts of the body and progress throughout. Several of the more serious diseases, including polio, malaria, and hepatitis, are thought to derive directly from the mosquito. In addition, disorders in the liver and spleen are thought to derive from diseases mosquitoes transmit.

"When you hear the sound of a mosquito, he is saying 'Listen to the disease I'm giving you'", goes a Ariaal saying. Mosquitoes (nkajing'ani, s. and p.) are considered primary disease carriers. When they suck blood, the liver and spleen suffer from blood loss, and one has headaches almost immediately thereafter. At the same time, it is thought the mosquito is injecting a clear poisonous venom into the body, that can be transferred from a sick person to a healthy one by further mosquito bites.

The Ariaal recognize malaria, hepatitis and polio as different diseases with their own symptoms and specific cures. However, the cause of all these diseases is the same. The mosquito injects poison into the blood stream that initially affects the head, back and liver. An herbal specialist elaborated, "If a person doesn't remove the poison from the body by vomiting and diarrhoea, he's in trouble. The longer

the poison stays in the body, the worse it becomes. It turns into ltikana neibor (the White Disease),¹ where the blood turns white, the stomach and liver swell, the person becomes weaker and weaker". The specialist was critical of local naivete: "Usually people will eat anything, even porridge and blood, that just entrap the poison in the system, so the person becomes stiff and ultimately lame." Treatment is extensive inducement of vomiting and diarrhoea (with herbal medicines), and avoidance of "sticky" foods like sour milk and blood.

Polio (nkurotet), the poison is thought to lodge in the legs, arms and backs, causing swelling, pain and paralysis. Malaria (nkirewa, the "fever") is distinguished from polio by the characteristic fever, delirium and body aches. Malaria is recognized as seasonal, shortly after the rains "when there are many mosquitoes".

Where polio and malaria are recognizable diseases to the Ariaal, the concept of hepatitis (ndis) covers many symptoms not necessarily correlated with the actual disease. It seemed to me that many more people complain of ndis than the actual number of people diagnosed in dispensaries as having infectious hepatitis. Often non-hepatitis symptoms recognized by westerners as urinary or reproductive tract malfunctions are thought to be ndis by Samburu and so treated with herbal cures. Samburu define ndis by the symptoms of fever, faintness, dizziness; the eyes turn greenish-yellow, urine turns red, all of which are symptomatic of hepatitis, but the Samburu don't notice if the faeces

change color, (usually white in infectious hepatitis). Later on, the symptoms recede, but the "body becomes fat and the liver swells." sheep's meat or any fatty food is considered difficult to digest and less fatty goat meat is preferred.

In addition to the mosquito, the Ariaal uphold a Rendille belief (not found to my knowledge in Samburu) about ticks (lmanjeri, lmanjer) where if a tick bites a small child, poison that is injected under the skin turns into an internal tick, further poisoning the body. This leads to weakness, fainting, fungal-type skin infections, coughing, and fever. There is a strong belief that a child suffering from manjeri should not receive needles or marks on the skin except by a skilled blacksmith who knows where to make the appropriate cut in the skin and suck out the 'tick'. This belief has interfered with vaccination programs among Rendille children. (See Chapter 6).

3) Human-borne Disease

In addition to diseases caused by undigested food and mosquito-borne poisons, Samburu distinguish illnesses that are transmitted by people.

As with the preceding two categories, foreign poisons are thought to enter and spread in the body, interfering with vital internal processes. The most dangerous of the people-borne diseases are measles, smallpox, gonorrhoea, and whooping cough, as well as colds, sore

throats, bronchitis and pneumonia. Although there is little information on the Samburu's conception of the pathologies of these diseases, a brief outline of their symptoms and cures should be discussed.

Measles (ltipu) is rare, but when it invades a manyatta, it can infect many children simultaneously. It is thought to be brought by visitors or someone who has visited other infected manyatas. Symptoms include shivering, coughing, and the ensuing rash that occurs on the face, inside the mouth and eyelids. It is not necessary for the pox to break out of the skin to diagnose the disease, as the rash is thought to occur only when the person is about to recover. A medicinal specialist was once called in to diagnose a small girl who had been ill for a month; she was listless, mildly feverish, and had no appetite. The specialist diagnosed the illness as measles, noting that "it hasn't broken out of the skin yet, but I can see it is hurting her chest, inside her body. It's measles, because her eyes are somehow red, and she's acting a bit crazy. Some fool who calls himself a specialist gave her blood and burnt donkey dung to keep her from fainting, and it's affected her brain."

There is no special herbal cure for measles, although purgatives are taken to remove the poison from the body. Milk and butter are eaten, as butter is thought to lodge in the fatty tissue surrounding the stomach (lmanyit), increasing the stomach's articulation, restoring strength, and relieving the pains of the disease. No blood, sour milk,

or fat should be taken, as they will hinder the expulsion of the poison. In due course, if the patient is circulating well and food is passing readily, the poison will break out of the skin as a pox, and the patient will recover.

Smallpox (Lpepedo) is a devastating disease that Ariaal are grateful disappeared with modern medicine. There traditionally was no cure, although the itching of the pox could be relieved with goat's fat or the fatty deposits found in the monitor lizard (Lmaimo).

Gonorrhoea (Kisunono, from the Swahili), is a very common disease among morán and single girls, and much attention is paid to relieving its symptoms. Although Samburu are fully aware of the social aspect of its transmission, they think kisunono can occur spontaneously, especially "when a man wants a woman too much, and can't relieve himself". The disease can pass and lodge in a woman's uterus (lboset), or conversely enter the male's body through the penis (lmura). As in other diseases, Ariaal are horrified at the thought of an internal infection, and take immediate steps to purge themselves of the poison. The two most common herbal cures are soups prepared from the boiled root of Lmakutikuti (Clerodendrum myricoides), and boiled bark and roots of Lmokotan (Albizia anthelmintioa), two powerful purgatives that are strongly anthelmintic (i.e., possess deworming properties). A variety of other preparations may be used, and there are several cures to relieve specific problems such as pain or inability to urinate. Moran infected

with gonorrhoea are increasingly visiting local dispensaries for penicillin shots, but the low rate of admission of women for treatment intensifies the problem as new penicillin-resistant strains of the disease may appear.

One final human-borne disease, whooping cough (Lmuruti), should be mentioned, for though its occurrence is low, the mortality figures for the disease is very high. Ariaal distinguish whooping cough from bronchitis and pneumonia (Lchema) by its chronic nature. A child suffering lmuruti coughs continually without pause, until as Ariaal say, he coughs himself to death. There is no herbal cure for whooping cough. Rather, a specialist must be summoned to press a "growth" found in the back of the throat (tonsils?), thought to be the cause of the disease.

In sum, the Ariaal distinction of major disease into categories of origins, related to food digestion, mosquito-borne, and human-borne infections, covers the major illnesses they experience. The basic operating principle of the pathology is congestion and obstruction of vital organic processes concerned with digestion and circulation, and the main principle of treatment is relieving the obstruction, usually with cathartics and emetics.

In addition to these major diseases, Ariaal experience a variety of health problems that include injuries, skin and eye infections, parasites, arthritis and rheumatism and problems in childbirth. For most of these ailments there are defined cures and preparations of medicinal materials which are described in detail in section 4.5. Although many cures are common knowledge to most Ariaal, every community

has those individuals more than usually knowledgeable in curing and these specialists form a vital part of the Ariaal health system.

4.4 Health Specialists and Herbal Curing

The Ariaal, like Samburu and Rendille, have individuals within the society who are especially gifted in treating health problems. As in the wider concept of health and disease, these curers are distinguished as 'physical' specialists i.e., those who can deal with diseases and disorders thought due to physical or natural causes, and ritual specialists, those healers and practitioners who have abilities to combat misfortunes brought about by mystical, or supernatural causes.

Ritual specialists, described in Chapter 5, include diviners who can read future events from objects such as shoe-throwing or star-formations and those individuals who have strong powers in cursing or sorcery such as blacksmiths, holy men, witches and sorcerers.



Photo 4.3 - Lemeribas the herbalist digging a medicinal root.

Specialists skilled in medicinal healing and preparing cures for physical disorders are collectively called Kursan. They are usually older married men or women, who have acquired their skills through years of practice. They have no extraordinary mystical powers, such as prophesy or sorcery. Kursan include skilled midwives, male and female circumcisers (usually from the Dorobo tribe), bone-setters, masseurs and masseuses skilled in treating stomach disorders or performing abortions, surgeons skilled in removing thorns or scarifying the skin and finally those knowledgeable in the preparation and dispensation of herbal medicines.

Often one individual is skilled in many fields. My two principle informants were a Dorobo man uniquely skilled in herbal medicines, fractures, and massaging and a Samburu woman proficient in women's health problems including child delivery and abortion.

a) Childbirth Practices - The Midwife Specialist

Most Ariaal settlements have particular women skilled in childbirth who act as midwives and advisers during pregnancy and delivery. Childbirth is an occurrence of joy in Ariaal, but it is also a period of great danger to both the mother and child. Many cautions are taken to protect the mother and child from conception to weaning and there are several ritual prohibitions associated with diet and behavior during this period. During pregnancy (Katonute) a women will cease sexual

relations with her husband. There are no preferences on diet until the child is born, at which time the mother will drink blood for four days (as in Samburu), or simply milk (as in Rendille) if there is no hemorrhaging or serious blood loss.

Delivery (aisho) is performed in the woman's house by a midwife and other female assistants. The mother may lie on her side, or more often squat while holding on to the house's center post. If the birth canal is too small, as often happens with first deliveries due to scar tissue from the cliterdectomy operation, the midwife will cut the vaginal opening with the steel circumcision knife. She will tie and cut the umbilical cord with the same knife, on the parent's shoe, a situation that is considered most dangerous due to possible infection. Significantly child delivery is carried out with a high degree of cleanliness such as using boiled water to bathe the mother and the area she inhabits. After birth the baby is washed and held close to the mother, its afterbirth being buried in the baby camel's enclosure as a gesture of prayer and good health.

Following birth, a small stock is killed (a female sheep or goat if a son) called the morr, and is consumed by the midwife and women attending the mother. For four days following the birth, the mother and child do not leave the house for fear of catching cold. The midwife stays with her during this period, and the father sleeps elsewhere.

On the fourth day, the father will kill an ox or a goat (bu'utan) which is eaten by his family, while a broth is prepared with sokoltei (Phytolacca dodecandra L'Herit) roots to help the mother vomit, "to clean the stomach", i.e., to facilitate complete removal of the after-birth.

For the next four months the mother will abstain from drinking milk, ("it upsets the stomach",) but is encouraged to drink broths and eat meat. The child will nurse one year before abruptly being weaned, but goats milk may be introduced into his diet by the first month.

The midwife is a woman skilled not only in childbirth, but the health problems of women in general. Often she can perform female circumcision as well as dealing with miscarriages or performing abortions. Miscarriages are thought caused by either physical diseases or by mystical curses. Ng'ony, the disorder of the stomach described earlier, it thought to kill the child because too much blood is accumulating and causes the woman to hemorrhage and lose the fetus. Hepatitis is thought to cause the unborn child to turn yellow and die, while drinking milk from an animal infected with hoof and mouth disease (lkulup) is thought to pass the disease directly to the child. Ariaal also recognize miscarriages as due to physical accidents, such as being beaten by the husband. In all cases of miscarriages, except those thought caused by sorcery and treated by a ritual specialist, the midwife will offer medicinal purgatives to the woman to clean out any unshed residue. The miscarriage is thought to be decaying material which must be removed.

To remove a retained placenta (lmudong) after childbirth, or perform an abortion (airony) on an uncircumcised girl, a strong purgative made from boiled makutukuti roots (Clerodendrum myricoides (Hochst.) Vatke) mixed with sheep's urine will be ingested by enema or orally, followed by strong massaging by the midwife and other women on the girl's abdomen until abortion occurs. This is a dangerous procedure, and sometimes the girl dies if the treatment is too violent.

The midwife is often skilled at preparing the variety of mild purgatives believed to relieve minor pains of menstruation, or stronger medicines thought necessary to treat venereal diseases such as gonorrhea, described in section 4.5.

b) Lemeriwas - "The Man of the Trees".

Most curers among the Ariaal, Samburu and Rendille are individuals within the community who perform their services without payment as an auxillary to their normal roles as husbands, wives, stockowners, etc. However, there are some curers whose skills and reputation are such that they can make a full time career from their curing services.

Such a person is Lemeriwas, a Dorobo healer known throughout Ariaal. The Dorobo (Ltorrobo, or the "poor ones") are a small tribe of hunters and gatherers who live in highland forested areas bordering Samburu, Masai, and Nandi pastoralists, and who have traditional symbiotic relations with their pastoral neighbors (Blackburn, 1970). Although

valued for their knowledge of the forest, particularly in finding honey used to make alcoholic beverages, the Dorobo are in general looked down upon by the pastoralists as poor (without livestock), unintelligent, foolish and irresponsible. Lemeriwias was certainly poor, and quite foolish in terms of the antics he performed for the laughter and amusement of those watching him. And he was one of the most irresponsible people I ever met. Once he negotiated for 3 days to marry a pregnant uncircumcised Ariaal girl only to disappear on the wedding day because he had no livestock with which to marry. But it is hard for me, or the Ariaal who valued his curative skills, to say Lemeriwias was unintelligent. This was a man who knew almost without exception every plant and animal in the forest and desert, as well as their habits, growth cycles, and medicinal value. I regret I was only able to spend a small period of time with Lemeriwias. I would have liked to spend more, but it was always difficult tracking him down, as he would be off in different directions for months providing curative services.



Photo 4.4 - Lemeriwias aiming at Doum Palm Seeds.

Lemeriwas would often visit large Afaal settlements with his goatskin bag of herbal medicine, staying several days or even weeks to perform his cures. He usually charged 2-5K.shillings for normal treatments, such as ngony stomach congestion, but commanded larger fees for a goat for extensive treatments such as polio.

His services were welcomed not only because of his particular skills in preparing the medicines, but because he usually brought rare plant medicines from distant highland areas, such as sokoni bark (Warburgia ugandensis Sprague) to treat chest pains, Imakutukuti (Clerodendrum myricoides (hochst.) Vatke) to treat gonorrhea, and powerful emetics such as Ng'elai orok (Vepris eugenifolia (Engl.) Verdoorn) and Lkiloriti (Acacia nilotica (L) Del.) used to treat hepatitis, stomach disorders, and uterine disorders.

Lemeriwas' treatments included preparation and dispensation of herbal medicines in the form of soups, teas and enemas. His treatments were invariably accompanied by long-running commentary on the nature of the disease and the treatment. An example is his treatment of a man suffering blood vessels' (ng'ony). Lemeriwas had his patient lie down on his back in the patient's house. Massaging the abdomen, Lemeriwas expostulated:

"I feel something here I felt in other people before. Do you feel this lump? This is swollen blood vessels that have gone bad. What have you recently eaten?"

The patient replied, "I drank some blood mixed with goat's milk. But it was new milk. Now my stomach hurts when I eat porridge or fat."

Lemeriwas laughed and said "You should only drink sour milk for a while. Your stomach is bad in this area, the blood is the same color as cooked blood (i.e., dark). If we don't fix it, blood will come out in your feces. I can hear the blood gurgle, because it is trapped. First it was trapped near the liver, which is very dangerous, but I've pushed it down (towards the intestines)."

After massaging the man's abdomen Lemeriwas rolled him over and applied deep massage to his back. During this period, two pots have been boiling, one containing the bitter Lkerdedi bark (Acacia Senegal (L.) Willd.) and the other roots from the Lching'ei tree (Euclea divinorum Hiern), one of the strongest purgatives known to Arisaal. While the patient sips tea made from the first solution, Lemeriwas clears the floor of skin-rugs and prepares the patient for the enema of Lching'ei. The patient squats on his knees and shoulders, his head on the ground, and his posterior in the air. Lemeriwas inserts a goat's horn into his anus and pours in about 1 liter of the Lching'ei solution, causing immediate diarrhea. The tea has now encouraged the man to vomit as well. The ordeal is so excruciating that the patient faints. Lemeriwas lifts his head and gives him a calabash of milk to drink, and repeats the ordeal.

In all the procedure was repeated five times, each time accompanied by drinking more milk and Lkerdedi tea.

After the treatment, the patient was exhausted. Leteriwas however was ecstatic, helping clean the body and the area dirtied by the treatment, and alternatively hugging the man, telling him "tomorrow you'll look like a Moran. Your blood will change and you'll be able to eat anything without trouble." Indeed the next day the man did look very well, bright-eyed and active.

c) Summary

The use of purgatives and emetics are the most common way of treating many disorders in Ariaal, from pains and aches to serious infectious diseases. On the one hand, it must be said the physical and psychological effects of the treatments are beneficial. I, myself, have taken many of these cures and willingly induced vomiting when my stomach is upset or I have a headache. However, these treatments can be quite dangerous, as many of the plants described are purgatives precisely because of the poisonous or irritating substances they contain. People have died from incorrect preparation or overdosages of certain treatments, and the subsequent dehydration from expurgation can be quite dangerous, particularly for younger children. The Ariaal are aware of these dangers, and distinguish strong from mild preparations of the medicinal plants. The extensiveness, variety, and effectiveness of these cures are remarkable, and attest to the wide empirical knowledge of the Ariaal, Samburu and Rendille of their own physiology and the environment they live in.

4.5 Herbal Medicines and Their Medicinal Applications

When an Ariaal describes an illness, he usually refers to the location of the symptoms, such as the chest, stomach, etc., if he is suffering a known disease such as malaria, he will name the disease, usually adding the description. "I am sick in my whole body." This section will discuss specific health problems by their location (chest, stomach, head, liver and spleen) or systemic classification (malaria, hepatitis, measles, small pox, polio, gonorrhea), and miscellaneous problems associated with childbirth, body aches, wounds and infections. The preparation of appropriate herbal medicines are described with each health category, as well as the role of plants as stimulants, poisons, and in treating livestock diseases.¹

1) The Chest (Lgo'o)

Lgo'o refers to pains and congestion in the chest, and covers a variety of illnesses including common colds (lkerobi), tuberculosis (Tibi or Shurr), brochitis and bronchial pneumonia (Lchema). Lchema can also mean cough and mucus congestion in the lungs (also called nkanyaragi) and mucus congestion in the nose and sinuses (Lchema lenkue).

a) Coughs to relieve a cough, several herbal cures are used:

LMarakuet (Croton megalocarpus) - boil bark in water, add sugar and milk; or chip bark into prepared tea

¹ Botanical names are abbreviated. Their full names are listed in the appendix.

- 1. Lkimanshoi (Hibiscus sp.) - chew the bark
- 2. Letualan (Crotalaria sp.) - scrap outer layer of root, chew and spit out pulp.

In addition to these herbal cures, teas prepared with store-bought curry powder and red pepper are considered very effective.

b) Chest pains experienced in bronchitis and pneumonia are relieved by:

Sokoni (Warburgia ugandensis) - boil bark and root

Nemunyi (Euphorbia sp.) - boil bark in soup

Silipani (Cordia sp.) - chew bark

Silale (Boswellia hildebrandtii) - boil gum in water, add milk

Lowai (Balanites sp.) - boil gum in water, add milk.

c) Chest Congestion is considered a poisonous substance and should be removed by a variety of purgatives, including:

Laseremai (Harrisonia abyssinica) - boil roots, stems as tea or soup;

LMakutikuti (Clerodendrum myricoides) - boil ground roots, add milk, sugar;

LNq'alayoi (Cissus sp.) - boil roots and goat's fat soup;

Loisuki (Fagara chalybea) - boil tuber roots in milk and drink;

Lakirding'ai (Croton dichogamus) - boil roots in water, prepare as tea.

Labarana (Jatropha dichter) - boil roots and drink.

Sukurtuti (Cissus sp.) - stew root and drink.

d) Children's coughs are treated as for congestion, but with milder purgatives, including:

LTukumi (Xeromphis keniensis) - boil roots in tea; with sugar and milk;

NKaiteteyei (Commelina sp.) - pound stalk, boil and add milk.

e) Tuberculosis is treated with intensive expurgation, usually through enemas. Herbal cures include:

Seketeti (Myrsine africana) - crushed berries or seeds, boiled in water or soaked and taken cold with water;

Sukuroi (Aloe secundiflora) - stew roots and insert up anus with goat's horn;

Sokoni (Warburgia ugandensis) - soak bark and roots, later boil as tea.

f) Ribs (Lmarei) are pains associated with Rheumatism and pneumonia, treated with teas prepared from pepper, Magadi soda, resin from Silalei (Boswellia hildebrandtii) and bark from Silapani (Cordia sp.). In addition, a soup prepared from blood, the leaves of the Lordo vine (Cyphostemma sp.) and stalks of nkunee (Cissus sp.) adds relief. A mild purgative of Labarana roots (Jatropha dichter) and the roots and bark of Sokoni (Waburgia ugandensis) is also used.

2) The Stomach (LGosheke)

A "sick stomach" (Gosheke kemoi) refers to pains and difficulties associated with food digestion. It includes pains and cramps, constipation, the disease ng'onny (blood vessels), referred to above, worms, and "women's stomach", which include discomforts during menstruation. Just about all "stomach" problems are thought due to congestion of undigested food and "old blood", and are relieved by a variety of cures that induce vomiting (nolop) and diarrhea (airi).

a) Upset stomach is treated with a variety of purgatives, including:

LKiloriti (Acacia nilotica) - boil bark as soup, causes vomiting

Sakurdumi (Kedrostis gijef) - boil roots, mixed with leaves of,

LNq'iriai (Lawsonia inermis) - taken as enema or tea

LKokolai (Rhamnus staddo) - boil root and drink

La'amai (Ximenia americana) - boil bark, and add milk and drink

Lakirding'ai (Croton dichogamus) - boil roots, add tea

Lampurorei (Commiphora sp.) - soak bark in cold water and drink

Labarana (Jatropha dichter) - boil roots and drink

Larai (Acacia hockii) - boil roots as tea

Lemichiria (Combretum aculeatum) - soak roots in water and drink

Loimugi (Newtonia hildebrandtii) - boil bark and drink

LMang'wei (Sclerocarya birrea) - stew bark, in water, add milk or boil

LMokotan (Albizia anthelmintica) - boil bark, wood, or root, add milk

LMoMoi (Kigelia aethiopica) - soak bark and drink cold

Raraiti (Kalanchoe sp.) - stew root and drink cold

Sokoltiei (Phytolacca dodecandra) - stew roots and drink cold

Sokotei (Salvadora persica) - boil roots and drink

LTerikesi (Acacia senegal) - boil bark and drink

LTurkan (Sericocompsis pallida) - boil roots and drink

b) Ng'ony (the blood vessels) is thought to be a much greater danger than an upset stomach, and is treated with more powerful purgatives, including:

LChingei (Euclea divinorum) - boil roots and drink. Considered the strongest purgative, immediately induces diarrhea and vomiting

LKiriantus (Plumbago zeylanica) - boil roots in water or tea

LKiloriti (Acacia nilotica) - for nausea after drinking milk, soak bark in water and drink cold

LMang'wei (Sclerocarya birrea) - to reduce nausea, boil bark in tea.

c) Women's Stomach includes cramps and weakness during menstruation. It is treated with mild purgatives that induce diarrhea, including:

LNyiriman - (unidentified) - stew roots in soup and drink

Simalelei (unidentified) - boil tuberous roots in water, add milk

LDepe (Acacia nubica) - soak bark in water 12 hours and drink.

d) Diarrhea - to stop diarrhea, drink:

LCheni ng'iro (Commiphora africana) - soak bark in tea

Laishimi (Commiphors sp.) - bark in tea

e) Children's stomach or indigestion is treated by mild purgatives:

LMisikiyei (Rhus natalensis) - soak leaves and roots in water, drink

LKarasha (Sterculia africana) - boil roots and water, and drink.

f) Worms, usually tapeworm and ascaris, are treated by several anthelmintics, including:

LMokotan (Albizia anthelmintica) - boil bark, root, and wood, add milk

LNq'erioi (Olea africana) - soak bark in water 30 minutes, boil, let sit 12 hours, drink cold

Seketeti (Myrsine africana) - crush berries and drink with milk.

3) The Head (Nkue), Eyes (Nkonjek) and Throat (Lqoso)

Nkue specifically means headache, but the location of the head also covers illnesses related to eyes (Nkonjek), throat (Lqoso), and sinus congestion (Lchema lenkue).

a) Headache is relieved by inhaling several herbal cures through the nose, or preparing herbal teas:

LNq'alayoi (Possibly Cissus sp.) - soak bark several days, snuff solution

LMakutikuti (Clerodendrum myricoides) - grind roots into powder, snuff

Silalei (Boswellia hildebrandtii) - place resinous gum near fire, inhale fumes through the nose

LDepe (Acacia nubica) - soak bark 12 hours and drink as tea

LBukoi (Momordica spinosa) - peel bark and add to sheep brain soup

b) Sinus congestion (Lchema lenkue)

Sokoni (Warburgia ugandensis) - boiled roots and bark as tea, drink

Mira'a (Catha edulis) - a stimulant, chew bark.

c) Sore throat (Lqoso) includes difficulty in swallowing. Sometimes associated with colds. Treated by:

LKaukawa (Possibly Oxyanthus speciosus) - soak bark in cold water, drink

Nkilai Orok (Vepris eugenifolia) - chew leaves

Lfulelei (Solanum incanum) - peel root, stew and gargle, or chew peeled root

LTarakoi (Juniperus procera) - soak bark in cold water and drink

d) Eyes (Nkonjek) includes infections, conjunctivitis, cornea opacidity and trachoma. Eye diseases are thought to result from waste matter left by flies (Lajigani). Treatment is applying substances to make the eyes tear, or washing with certain cures.

LNq'alayoi (Cissus sp.) - grind roots and soak in water, snuff water through nose. Very bitter, causes eyes to tear.

Sukuroi (Aloe secundiflora) - place small drops of sap in eyes, later wash

Lokiteng'i (Ipomoea spathulata) - wash eyes with leaves soaked in water

Lokumati (Vernonia brachycalyx) - soak leaves in water, wash eyes

Lowai (Balanites sp.) - place resinous gum in eyes, later wash out.

4) The Liver (Lmunyua) and Spleen (Ntanu)

Diseases of the liver and spleen result in swelling, pain and difficulties to urinate. The liver and spleen are thought to swell as the result of certain mosquito-carried diseases, including malaria, hepatitis, and polio. To relieve pains in the liver, mild purgatives taken, including:

LDepe (Acacia nubica) - peel bark, soak in water, heat as tea

Sukurtuti (Cissus sp.) - stew root in water, drink cold.

In addition roasted goat's liver is eaten, while meat, fat, and liver of sheep is avoided.

There is no herbal cure for a enlarged spleen. The spleen is thought to swell as a result of being squeezed by a swollen stomach and liver. The skin covering the spleen is cut eight to 12 times by pinching the skin and making a small incision with a razor blade or circumcision knife. It is thought that "bleeding" the area surrounding the spleen will reduce the pressure, and reduce the swelling.

5) Systemic Diseases

Systemic diseases refer to those illnesses considered infectious and affect several areas of the body. They are thought to be due to poisons that obstruct circulation of blood and digestion of food. Cures usually are purgatives, as well as treatments for specific pains and discomfort associated with the disease. Systemic diseases include malaria, hepatitis, measles, smallpox, polio, and gonorrhoea.

a) Malaria (Nkirewa), "the fever", is brought about by poison introduced by the mosquito, which congests the blood circulation, ultimately poisoning the liver, heart, and entire body. Treatment is by expurgation, (vomiting and diarrhea), taken orally or anally.

LChing'ei (Euclea divinorum) - soak roots with Sunoni sticks and goat's meat, drink

Sunoni (Lippia ukamebensis), taken with LChing'ei as above, or separately. Boil stems and leaves, add milk

Laseremoi (Harrisonia abyssinica) - boil roots as soup, drink

Loduaporo (Erlangia sp.) - boil roots as tea. Very bitter, induces vomiting

Lowai (Boscia angustifolia) - boil bark as tea and drink

Lmakutukuti (Clerodendrum myricoides) - boil roots as tea

LMarak (Belpharis linearifolia) - stew whole plant in water, add milk and drink

LMokotan (Albizia anthelmintica) - boil roots and bark in tea

LMurkusian (Gardenia sp.) - boil fruit and drink cold

LNyiriman (Unidentified) - stew roots and drink

LPara'a (Euphrobia sp.) - stew leaves and drink

Sinandei (Cassia longiracemosa) - stew leaves and drink

Serijioi (Unidentified) - boil roots, add milk and drink

Lturkan (Sericocompsis pallida) - boil roots and drink

b) Hepatitis (Ndis), "the yellow disease", causes fever, swollen liver, jaundice and yellow eyes. It is thought to be conveyed by the mosquito, which lodges a poison that traps in the liver. Cures, as malaria, include expurgation.

LDepe (Acacia nubica) - soak bark in water overnight, heat and drink or drink cold.
Induces vomiting

Nkilai Orok (Vepris eugenifolia) - soak leaves, mix with bark and tea. Induces diarrhea and vomiting

LKiloriti (Acacia nilotica) - boil bark as soup

Loitokitok (Commiphora sp.) - boil bark as tea

LBukoi (Momordica spinosa) - boil bark as tea

c) Measles (Ltipu) is a disease thought to be conveyed by humans. Although it takes many lives, there is no extensive treatment for measles, except a diet emphasizing milk and butter, animal fat (both sheep and goat), and mild expurgation brought by:

Sunoni (Lippia ukambensis) - boil leaves and stem, to induce vomiting

d) Smallpox (Pepedo) is an incurable infectious disease carried by humans. The intense itching of the pox can be relieved by rubbing the skin with fat from the monitor lizard. No other treatments are known.

e) Polio (Nkurotet) is thought to be caused by the mosquito, or undigested food; poison that spreads throughout the body via the blood. As with other systemic diseases, cures involve expurgation by oral drinks and enemas. In polio, one tends to take as many purgatives as possible, and tend to mix equally those species found in both highlands and lowlands.

Highland species:

Lkokolai (Rhamnus staddo) - boil root

Lamuriei (Carissa edulis) - boil root, add milk and drink

LMakutukuti (Clerodendrum myricoides) - boil roots

Sucha (Barleria spinisepala) - boil whole plant

Lowland species:

LDalampoi (Entada leptostachya) - soak root in water; soup, or tea

LDepe (Acacia nubica) - soak bark in water

Lmaim (Possibly Indigofera sp.) - boil bark in water

Lemichiria (Combretum aculeatum) - boil roots

LTepes (Acacia tortilis) - boil bark

Lteroi (Commiphora sp.) - stew leaves, boil bark.

f) Gonorrhea (Kisunono) is a contagious human disease that is thought to occur spontaneously. Symptoms include passing white discharges, which is indicative of a poisoning in the body. Gonorrhea is thought to produce infertility in women by obstructing the uterus, and is treated by a variety of purgatives that induce diarrhea. The most common cures involve enemas prepared from sheep's fat and Mokotan for men; and sheep's fat, Ndupai, and Makutukuti for women.

LDepe (Acacia nubica) - soak bark in water twelve hours

LKelelit (Euphorbia sp.) - burn stems in fire to remove white gum, prepare in fat soup and drink

LKokolai (Rhamnus staddo) - boil root

Lamuriei (Carissa edulis) - boil root, add milk and drink

Lemichiria (Combretum aculeatum) - soak roots in water, add milk

Laseremoi (Harrisonia abyssinica) - boil branches and roots as tea

LMakutukuti (Clerodendrum myricoides) - boil roots

LMokotan (Albizia anthelmintica) - boil bark and roots, add milk

For difficulties in passing urine:

Lauragi (Sansevieria sp.) - boil root, add milk

Ndupai (Sansevieria sp.) - boil roots and dry inner part of plant in sheep's fat. For women, add to makutikuti roots, insert into anus.

6) Body Aches and Pains

Samburu use a variety of herbal preparations to deal with injuries such as bone fractures, wounds, and burns. In addition, there are local treatments for skin infections, arthritis and rheumatism.

a) Fractures and Dislocations are set by specialists, usually older experienced men. When a bone is fractured, the limb is pulled forward and down from the body, and set in a straight cast made from the long branches of LKueta (Cordia sinensis) or LTepes (Acacia tortilis),

and held together by the resinous gum of Lowai (Balanites sp.) or Loitokitok (Commiphora sp.). The patient will drink tea made from Seketeti seeds (Myrsine africana) for "strength", and avoid fat, meat, and posho for several weeks. Depending on the fracture, the patient will wear the cast from 2 to 6 months.

Dislocations are pulled back into alignment, and put in traction with slings. The swollen muscles are massaged daily with animal fat; and the patient will drink Seketeti tea as with fractures.

b) Wounds and burns are common occurrences that often lead to infection. Wounds are caused by thorns, steel weapons, abrasions, falling from rocks, etc., and are treated by a variety of drying substances including:

LJipilikua (Strychnos sp.) - dry and grind root, sprinkle on cut

LKiloriti (Acacia nilotica) - boil bark or chew raw leaves and apply

LKinoui (Lannea alota) - apply red fluff from roots

Laturdiai (Capparis elaegnoidea) - grind outer root, sprinkle on cuts

Loitakine (Maerva triphylla) - chew leaves, place on wound

Lowai (Balanites sp.) - heat gum and place hot on wound

LParaa (Euphorbia sp.) - place sap on wounds

Burns occur most frequently among small children, who often fall into the domestic fireplace and must struggle to get out from between the enclosing rocks. The burns are usually washed, then treated with:

LDawa lenkop (Melhania ovata) - grind leaf into paste with water, or chew leaf and apply to burn

NKeju nkitojo (Portulaca sp.) - chew leaf and place on burn

Labai (Psiadia arabica et al) - burn leaves, sprinkle ash on burns

Le'ekuru (Withania somnifera) - dry root and grind, sprinkle on burn

c) Skin rashes, when not associated with systemic diseases such as measles, are thought to be brought about by mystical misfortune.

LMarei is skin flaking caused by the curse of members of Dibshai clan, Rendille, and can only be removed by the blessings of a member of that clan. Warts, pimples, and skin polyps are thought to be due to poison blown by toads (Ntua'an), and can be relieved by rubbing the seeds of Tulelei (Solanum incanum) on the skin. Recently, skin infections have been treated by washing with store-bought laundry soap (OMO).

d) Arthritis and Rheumatism (Lbai) are thought to be due to obstruction by old blood and undigested food, related to constipation and difficulties in urinating. It is treated by mild purgatives, including:

LDalampoi (Entada leptostacya) - soak root in water, soup, or tea

LDepe (Acacia nubica) - soak bark overnight and drink

NDupai (Sansevieria sp.) - warm leaves, squeeze and drink juice

Laimurunyi (Maytenus senegalensis) - boil roots in soup and drink

Lauragi (Sansevieria sp.) - boil root, add milk

Lemichira (Combretum aculeatum) - soak roots overnight, add milk

LMakutikuti (Clerodendrum myricoides) - soak roots and drink

Swelling caused by Lbai is reduced by:

Lo'okii (Lycium europaeum) - boil root, let sit and drink cold

LTeroi (Commiphora sp.) - boil bark and stew leaves, add milk

Lorndo (Cyphostemma sp.) - boil leaves with those of

LKunee (Cissus sp.) - add to Lorndo and blood, eat mixture.

7) Pregnancy and Childbirth; Miscarriage and Abortion

A variety of herbal cures are taken by the mother during the period of pregnancy and childbirth, to relieve an upset stomach, difficulties in urination, pains and swelling in the breast. Several cures provide strength for the mother and child, and cures exist to relieve soreness after delivery. A variety of purgatives are employed to remove a retained placenta after birth, and also are used in aborting unwanted pregnancies of unmarried girls.

Abortion (Airony) is performed by older women on an uncircumcised (unmarried) girl in the bush away from the village. Several purgatives are taken orally, and the women massage and press the girl's abdomen down and out. The most common cure to abort is soaking the roots of sokotei (Salvadora persica) in a solution of water, sheep's urine, and dung from goats and sheep, and drinking the concoction. The women begin to massage the girl and she generally aborts sometime that same day. After aborting, the girl usually takes Lterikesi and Sigteti (prepared as for Retained Placenta) to relieve soreness.

Barreness is generally thought to be a mystical problem caused by sorcery (nkurupore) or the curse (Ldekot), in which case it is treated by ritual specialists (Loibonok). But if it is determined that the woman is not suffering from mystical misfortune, but by "God alone", she may be treated by:

Simalelei (Unidentified) - boil bulbous roots in water, add milk and drink.

Serai (Euphorbia candelabrum) - tap trunk for milky latex, mix with water and ox-meat boiled in the ox bladder. Drink soup and vomit 3 to 5 times a day.

a) Upset stomach in pregnant mothers are treated by mild purgatives, including:

LMisikiyei (Rhus natalensis) - soak leaves and roots in water, drink

LNyiriman (Unidentified) - boil roots in soup and drink.

8) Stimulants and Poison

Samburu use of variety of herbal stimulants, ostensibly to give them "strength", but also for relaxation. Tobacco is chewed by married elders or ground and mixed with soda (magat) as snuff (Naisuki) that is consumed by married women, single girls, and single young men. Catha edulis, known as Mira'a or Khat, is a popular plant whose bark is chewed to induce a stimulated state similar to that of amphetamines or cocaine.

Misuse of "strength-producing" drugs is said to be a cause of "shaking" (Aduku or nkirakira, "trembling"), a state of muscular spasms and seizure among warriors unique to Maa-speaking peoples. When a warrior starts to shake, he is said to lose all his senses, and is restrained by two or more warriors to prevent him from causing damage to himself or others until the seizure passes. The seizure appears authentic, although it is said certain warriors are prone to it and others not, and is encouraged by public audiences at rituals or warfare. The seizure may be caused by rapid hyperventilation, which may last up to 40 minutes.

Several poisons are known by Samburu, including the widespread Acokanthera arrow-poisons used by Dorobo, Kamba, and other neighboring groups. Spencer (1959) notes one attempted homicide with poison prepared from the Desert Rose (Adenium obesum).

a) Strength (Ngolon) can be induced by:

Laibalayok (Solanum renschii) - boil roots in tea or sour milk

Lng'alayoi (possibly Cissus) - boil root and drink

Sigteti (Grewia bricolor) - boil berries, add milk

b) Strength cures responsible for shaking include:

Lkinyil (Rhamnus prinoides) - boil roots and drink

LKitalaswa (Myrica salicifolia) - boil roots in soup

Losesiyei (Osyris compressa) - boil roots in soup

Ng'aing'aipiapi (Unidentified) - boil roots in tea or soup

Ng'ilenyii (Syzgium cordatum) - boil roots in tea

Soketeti (Myrsine africana) - boil roots in soup

c) Poisons

LMurijioi (Acokanthera longiflora et al.) - as Dorobo arrow poison, boil wood, roots, bark. (See Section 4). Edible berries.

LPirintai (Adenium obesum) - flower, bark considered poisonous, livestock avoid

Laturdiai (Capparis claeagnoides) - roots considered poisonous

9) Snakebites are rare but are treated efficiently by tying off the wound with a cord, bleeding by incision, and rubbing salt into the wound. The most common snake bites are hemotoxic, caused by puff adder,

viper, and boomslang, although neurotoxic wounds by cobra and mamba are known. Two cures exist to purge the poison from the body by inducing vomiting:

LTikomi (Cardiospermum caridum) - soak roots in water two hours, drink and vomit

LKinyil (Rhamnus prinoides) - roots boiled in soup

10) Mental Health

Insanity (Lmadai) is known, and is said to result from certain diseases including measles, hepatitis, or fever; or mystical misfortune brought about by sorcery or a curse. Several forms of insanity are distinguished, including depression (oltung'ani erobi or the "cold person"), epilepsy (Lakirikir), and trauma, which includes shaking or nightmares usually induced by an attack by a wild animal or enemy. Treatment for insanity brought about by physical diseases includes taking purgatives, such as Nkilai orok (vepris eugenifolia et al.). Treatment for insanity brought about by mystical misfortune must be sought from a ritual specialist (Loiboni). (See Chapter 5).

11) Livestock Diseases

Samburu recognize most of the diseases that affect their livestock, and a vernacular vocabulary is here provided. Most treatments are modern medicines, although several herbal cures exist.

a) Lodua - Rinderpest, or "the bitter disease". The disease attacks young cattle, 2 to 7 years old. Symptoms include loss of appetite, ruffled skin, foaming at the mouth. The animal tries to avoid direct sunlight. Ultimately sores break out on body and animal dies. No traditional cure, Rinderpest decimated Samburu and Masai herds at the end of the last century.

b) SAAR - trypanosomiasis, or "the fly disease", is the most common cattle disease in Samburu and Marsabit district. The disease is most active during the rains, for the eggs of the Tse-tse fly hatch shortly before the rains come. The disease is usually found in dense scrub bush areas, but is considered endemic throughout the two districts. Local cures include forcefeeding LDepe bark (Acacia nubica), but modern medicines are available at most towns.

c) LKulup - Foot and mouth disease, a rare but easily recognizable cattle disease that infects the mouth and foot so the animals can't eat. One sub-clan of Samburu, LToiyo or Masala Section, are considered responsible for this disease, and their blessings (involving spitting milk over the back of cattle) is believed to cure the cattle. No pregnant women can drink the milk of an animal suffering Lkulup.

d) Lmerimer - tick fever, affects all livestock. It can be prevented by bathing the animals with boiled leaves from Labai (Psiadia arabica et al.). Samburu, as other pastoralists, try to keep their animals clean of ticks, and the incidence of tick fever is not great.

e) Ndis - hepatitis is considered to infect cattle and sheep, but not camels and goats. Symptoms include hair loss, weight loss. It is treated with Ldepe bark, a purgative.

f) Lkipei - "the lungs", or contagious bovine pleuro-pneumonia (in cattle, or CBPP), and contagious caprine pleuro-pneumonia in goats (not sheep). There is no local cure.

g) Lpus - possibly glanders, an infectious disease that affects sheep only. Also known in Samburu as Nadol manyeta, the disease acts quickly, with a sheep becoming weak and collapsing within 24 hours. There is no traditional cure, though Samburu feed sheep solutions of tea, milk, tobacco - "anything that might work". It does not attack goats, cattle, or camels.

h) Lokochum - anthrax, a virus that affects pulmonary and muscular systems in cattle, infectious to humans. Samburu believe the disease is caused by poison blown in the grass by toads (ntua'a); no traditional cure.

j) ng'aring'ari - lymphatic swelling in camels, usually in height of dry season. Excessive diarrhea leads to dehydration and death.

k) Lboset - "the uterus", a disease that "makes cattle lazy and thin". No identification of this disease.

1) Nolkoso - infectious disease among camels, no identification.

In addition to these infectious diseases, Samburu recognize and treat a variety of minor veterinary problems

m) swollen udder - producing hard milk in cattle, camels, small stock, is reduced by massaging fat into udder, and holding smoking embers of Losesiyei (Osyris compressa) nearby.

n) fleas - bath solutions prepared from leaves of Labai (Psiadia arabica et al) and LMasikerai (Heliotropium steudner).

o) Worms - anthelmintic preparations from:

Loliontoi (Olea hochstetteri et al) - soak bark in water 12 hours

LMokotan (Albizia anthelmintica) - boil bark, wood, and root

Lng'erioi (Olea africana) - soak bark in water 30 minutes, take cold

Seketeti (Myrsine africana) - mix seeds in water

p) infected eyes in livestock are treated by:

Sarai (Balanites sp.) - dry leaves and grind, put in eyes

q) Retained placenta, a common disorder in cattle, removed by:

Sokotei (Salvadora persica) - burn roots and grind, pour powder in shedded snake skin stuffed with grass, force feed to cow

Lamba'alegi (Cissus sp.) - dry and grind fruit, wrap in grass and force feed to cow

r) Swollen liver - caused by disease, give cattle:

Sukurtuti (Cissus sp.) - pound wood until soft, feed to cow.

4.6 Herbal Medicines and Their Pharmacological Value

The Ariaal share the Samburu's wide knowledge of medicinal plants. Over 135 species are employed for specific ailments that include not only various purgatives, but preparations that treat burns, headaches, infected eyes and livestock diseases.

The range of applications of a particular plant are considerably larger than the number species employed. For example, the lkiloriti tree (Acacia nilotica (L.) Del.) a common highland accacia, is employed for several ailments by several preparations: the bark is boiled as a soup and taken as a purgative for stomach disorders; the bark is soaked in cold water and mixed with milk to treat ng'ony (blood vessels), and the leaf is chewed and placed on open wounds to prevent infection.

Many plants and their medicinal uses are known by all Ariaal. Other preparations may be known only by herbal specialists such as the Kursan. It is difficult to determine where the knowledge of medicinal plants comes from, although the Ariaal like other pastoralists have a wide knowledge of the animals and plants within their nomadic environment.

Much of their knowledge in herbal medicines are shared among other cultures, and certain species with clear physiological effects such as Myrsine africana L., the seketet tree used as an anthelmintic for tapeworms, is found in markets throughout Africa. It is not surprising that a certain body of knowledge such as herbal cures is shared by many cultures, especially when the cures have such noticeable effects.

Ariaal use herbal medicines to reduce symptoms of disease, fever or pain. They do not necessarily have a defined explanation for why a specific herbal preparation works the way it does, nor do they need one. This is not dissimilar from western patients, where we trust our own familiarity with a drug such as aspirin, or simply accept our doctor's recommendation. We may use an antibiotic to treat a particular infection, but most of us are unaware of the nature of the disease or the physiological effects of the cure. If a specific medicine fails to treat the disease's symptoms, we would switch to an equally mysterious alternative, also reputed to be effective. This is the same in Ariaal.

Pharmaceutical properties of folk-medicine has generated a great deal of interest in recent years, and much research has been focused on isolating the active chemical principles of botanical species employed for medicinal purposes. Although there has never been a concentrated pharmacological study of Samburu and Ariaal herbal cures, or that of any East African society, there exists a sufficient body of pharmacological research to make some general statements about Ariaal herbal medicine.

Unlike animal physiology, botanical flora are characterized by unique chemical properties that often have no known relation to the metabolism of the plant. These chemical properties often vary from one plant to another, and because of their structure, show a marked effect on other bio-chemical processes, such as digestion or the central nervous system in mammalian species. These chemical properties are referred to as Active Principles, and they include various formations of glucosides, alkaloids, acids, fixed oils, resins, mucilages, and gums. There is a tendency for an active principle to extend throughout a plant genus, or in some cases to the entire natural order, such as the preponderance of poisonous cardiac glucosides throughout Apocynaceae.



Photo 4.5 - Peeling bark of Kiloriti Tree
(Acacia nilotica (L.) Del.)

The pharmaceutical properties of the following Ariaal cures have, unless otherwise stated, been located by other researchers for the genus, and have, by extension, served to describe the action of the listed Ariaal species. The following description should not be accepted as evidence that these pharmacological principles exist in the Ariaal cures, but rather as properties found in related species that might also exist in Ariaal cures. Only extensive pharmaceutical research will corroborate these generalizations.

a) Glucosides

Glucosides are chemical compounds that upon hydrolysis yield one or more sugars, usually a hexose sugar, and often glucose. These sugars can be split by acids giving rise to genins, compounds that have defined chemical actions. (Githens, 1948).

1) Tannins are glucosides of gallic or protocatechuic acids, that have the property of precipitating proteins and mucus, and constricting blood vessels. This astringent action is useful in checking hemorrhage and diarrhea; it is also useful in burns and wounds because it can cover an area with an impervious protective coating. This fixative property has led to the wide commercial use of tannins in tanning processes.

Le'ekuru (Withania somnifera Dunal) has been shown to be of use in drying up wounds because of its tanning content², and Losesiyei

(Osyris abyssinica A. Rich) is used widely to reduce swelling because of its high content of tannins³. Presence of a high tannic acid content leads to irritation of the digestive tract, and is thus used widely for purging. High tannic acid content in LDepe (Acacia nubica Benth.) LTerikesi (Acacia senegal (L.) Willd.), Lerai (Acacia hockii de Willd.) and LMiskiyei (Rhus natalensis Krauss) is a probable reason for the effectiveness of these cures in mild purgation.⁴

b) Saponins are an important group of glucosides widely distributed as plant constituents. Saponins have the property of causing foaming when added to water, and many induce nausea and vomiting. Furthermore, they increase secretion in the respiratory passages and a greater fluidity of mucus, leading to an expectorant action, or loosening of coughs. Besides its use as an emetic and expectorant, saponins lead to a lowering of body temperature, and thus are often used to reduce fever. (Githens, 1948).

Saponins are thought to be responsible for the purging qualities of Lkiloriti (Accacia nilotica (L.) Del.) Lemichiria (Combretum aculeatum Vent.), sokoltei (Phytolacca dodecandra L'Herit), and the snakebite cure LTikomi (Cardiospermum Corindum L.)⁵. The wide use of Entada leptostachya Harms) (Ldalampoi) in curing rheumatism has been attributed to the astringent quality of saponins⁶, and the toxic, foaming action of saponins is the use in treating infected eyes, such as in Balanites genus (Lowai, Sarai)⁷.

c) Anthelmintic glucosides are compounds that are toxic to worms, and are used widely as anthelmintics and purgatives. Albizia anthelmintica Brongn. used in Samburu as a tapeworm cure (LMokotan), contains musennin, a saponin-like glucoside that is particularly effective in killing tapeworms⁸.

d) Anthraquinone cathartics are glucosides used widely in purging, and are found often in Africa as malaria cures. Cassia genus (Senatol) has been particularly effective in this, due to an abrin-like toxic principle named absin that is highly poisonous, accounting for its purgative effects⁹.

e) Cardiac glucosides are extreme poisons that lead to digitalis action on the heart resulting in loss of coordination to beats in different chambers, a slowing of the heart rate, and finally irregularity and cardiac arrest. The first symptom of the poisoning is nausea, which leads to the use of this property as emetics. It is thought that Carissa edulis (Forsk.) Vahl (Lamuriei) is used as a gonorrhea purgative because of its small amount of cardiac glucosides¹⁰.

Of even greater notoriety is the action of cardiac glucosides in arrow poisons. Acokanthera longiflora Stapf. and A. fricsiorum Margraf (LMurijioi) is used widely as arrow poison by Dorobo, Kamba, Bushmen, etc. because of its potency. An animal wounded in the flesh dies from 15 to 30 minutes, depending on the size of the animal and the potency of the dose. The poison is prepared from all woody parts of the tree by boiling the pulp until a thick resinous liquid is extracted. The

active principle is ovabain (0.4-8.9%), usually in the quantity from 1 to 5 grams per arrow, although the lethal dose is .002g. Besides affecting the heart, ovabain affects the central nervous system, depressing the effect on the sino-atrial node, producing bradycardia. There is no known antidote to this poison¹¹.

Iperiantai, the desert rose (Adenium obesum (Forsk.) Roem & Schult.) glucosides: echujin, somalin, abobioside, and digitalumverum-hexecetate. The seeds contain the highest concentration of the poisons¹².

f) Additional glucosides includes those that yield salicin (salicylic acid), of use in rheumatism; cyanides (cyanogen glucosides), and neurotoxic glucosides that exert influence on the central nervous system, but none of these are known in the existing Arisaal cures.

2) Alkaloids

Alkaloids are compounds which combine with acids to form salt-like compounds, most of which are poisonous to some degree. Alkaloids have a wide medicinal use as cathartics and stimulants.

The poisonous qualities of alkaloids is thought to be responsible for the purgative LKiloriti (Acacia nilotica (L.) Del.), LKarasha (Sterculia africana (Lour.) Fiori), LBukoi (Momordica spinosa (Gilg) Chiov.), and Sinandei (Cassia longiracemosa Vatke). Cassia absus L., a species closely related to Sinandei, has demonstrated effective emetic

properties due to Chaksine, an alkaloid whose most stable salt is chaksine sulphate. This salt produces a depression in the central nervous system, and stimulates some of the muscles in the intestine, bladder, blood vessel walls, and uterus. In addition, chaksine sulphate has given positive anti-bacterial readings¹³.

The use of Sokotei, the Toothbrush Tree (Salvadora persica L.), in removing retained placentas in women after childbirth, is attributed to the action of alkaloids¹⁴. It is possible that the use of LTulelei (Solanum incanum L.) in relieving sore throats is also due to alkaloid properties. Solanine, a toxic saponin-like glycoalkaloid found in Solanum, has been shown to have a direct irritant effect on the mucus membrane. The plant is used widely in Africa to treat pleurisy, pneumonia, toothache, sore throat, and gonorrhea¹⁵.

Alkaloids are also responsible for the action of certain drugs taken for strength in Ariaal. An extract from the fruit of Laibalayok (Salanum renschii Vatke.) has been demonstrated to diminish the power of conductivity of nerves, and temporarily stimulate cardiac action¹⁶. Laramirami (Senecio pitititanus A. Rich.) contains the highly toxic senecio alkaloids, producing motor nerve paralysis, contractions of the uterus, and digitalis-like action on the heart. It is used widely as a purgative¹⁷.

Finally the function of alkaloids as a stimulant should be mentioned, as alkaloids are responsible for the action of Mira'a (Catha

edulis (Vahl) Endl.) as well as opium, cocaine, datura, etc. Mira'a, is a stimulant well known to Arabs, Somalis and Masai-speaking groups. Chewing the bark leads to feelings of exaltation, followed by insomnia, loss of appetite and sexual desire. The active principle of mira'a is the alkaloid cathine, a powerful exciter of the nervous system that abolishes sleep, gives strength and sustains muscular activity. This stimulant-narcotic effect on the ONS is similar to cocaine, although there is no analgesic or anaesthetic properties. Cardiotoxic effect are similar to those of caffeine. In large doses, cathine paralyses motor-nerve terminations, while sub-lethal doses increase respiration, body temperature, and heighten sensory perception. Many psychological attributes have been found in users such as carelessness and irresponsibility, but there is no tendency to increase the dose, and there is an absence of withdrawal symptoms on abstinence¹⁸.

3) Fixed oils

Fixed oils are fats or unsaturated fatty acids, that include palm oil, peanut oil, and castor oil. Because these fats are not readily absorbed, they act as cathartics on the digestive system and are used medicinally to purge undigested food from the system. Lobarana (Jathropha dichter Macbr.) is an effective purgative owing to a resinolipoid principle in its fixed oils. This is an irritating poison, that leads to vomiting and diarrhea¹⁹.

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4) Essential oils

Essential oils are volatile and odorous compounds that form resins in a complex condensation process. These oils regulate intestinal movements, and are useful in relieving an upset stomach. It is thought that Sunoni (Lippia ukambensis Vatke.) draws its mild purgative powers from essential oils²⁰.

5) Resins

Resins differ from essential oils in that they are solid, only slightly volatile, and more likely to be pungent on burning than aromatic. Resins are generally irritating to mucus membranes, and thus are used as expectorants, purgatives, and treatment of eyes. Resins are found in several Samburu purgatives, including Lmurgusian (Gardenia sp.); Sakurdumi (Kerdostis gijef (J.F. Gmel.) C. Jeffrey), Raraiti (Kalanchoe sp.) and Lng'iriai (Lawsonia inermis L.)²¹.

Sokoni (Warburgia ugandensis Sprague) is a widespread expectorant used to quell a cough and relieve chest congestion in bronchitis. The inner bark and root have a pungent ginger/pepper taste, due to the presence of amorphous resinous substances, and is quite effective in loosening a cough²². Resins are considered responsible for the expectorant qualities of two other chest cures, LMarakuat (Croton megalocarpus Hutch.) and Loisuki (Fagara chalybea (Engl.) Engl.)²³.

The irritating nature of resins may be responsible for the tearing effect of two Samburu eye cures, Lokiteng'i (Ipomoea spathulata Hall.f.) and Sukoroi (Aloe secundiflora Engl.), whose bitter sap is applied to infected eyes²⁴.

6) Miscellaneous Principles

a) Embelic acid, or embelin, is the active principle in the toxic anthelmintic use of Myrsine africana L. (Seketeti), a popular tapeworm remedy throughout Africa²⁵.

b) Oxalic acid is an irritant that causes burning in the epithelial membranes and is found in the purgatives of Cissus species. (Lamba'alegi, Sukurtuti, and Ing'alayoi.)²⁶.

c) Toxalbumins are poisonous proteins that induce violent expurgation as they are not digested. They are found in the Samburu purgative Lakirding'ai (Croton dichogamus)²⁷.

d) Plumbagin is a compound that stimulates the ONS, smooth muscle organs, and shows anti-bacterial and antibiotic action. It is found in the important medicine LKiriantus (Plumbago Zeylanica L.), of which Watt noted "There is sufficient pharmacological evidence to support the use of this herb in folk medicine".²⁸

e) Latex is cohesive gum that produces irritation due to phyto-toxin with hemoglutinizing properties. Latex is acrid, irritating, and toxic, and ingestion causes immediate vomiting and diarrhea²⁹. Latex

is found in the gonorrhea cure LKelelit (Euphorbia sp.) and in Lekule (Euphorbia systyloides Pax), which small Samburu boys apply to their penis to contract the foreskin when they are "playing moran".

4.7 Summary

As nomadic pastoralists living off their livestock herds, the Ariaal, Rendille are on the whole a well-nourished people, particularly when compared to their agricultural neighbors. Their diet, consisting of milk, meat, and blood, with supplements of grains, tea and sugar, is high in protein and low in fats and carbohydrates, and children make an easy transition during weaning to livestock milk. Despite their nutritious diet, the Ariaal suffer from many infectious diseases and health problems prevalent in poor Third World countries---malaria, respiratory infections, including tuberculosis, gasteroentiritis, wounds and skin infections, and gonorrhea. In addition, they are exposed to a number of diseases associated with livestock management, including brucellosis, anthrax, eye infections from flies, and anemia complicated by low iron amounts in their diet. Children suffer the highest mortality, as in other Kenyan populations where two out of five children born never reach their fifth year. Infant mortality is particularly high, resulting from dehydration that accompanies certain diseases such as malaria and gasteroentiritis.

Most serious diseases are thought to cause obstruction of vital internal pathways in the body, particularly in the digestive and circulatory systems. These blockages may result from food congestion, caused

by the accumulation of fatty or bulky foods, or from invisible poisons thought to enter the body from insects such as mosquitos or ticks, or from infection from other humans. The obstructions are thought to cause the blood to turn black, for the limbs to become stiff and for fever and for fever possibly to result.

Most traditional cures of disease are aimed at relieving these obstructions, either by massaging digestive areas or by the use of powerful purgatives derived from herbal medicines. The Ariaal use over one hundred and thirty trees and shrubs as herbal medicines, and their experience in treating health problems is broad and extensive. Knowledge of herbal medicines is not secret nor the exclusive property of healing specialists, and most Ariaal have some knowledge of folk-medicine. However, there do exist certain members of the society who have greater experience in healing and who are consulted for various health problems. These specialists are known as Kursan, and include midwives, masseurs, and those with a greater cognizance of plant medicines and their preparations. The Dorobo hunters in the forests bordering Ariaal and Samburu communities are considered especially knowledgeable in herbal medicines, and one practitioner, Lemeribas, provides healing cures on a full-time basis to Ariaal communities.

Plant species used by the Ariaal in traditional healing are for the most part effective in relieving certain symptoms of disease. Ariaal herbal medicines are not placebos, but contain certain active principles such as alkaloids, glucosides, or resins which have a number of

observable effects, such as reducing fever or relieving a sore throat. Most plants used by the Ariaal are toxic to varying degrees, and are used widely as emetics and diarrhetics. On the whole, medicinal treatments of disease are oriented to cleansing the body of polluting influences.

Most health problems in Ariaal are attributed "to God alone", that is, strictly natural causes. There do exist, however, certain types of illnesses and health problems that are attributed to mystical causes, particularly to witchcraft and acts of sorcery. If a person is suffering from witchcraft, no medicinal treatments that address the physical symptoms are considered effective. Only preventing the witchcraft itself can the disease be treated, and to this end a ritual specialist and not a Kursa must be consulted. Witchcraft and the role of the loibonok specialists in treating these particular health problems are discussed in the following chapter.

Footnotes

1. Tucker and Ole Mpaayei (1955:279) define ntikana as "malaria" in Maasai, but I think, as this discussion show, ntikana is a particular physiological development that is thought to occur with malaria, hepatitis, and polio.
2. Githens, 1948:51
3. Watt & Breyer-Brandwijk, 1962:927
4. Githens, 50
5. Githens, 52
6. Watt, 597
7. Watt, 1065
8. Watt 413, Verdcourt and Trump 1969:77 described musennin as a resin.
9. Watt, 568
10. Githens, 52
11. Watt, 62-67
12. Verdcourt, 129
13. Watt, 566
14. Githens, 55
15. Verdcourt, 170-171
16. Verdcourt, 171
17. Watt, 257
18. Verdcourt 98, Watt 182
19. Githens, 7
20. Githens, 57
21. Githens, 59
22. Watt, 158
23. Githens, 59
24. Githens, 59
25. Verdcourt 120, Watt 787
26. Githens, 17
27. Githens, 8
28. Watt, 472
29. Githens, 7

Chapter 5

Beliefs in Witchcraft and the Role of The Loibonok Ritual Specialists in Health and Disease

5.1 Ariaal Beliefs in Mystical Powers and their Relation to Health Problems

As described in the last Chapter, the Ariaal attribute many health problems to natural causes. These include illnesses brought about by bad diet, insects, contact with infected people, or injuries sustained in accidents. Cures consist primarily of herbal preparations and are based on rational concepts of pathology and the empirically verifiable effects of the treatments.

Not all illnesses are attributed to natural causes, however, the Ariaal, like many traditional societies in Africa, believe in a mystical power in the universe. On the positive side this power includes the concept of God the Creator and provider of life, and the ability of man to seek God's blessings. On the negative side, this power can be manipulated by witches, sorcerers, and evil forces to bring about illness misfortune, and death.

Health problems caused by supernatural forces occupy a defined place in the Ariaal concepts of health and disease. It is believed that a person who is mystically afflicted cannot be cured by any means except mystically powerful cures. In Ariaal, as in Samburu and Masai, there exist a particular type of ritual specialist known as the Loibonok, who

can determine whether a person has been bewitched or not, and who can treat these misfortunes with mystically powerful medicines stronger than those of the witch.

Insofar as describing health problems, it would not serve to argue at length whether witches and witchcraft exist. Such a discussion would in the words of an African psychiatrist, "confuse the language of one area with the facts of another, for those who believe in it, witchcraft does indeed exist" (Swift & Asuni, 1975:37).

Any health problem such as an infectious disease or a snakebite may be caused by witchcraft. The Ariaal do not attribute all health problems to witchcraft, however, and most often physical disorders are thought to be caused by natural phenomena. There do exist, however, certain health problems that are most often attributed to supernatural forces such as witchcraft, particularly disorders of the mind (epilepsy, depression or psychotic behavior) disorders of the reproductive functions of women and livestock (infertility or barrenness), and accidents or death by bizarre means, such as the rapid onset of blindness, drowning, or death by lightening. Against these misfortunes, the only protection and cure are the use of the supernatural powers of the Loibonok specialists. To understand the powers of these men and their relation to the society, it is helpful to place their role in the wider system.

The Ariaal are on the whole a pragmatic and unsuperstitious people. They do not believe in ancestors that can punish wrong doing as in the

Lugbara of Uganda (Middleton, 1967), nor do they attribute every misfortune to witchcraft as do the Zande of Central Africa (Evans-Pritchard, 1937). However, the Ariaal, like the Samburu and Rendille, believe in the existence of a supernatural world, unseen but nevertheless real, where powers and forces can interfere with and disrupt normal life.

Ariaal share to a large degree the religious beliefs of the Samburu, which are found in other Maa-speaking cultures like the Pastoral Masai (Spencer, 1973). The creation of man, his livestock, and the world they inhabit is attributed to a supreme being (nkai in Samb., Wakh in Rend.), a vaguely conceptualized force which does not directly interfere in the day to day affairs of man. Yet Nkai is considered the source of life, providing rain from the sky that turns the earth green, feeding the domestic livestock who convert grass into milk, and thus feeds man and his family. Nkai's plan is considered harmonious and good.

The relationship between heaven (nkai) and earth (nkop) is not regular and consistent, however, for rainfall is unpredictable. Lack of rain leads to drought and brings about great hardship--livestock and human diseases, decreased milk production, livestock predators and human enemies. Green is the color of life, it is the color of the beads worn about the waist by young children, but it can turn white, the color of death, as the land dries and the desert becomes barren.

Death is a common occurrence in Ariaal, particularly among small children. Its frequency makes it no less abhorrent--the Ariaal, as

Samburu, Rendille, and Masai, have a revulsion to death that is almost conspirational. A dead person is never mentioned after death, and his personal names dies with him, never to be used again. He is buried in a simple grave in the settlement, which is immediately abandoned in Ariaal and Rendille, or left out in the bush, curled on his right side in Samburu and Masai. If hyena's haven't consumed the body of the deceased within a day of death, a goat will be slaughtered to attract the scavengers, for a man's body may become a dangerous and unwanted spirit (mileka, milekai, Samb.; ol-oirirau, il-oiriruani, Mas.) that hovers around the site.

Death is a natural occurrence, the completion of life's journey met by every living thing. Yet it is a dangerous and mystically-charged state, one to be avoided and undiscussed.

A condition less shocking than death, but equally tragic, is in a more insidious form, is infertility, or barrenness. It is not possible to describe statistically the incidence of infertility, but it is high. Perhaps, one out of 10 marriages do not produce children or produce only a few. Many health problems resulting in infertility may be prevented or cured by modern medicines, such as infections in the reproductive and urinary tracts of men and women. But without such medicines, there are few traditional treatments that are effective in curing this widespread disorder. A woman without children, like a cow which can neither reproduce or give milk, is considered useless and incomplete,

a creature to be pitied, and sometimes to fear. Many cases of infertility in women are thought to be caused by mystical sources, such as sorcery or witchcraft, and often a barren women is considered somewhat dangerous herself, jealous of other women and capable of taking evil action against others. In the hauntingly beautiful 'Barren Women's Song' (Lcheni lontorosi) sung as a prayer for children, the singer laments:

"I brought some fruits for children,
I tried to give them to another women's
child, And the mother told that child
not to eat those fruits, otherwise
you'll be given poison, I was ashamed
of the fruits I brought, I left them
on my bed. (See Appendix 3 for total
song).

Fertility is a blessing and unusual births are distinguished as uncommonly fortuitous. Twins (lmaoi; lmao), unless first-born males (who were in former times killed in Rendille and Samburu as too fortuitous, and thus dangerous) are given special ceremonies along with those breech-birther (ntomoroshi), "feet-first"). Their ears are pierced and bottom-incisor teeth removed not in an ordinary fashion with thorns or knives, but with the blood-arrow (lng'oret, lng'oreta) used to tap blood from livestock. The arrow, a mystically-charged object given as a gift by blacksmiths, signifies God's blessings as "it is God who pierces their ears". A large goat is roasted for the entire settlement, and gifts of tobacco are made to the parents of the blessed children.

Twins and breech-births are ritually blessed because they are both propitious and unusual occurrences in the settlement, a fortuitous event that is especially significant for all. There are also unusual events that are quite the opposite---unpropitious and dangerous occurrences that must also be ritually marked. A Lunar eclipse, a rhinoceros or zebra entering the settlement, an unusual death such as drowning, are indications of malevolent and supernatural forces at work. They are omens of ill-will, brought about by the evil of others unknown and unnamed.

Why do the Ariaal have such beliefs in supernatural forces they neither see nor prove, but which they sincerely believe exist? Such questions have confronted students of religion for sometime. I am inclined to agree with those such as Evans-Pritchard who describe beliefs in witchcraft as "explanations of unfortunate events" (1937:63-84) or what Turner (1967:114) characterizes as "attempts to explain the inexplicable and control the uncontrollable". Beliefs in witchcraft, and God, fill in the blank spaces man has in his conception of the universe, and his place in it.

Moreover, these beliefs define a domain within which man can act, that he is not helpless in the face of such misfortunes. Many mystical afflictions are thought to be the result of human action or supernatural forces---either the innate power of witches, such as the 'evil eye', or the use of substances prepared by sorcerers. These afflictions can be

treated by calling in ritual specialists capable of defeating these forces with a greater power. In Ariaal, as in Samburu and Masai, there exist a category of ritual specialists called loibonok (s. loiboni), men with inherited abilities to predict (by dream or divination) the occurrence of witchcraft and to combat it by the preparation and manipulation of ritual medicines. The loibonok play an important role in Ariaal concepts of health, for they are virtually the only curers capable of treating afflictions brought about by mystical causes.

The Ariaal conceptualize their world as made up of both physically observable and mystically-charged forces, of natural processes and supernatural processes. These worlds are not exclusive, but interact and become an interwoven fabric in which man lives. Although the two domains of 'nature' and 'supernatural' are integrated, they are distinct and operate by their own principles. This is clear in the Ariaal conceptualization of health and disease. A person may be suffering a known disease or infertility---what is important is knowing the cause of the illness, whether it is caused 'by God alone', i.e., natural factors, or whether witchcraft is responsible. Knowing the origin of the illness, proper treatment can proceed, either by using plant medicine (ndawa lol cheni) prepared by an herbal specialist (Kursa) if it is a naturally caused disease, or by consulting a ritual specialist such as the loiboni who will prepare ritual medicines (ntasim) to defeat the witchcraft and remove the illness by mystical means.

This chapter will explore in depth the role of the Ariaal loiboni, for his knowledge and practice summarizes in concentrated expression Ariaal beliefs in mystical forces held accountable for certain types of illnesses they experience.

5.2 Beliefs in Witchcraft: The Curse and Sorcery

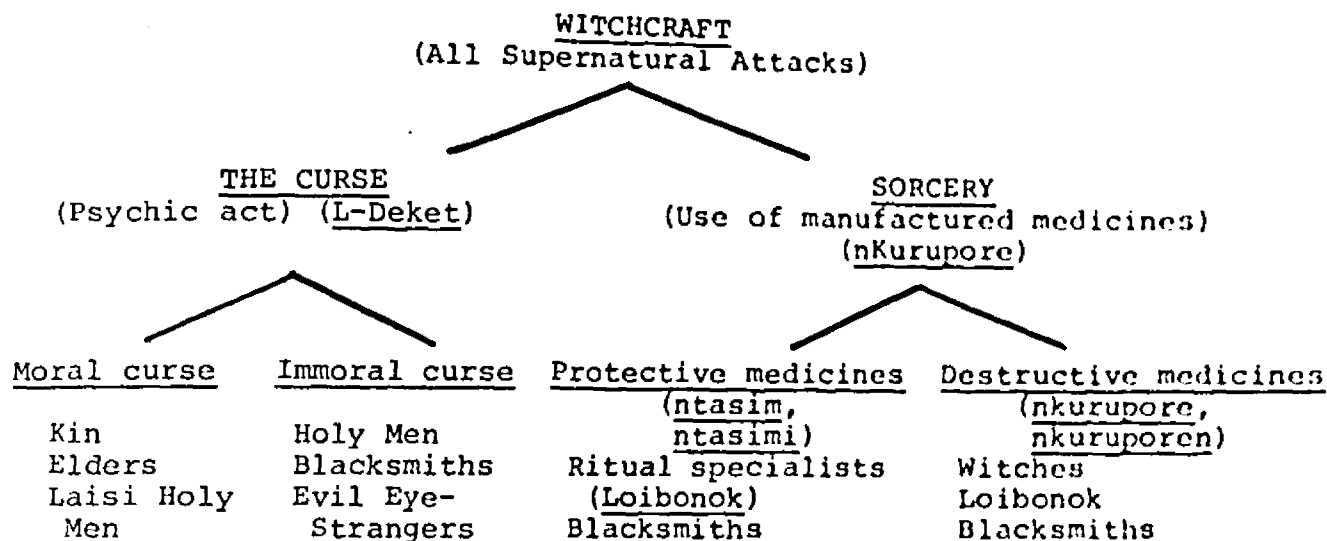
The Ariaal, as in both Samburu in Rendille, distinguish two types of mystical powers with which humans may harm one another: the curse (ldekēt, ldeketa) and sorcery (nkurupore, nkuruporen). The curse is the power to "call on God" to punish a transgressor---it is an innate 'psychic' power that is usually morally justified and a public act. A form of the curse can be malicious however, such as by blacksmiths or laisi families from Rendille (Spencer, 1973). Neighboring tribes are said to possess the "evil eye" an innate power similar to the curse where its possessor can harm others merely by thinking ill of someone. The Turkana are said to possess the evil eye (nkapelanicho, from nkapelani, nkapelak or Turkana witches) as are the Boran where it is known as Botha.

Sorcery, however, is not an innate power like the curse but the use of objects, spells, and ritual procedures to harm someone. Malicious sorcery is committed by witches (lairuṣoni, lairupok) who use mystically powerful substances (nkurupore) which are manufactured by unknown sorcery specialists, often thought to be the unscrupulous loibonok curers.

Evans-Pritchard in his seminal study of witchcraft among the Azande (1937) used the term 'witchcraft' to describe the "psychic" innate acts of witches to harm their victims, and the term 'sorcery' to describe the "performance of magic rites with bad medicines", that is an act brought about indirectly through the mediate manipulation of ritual objects, spells and rites.

For Evans-Pritchard, sorcery is "bad medicines", while "good medicines" or the cures of ritual practitioners combating sorcery are "magic". Similarly a psychic act which harms unjustly is "witchcraft" while that which punishes justly is a form of "blessing" (1973:11).

The Ariaal too distinguish "good medicines" (ntasim) from "bad medicines" (nkurupore) and a just curse from an unjust curse (both of which are called ldekot, but of which only certain specialists such as the blacksmiths or laisi can use their curse unjustly). Rather than use the term 'witchcraft' in Evans-Pritchard's more narrow context, I prefer to use it in Jean Lafontaine's sense as "all supernatural attacks", and confine the term sorcery to 'those powerful spells in the possession of the specialists in magic' (cited in Turner 1967:123). The term sorcerer would adequately describe the Samburu loiboni for he produces both the "bad medicines" which inflict sorcery acts and the "good medicines" with which to combat them. However, I will refer to him as "Ritual Specialist". Diagrammatically, Ariaal and Samburu beliefs in witchcraft, can be described as:



The diagram essentially defines witchcraft as the human application of mystical forces to both good and evil purposes, and is helpful in understanding the Ariaal distinctions of psychic curse from the mediate use of ritual objects in sorcery.

The curse in Ariaal and Samburu is used most often to morally punish an offender for a wrong doing. It is a power possessed by every individual in the society to "call on God" by psychic will to inflict harm on someone. The efficacy of the curse is considered more effective the closer the kinship bond and higher the seniority one holds over another, such as from one's father, mother, mother's-brother, or 'firestick' elder. Spencer described the close relationship of the curse to blessings in Samburu:

"In Samburu eyes, any man is normally under the propitious protection of his own guardian spirit. If some other Samburu blesses him, then the guardian spirit of the blessing will join to give him added protection. If, on the other hand, he is justifiably cursed, then his own guardian spirit will abandon him to his father while the guardian spirit of the curser will try to destroy him (or his wives or children or cattle)" (Spencer, 1973:113).

Those who have been cursed may suffer blindness, infertility, or sudden death. Often the curse is cited as a negative lesson in violating social moves: a blind woman was inhospitable to her in-laws; a woman loses her house to fire after she abuses her mother, and so on.

The curse is considered an awesome power, but although frequently threatened it is rarely invoked. Spencer (1965) has described how threat of the curse is a principle weapon with which Samburu elderly maintain their social control over the Moran age group.



Photo 5.1 - A blind women said to have been cursed for refusing her husband's kin hospitality.

The curse is not considered effective if it is not morally justified. In one instance a boy was cursed by his mother's brother for letting a calf go astray while herding. "Before the end of the day you'll see fire!" cursed the old man. The boy defiantly replied "Let God be the judge", and he suffered no ill effects. Later the old man "forgave" his nephew and ritually blessed him, which many upheld as the true reason no harm occurred. There are, however, certain families who are considered to have a very powerful curse, and who can inflict harm unjustly. These include the blacksmiths (lkunono) and the Laisi "holy men" descended from certain families in Rendille (lipire in Rend.) The Ariaal generally despise these families because of their often incessant requests for gifts such as livestock, but are reluctant to refuse favors because it might anger them to commit dangerous acts. On the other hand, members of these families are often requested to offer their blessings, considered equally powerful as their curse, either in the form of a prayer by the Laisi or in the use of ritually important steel objects made by the blacksmiths such as the circumcision knife or the arrow used to tap blood from livestock.

A person who has been cursed has little protection against supernatural attacks. The only "cure" is to seek the forgiveness of the perpetrator and have him remove the curse which is achieved by blessings and prayers. Misfortunes and health problems attributed to the curse are rare in Ariaal, and it does not occupy a major position in the treatment of illness and disease. Of much greater danger are the attacks brought about by sorcery.

The occurrence of sorcery acts are not discussed openly, but are nevertheless held to be widespread and effective. A man may lose most of his cattle to pneumonia while his neighbor's stock are healthy; a woman has successful pregnancies but loses all her children after birth. Not all unusual misfortunes are attributed to sorcery, but if a person feels his luck is unnaturally bad and he knows he has personal enemies, he usually suspects the occurrence of sorcery.

Malicious sorcery is thought to be the result of jealousy or anger of others, usually neighbors residing in the same settlement or in close proximity. Their envy or other bad feelings are not socially approved, and it would be useless to attempt the public curse to harm the individual unless he was a Laisi or blacksmith. Rather, he would resort to secret illegal means to avenge his enemy: Said one man who felt bewitched:

"Some people simply hate others. They see a man with many cattle and they are jealous, or another slights him in favor and he revenges with nkuropore".

nKuroporen are "bad medicines", containing mystically powerful substances that are bought secretly from witches (lairupok) or from certain loibonok specialists. These medicines are thought to be in the form of a ground powder, consisting of certain animal and plant ingredients such as a burnt snake or a bird's nest, which can be secretly marked on the victim. Some methods for inflicting the sorcery are to

secretly mark a persons house, or throw a stick covered with the powder into a livestock enclosure, or even to flick one's fingernail, under which lies the poison, at someone. Once inflicted, the sorcery can have effects similar to the curse: The victim may be driven mad, lose his cattle, suffer infertility, become blind or lame or ultimately die.

It is difficult to empirically prove that sorcery exists in Ariaal. Evans-Pritchard noted the largely imaginary and fictitious nature of sorcery in Azande, "I have never known Azande to admit his witchcraft" (1937:125). Ariaal, like Azande, believe witches exist and can even name them, but can never imagine that they themselves are witches or capable of producing sorcery. Yet just as Evans-Pritchard was once confronted with a sorcery object of two wood whistles with ground powder in them, tied and hidden in the roofs of his hut, I too have seen materials in the house of a alleged witch that were said to be sorcery substances. They included a dried cobra head, burnt remains from an agama lizard, and the stuffed body of a nightjar bird, all animals considered mystically powerful and highly dangerous. The 'witch', an elder with alleged divination skills, said the materials were to protect the settlement from Turkana and Borana enemies, but never to be used against Ariaal, Samburu or Rendille.

Imaginary or not, sorcery is believed to exist and held responsible for certain health problems. Unlike illness due to the curse, sorcery can be treated by consulting the loiboni ritual specialist to first

determine if sorcery is responsible for the disorder, and secondly to combat the bad medicines of the sorcerer with the stronger medicines of the loiboni. As in Azande, it is not essential to name the witch responsible for the sorcery, although the loiboni often implies he knows their identity. This, along with the protective medicines, results in cessation of the sorcery, and the recovery of the ensorcelled victim.

5.3 The Role of the Loibonok in Combatting Sorcery

The institution of Loibonok specialists is particular to and characteristic of Maa-speaking societies. Claiming descent to a founding ancestor adopted by the Kisongo Masai sometime before the 18th century, families of Loibonok had spread to other Maa-speaking groups including the Samburu, Uasin Gishu, and Laikipiak Masai by the 19th century. (Jacobs, 1965).

All male members born into a loibonok family are said to possess the inherited and mystical ability to "see" past, present, or future events ordinarily hidden to lay people. These visions are achieved either spontaneously, in dreams or under the influence of alcohol, or by the use of divination objects known as the nkidong (or "container", the gourd or cow's horn from which the divination objects are thrown). Usually only one son is permitted to divine by nkidong, chosen both by his father and the community if the youth is considered a leading Loiboni based on the accuracy of his predictions.

More than diviners and prophets, the Loibonok also possess the mystical ability and secret knowledge to manufacture mystically powerful medicines (ntasim, ntasimi) that are employed to combat the evil spells and medicines of sorcery. With the two weapons of nkidong and ntasim, the Loibonok are in the main responsible for the health and welfare of the society by protecting them against mystical attacks. His medicines are particularly important in protecting children and livestock from disease, women from infertility, and Moran from enemies when off in distant areas.

Among the Pastoral Masai, but not found in Samburu, the Loibonok can attain important political leadership, perhaps because of their ritual role in the age-set ceremonies of the Moran (Jacobs, 1965). No such political role has emerged among Samburu loibonok and they are not remembered for political leadership that figures like the near-legendary Mbatain provided to the pastoral Masai in the nineteenth century.

The earliest known loiboni in Samburu is Sharrar Leaduma (of the Lkiteku age-set, c. 1851) who is said to have fled from Laikipiak during their internecine wars with the Purko Masai. At present there exist five loibonok families in Samburu: Leaduma (Lorokushu section), Lenkila (Pisikishu section), Lekominka (Loimisi section), Leparkile (Lukumai section) and Lemeteki (Masala section). All families claim descent from the Laikipiak except Lekominka, who descend from the Sonja family of diviners in Meru. The five families are spread throughout the highland

and the lowland areas of Samburu and Ariaal, and have varying reputations and followings. Three families are found in the lowlands: Leaduma, Lenkila, and Leperkile, who serve the predominately Ariaal population as well as nomadic Rendille, who have no loibonok of their own.

Modern Samburu Loibonok are primarily concerned with selling their services of nkidong divination and ntasim medicines to communities concerned about sorcery attacks. These men occupy however an ambiguous position in the society. As 'mystical intermediaries' between the forces of the supernatural world and events on earth, they are sought out for their mystical powers. To protect against mystical misfortunes, yet they are also feared and mistrusted for it is thought they sell original sorcery substances to the witches. Furthermore, many loibonok are distrusted as quacks and charletans, and even those thought of as genuine are disliked for their wealth in livestock, which were acquired as payment gained from someone's misfortune.



Photo 5.2 - A Samburu Loiboni throws the nkidong divination gourd. His son watches at his side.

The loibonok are notoriously anti-social. In addition to their reputation as sorcerers, they are often drunk, abusive and ungenerous and quick to anger---features criticized by the larger population. Nevertheless, the loiboni is welcomed in most communities, and often invited to spend prolonged visits as a guest of other settlements. Despite his unpleasantness, the loiboni's powers are an asset to any community---protecting its inhabitants with ntasim and determining with his nkidong divination the most favorable locations, with regard to rainfall, grazing and the absence of enemies or predatory, to move the livestock and settlement.

The major attraction of the loiboni, and the material basis of his existence; is his ability to determine if someone is bewitched by sorcery and if so, to prepare and dispense the protective ntasim medicines. These services cost dearly, usually one cow for a successful cure, (a value of 250-500 shillings compared to 2 shillings for a Kursan herbalist), but a loiboni with a wide reputation for his divinatory and curative services will usually have business to perform most weeks of the year.

A) The Nkidong Divination

Only a few loibonok are of significant stature, based on the accuracy of their predictions and efficacy of their medicines, to be known as "great" (Loiboni Kitok), and who are considered powerful enough to sell their skills in combatting sorcery. Samburu loibonok kitoki are

characterized by their possession of the nkidong, a large guord or cow's horn containing hundreds of small objects used in divination.

The particular technique of the nkidong divination enables the loiboni to probe deeper into his visions. It enables him not only to 'see' a sorcery act, but to determine who is responsible for the sorcery and why it was committed, factors which are important in performing the subsequent ntasim curing rite.

Sorcery divination, that is using the nkidong to determine if sorcery is being directed against a person, is a private but not necessarily secret affair. The loiboni is usually summoned to the client's house, where accompanied by concerned individuals such as the man's wives, brothers or adult friends, the divination is performed. It is not a highly charged ritual---children come in and out, food or tea may be prepared and eaten. All the participants, including the loiboni sit in a circle against the walls of the house. On the skin floor in the center of the hut, on a blue cloth, the loiboni throws his nkidong.

The following is a transcript of a divination performed for a man whose cattle have been miscarrying and whose new born daughter from his first wife has recently died. Attending the divination are the man, his two wives and a 'follower' of the loiboni, an age-mate who usually accompanies him and helps during the divination process by gathering the "stones" (divination object) and keeping-up a steady conversation with the diviner. Included in the transcript are numbers which signify how

many objects have been thrown from the gourd, for as we shall see the number thrown, as well as the arrangement of their fall and the particular qualities of each object, help determine the meaning of the throw. Stones are usually gathered after a period of throws and piled to a side of the cloth, or returned to the nkidong container.

At the beginning of the divination, the client puts 2 shillings in the center of the cloth, to "open the nkidong".

(The elder spits air into nkidong, the loiboni spits and begins to throw:)

1) 2 objects fall out

Loiboni (throws second throw of 12 (gives 14))

"This man has two wives. The first is bad because she lies, and the second is good, as she does not cheat. There were once twins in this family, and both are girls (he's looking at the stones). If not from this house, then perhaps from one of these men's brothers".

(The first wife says one of the wives of this Man-yata is a twin)

Third throw 4, adds to others (save 10) and gives 8 to elder to spit on

"Stop your cheating, first wife, you are the cause of these troubles. But I can see you were worse before, but now are changing. Because one son can make 10 sons, because you will cry, because when you cry, it means someone could have died, a son or a husband".

(To first wife) Although you didn't cry for nothing, for you want to be cursed, you think you've been cursed, and it's true, you have been cursed.

"Be careful, because if you continue your bad ways, a son will die".

- 2) Throws second round, shaking guord, throws 1, then 14, the, 7 = 22

"Are these people (in this house) calling because of cattle?

Throws 15

"Two things have happened in this home. Twins and a lame child. I don't know when.

- elder asks: "has this lame person been, or is she yet to be born?"

- loiboni replies he doesn't know.

- first wife says "yes, there are twin girls born to this family"

- elder asks "where will this lame girl be - here or at the home of the twins?"

Loiboni: "You people must see what is wrong. Is it the cattle, or is it the people here? Some cattle are to be slaughtered, you will lose some cattle, but no people. I see people might die too, but I can stop this, if you wish, but you will pay me some cattle".

(The people in the house seem relieved). The elder says "Its known Leaduma is a great loiboni, that although a Lorokushu, he has left them to come and live with Lukumai. He has given ntasim and saved our people, that now he is Loiboni of Lukumai."

Loiboni: "This first wife didn't run away because her husband had girlfriends, she ran because she knew something bad would happen. She knew she was cursed. The stones have told me that the sons of this family's daughter will inherit the curse of this woman".

(The Loiboni steps out and returns after awhile. Bouyant faced, he returns, saying "I'll take a cow with a calf". Everybody laughs).

- 3) Spits and throws again, one small object followed by one large throw

15 - separates 3 out

"Where is the peace (serian) now? There are 3 people from Masala section here. One of them likes to finish off his cattle (by selling)".

"The second one looks like he will die, as I can see his grave and I see rain".

- 4) Throws 5, then 24 = 29

"What do you see bad in this house?"

- Throws 10

"There will be nothing bad here, but someone will be crying.

- 5) Throws again 1, 3, 3 = 7, again

- 2, 6 = 8

Loiboni: "This Red marble shows the first curse spit on these stones and mark your faces" (The elder and two wives do so)

"If the second wife has a daughter, you better let that girl live in this house. And if you don't have a daughter and she is born, let her be brought up here with your first wife. That daughter will be another man's child and not this husband's". (Everybody laughs).

- Throws again 16, 2, 8 hands
8 to elder

"Go and make ntasim bags to tie on the children, and I will come and take my cow".

6) Throws 22, 6

"I see Turkanaland, people from here will foot there and back. I see an elephant's track. I see Sailoi Rendille crying, because many of their warriors will die with Turkana".

"What of Lukumai? Will they cry?"

- Throws 8 (one metal piece)

"No", but blacksmiths will come together briefly with Lukumai. There will be a pregnant girl, and they will try to abort the baby and the girl will die".

(Leaduma finishes this nkidong.)

"I want to make ntasim for this family. Prepare the bags and I will return".

After the divination, was completed, the loiboni confided to me:
"This woman was cursed with nkurupore by someone in Lukumai section. He was later arrested and beaten up by the police. He had marked a small stick with nkurupore and threw it near her gateway, where she walked over it. Later, when her daughter died, and her cattle died, she knew she was cursed."

Belief in the loiboni's power to eradicate acts of sorcery depend in large part on his ability to determine, by divination, if in fact the sorcery has been determined. Confidence in the loiboni's divination is based in part on his ability to reveal information about the client usually hidden, but information that the witch would know concerning the private affairs of the victims. In the divination session, the stones "revealed" the fact that the first wife lies and cheats, or the husband and wife have adulterous affairs. Other stones suggest that this family has had twins or a lame member, the affirmation of which confirms other revelations.

The information disclosed by the loiboni may be based, of course, on simply a good ear for local gossip---on information that may not be particularly hidden in the first place. Are the loibonok charletans, consciously deceiving weak-willed people for profit? Although there are many in the society who distrust the loibonok, few including the loibonok themselves, doubt their prophetic and curative skills.

In part, confidence in the loibonok is based on their intelligence, memory and judgment which are often of high quality. But equally significant is the participation of lay participants in the divination process, where both the clients and the diviner are fluent (to varying degrees) in 'reading the stones'. When the loiboni is called to divine, everyone is looking at the objects that fall out of the gourd onto the blue cloth, for most adults, particularly those who have witnessed previous divination sessions, have some understanding of the nkidong language.

The nkidong divination technique is a language that can be comprehended by particular and explicit rules. Although only the loiboni can make a complete interpretation of the stones based on his psychic or mystical ability, others can grasp at least the general meaning of the stones. Furthermore, the nkidong divination is a language shared, to a degree, by all loibonok throughout Samburu.

The interpretation of the divination is based on the meaning of 3 components: The quantity of items thrown; the type of items thrown; and the geometric configuration with which the items are thrown.

The diviners guord contains hundreds of items, over 550 objects in Leaduma's guord that include pebbles, seeds, glass marbles, cowrie shells, metal objects such as bullets and coins and pieces made from wood, leather, bone, horn, etc. The loibonok gourds may also contain the highly polished stones found in the stomach of ostriches.



Photo 5.3 - Objects in the Loiboni's nkidong gourd.

A principal aspect of the divination that is understood by most observers is the number of items thrown, where each digit from zero to nine has a name and a general meaning. If three throws are cast that add up to 32, then 2 is the meaningful number, and has the same value as 2, 12 or 22, items thrown, and so on. Much attention in the divination is paid to counting the objects, and often participants will help the diviner collect and count up the stones, for this is a feature of the stone's meanings that lay participants are most likely to comprehend.

The meaning of the number of components of the divination items are known in Samburu by the following terms:

- 0 - nothing (me'ata) - a negative response to the question asked
- 1 - the ear (nkiok) - news, information
- 2 - the leg (nkeju) - someone is coming
- 3 - cattle stick (solbwa) - pertaining to herding activities
- 4 - strength (ngolon) - ritually propitious, good fortune
- 5 - journey (reten) - someone goes on a journey
- 6 - meeting (nkinguana) - a discussion, argument, difference of opinion
- 7 - meat (nkidi) - feast, reconciliation
- 8 - laughter (nkuenea) - peace, happiness, safety
- 9 - danger (ngolon aling) - supernatural force mystically charged.

Thus on the third throw, the diviner throws 4 (good fortune) and gives 8 stones (peace) for the elders to touch - "I can see you were worse before but are changing", implying he can defeat the sorcery.

In addition to the number of items thrown, most lay observers know the meaning of certain individual items, such as the red marble, meaning sorcery, or the hyena's tooth, meaning death. The majority of items in the guord are non-descript rocks or glass marbles, which may or may not have significant meaning, according to the loiboni's interpretation. There are however over 30 items in Leaduma's nkidong that have particular meanings. These items are listed on the following page along with their general interpretation. All these items refer to danger, or dangerous situations caused by sorcery, but only a few are known by others than the loibonok.

As in the number of objects thrown, the meaning of individual items has both a generic and specific aspect, the latter being determined by its context with other objects that are thrown.

Often the specific meaning of the individual item is coterminous with the quantity of total items thrown. For example, a throw of 31 pieces that contain a crystal piece, a bullet, and a red glass marble, will have a general meaning of "News (31) - water (crystal) - war (bullet) - danger (red marble)", but only the loiboni can "see" the specific meaning such as "The Turkana are moving towards us (to raid), but are currently stopped by rain and floods".

Table 5.1

Significant Items Used in Divination

<u>Object</u>	<u>General meaning</u>
Cowrie shell	Pregnancy
Two cowries tied together	Childbirth
Red glass ball	Sorcery, (<u>nkurupore</u>)
<u>Rankau seed (Acacia gerrardii Benth.)</u>	Crying, tears
<u>Seeki seed (Cordia ovalis DC.)</u>	Someone will die
<u>Simanderi seed (unidentified)</u>	Murder will be committed
<u>Medimokon seed (Viscum tuberculatum A. Rich.)</u>	Mad woman, insanity
Knot - cow-tail hair	Danger to cattle
Knot - camel leather	Danger to camels
Lion skin piece	Danger from "lions"
Hyena tooth	Hyena, someone will die
Ivory piece	Danger to "elephants"
White shell from Lake Rudolf	Death
Metal "blood" arrow (<u>lng'oret</u>)	Danger by blacksmiths
Metal ring	Danger by blacksmiths
Metal cylinder	Danger by blacksmiths
Bullet	Warfare, enemies, police
Thermometer piece	Someone to hospital
Iron-skin cross	Refers to children
Women's beads	Refers to women
Rendille beads	Refers to Rendille
Pink crystal	Women
Clear crystal (4 pieces)	Water, rainfall
<u>ntasim</u> pieces (hollow objects filled with <u>ntasim</u> that suggest treatment) including:	
Rhinoceros horn	
Dik-Dik horn	
Various wood plugs	
Goat tongue	
Lion's nail	
White snail shell	
Lion skin knot	

The loiboni is able to master this specific interpretation by combining the quantity of items thrown and the type of individual items thrown, with the configuration in which the objects lay once thrown.

"When I look at how the stones lay, it's like looking in a mirror. I can see situations that are occurring, as one can see events in real life".

It is this final component of the divination interpretation, the geometric configuration of stones, that is most mystifying to lay observers. It is possible that the loiboni's interpretation of the configuration component is guided by a type of geometric classification, such as binary categories of above/below, left/right, or a reference point made by particular objects thrown. This however, is impossible to determine. The configuration of objects is the most undefined component of the divination. It's uninterpretability by lay observers supports the mystical, psychic powers of the loiboni, and gives him final say on the divination's total meaning.

It is not possible to describe the psychic aspect of the loiboni's interpretation, for I had no means to test such powers and little inclination to do so. Jung (1960) attempted to correlate subjective psychic states with objective events such as divination in his description of "synchronicity", but such a description of the Samburu loiboni would be misleading and sidetrack the discussion into the world of parapsychology and so forth.

Of more use to a sociological description is to describe the loiboni's divination technique in concrete terms that can be tested against the techniques of other Samburu loibonok. To this end, it is useful to describe the loiboni's divination in the formal terms of a grammar.

The grammar of the nkidong divination consists of three components: The number of items thrown (n), the type of individual items thrown (i) and the configuration of the items thrown (c).

The interpretation (I) of the divination throw is based on the composite of the meaning of the quantity thrown (Mn), the meaning of the type of individual objects thrown (Mi), and the meaning of the geometric configuration of the stones once thrown (Mc).

$$I = [(Mi)] + [(Mn)] + [(Mc)]$$

The loiboni, however, has the option of disregarding or refusing to disregard elements in the composition of n, i, or c, or even the entire category such as (Mc), so that the brackets ([]) are optional. The loiboni may focus only on the quantity of items thrown, or even only on one or two objects in that quantity, as he chooses.

The purpose in defining and formalizing the divination grammar is that any one reading the text material of Samburu, Masai, or Ariaal divination sessions can refer back to the rules provided here. Furthermore, future researchers may compare the nkidong technique of one Samburu

diviner, Leaduma, with the techniques of other diviners, both within the Masai cultural context or outside it. Among Masai and Samburu loibonok, the divination system of nkidong (based on the quantity, individual types and configuration of items thrown) is shared to my knowledge, by Leaduma (Lorokushu Samburu, from Laikiapiak origins), Lekominka (Loimisi Samburu, from Meru origins) and ole Simel (Loita Masai), all three leading loibonok. It would not be suprising if their methods and techniques of ntasim curing is also similar.

b) Ritual Medicines of the Loibonok

Having established through divination that an act of sorcery has been committed, it is necessary for the Loiboni to prepare ritual medicines that can ward off the sorcery and protect his client from future attacks. The ritual medicine of the Loibonok is of two types: the protective medicines (ntasim) and poisonous medicines (nkurupore).

Ntasim refers to all materials that "bless" or protect against mystically caused misfortune, and include objects prepared by the Loibonok as well as certain materials known to all Ariaal and Samburu, such as ivory amulets or chewing the roots of certain bush to protect against the Boran evil eye. Only the loibonok, however, are considered knowledgeable in preparing most ntasimi, acquiring their secret knowledge from their own fathers. Each Loiboni has his own particular inventory of ntasim materials and particular methods of preparation, but there is a high degree of conformity in the substances used by all

loibonok in Samburu. For the most part, ntasim is made from botanical and animal species, usually by burning certain parts such as roots and grounding the remains into a fine powder that can be stored, separately or mixed with other components, in small containers. The following two tables list the plant and animal species employed by the loibonok in both their protective and destructive medicines.

Table 5.2

Botanical Species Employed in Samburu and
Ariaal Ritual Medicine

1) Species used as ntasim by the Loibonok

Lkiloriti (Acacia nilotica (L.) Del.) - roots burned

Lkimojik (Asplenium loxo scaphoides Bak.) - roots employed as primary ntasim in Masai, not used widely in Samburu or Ariaal

Lkokolai (Rhamnus staddo A. Rich.) - root ground, primary ntasim

Lkunyaeni (Heteromorpha Trifoliata (Wendl.) Eckl. and Zeyhl.) - charcoal from root

Lokidia - (Tinnea aethiopica Hook f.) - roots burned

Lonkoi (Triaspis niedenzulana Engl.) - root

Lparamunyo (Toddalia asiatica (L.) Lam.) - root ground, primary ntasim

Reteti (Ficus thonningi Blume) - red powder from roots and bark

2) Species used as ntasim by General Population

Laibeleshi (Calotropis procera (Ait.) Ait. f.) - grind roots to blow in direction of enemy, or wipe on forehead to protect

Table 5.2

Botanical Species Employed in Samburu and
Ariaal Ritual Medicine (Continued)

2) Species used as ntasim by General Population (continued)

LKidompuroi (*Pseudosopubia hildebrandtii* (Vatke) Engl.) - chew root and wipe on forehead to protect from lais' curse

Lng'aboli (*Ficus natalensis* (M.q.) Hochst.) - "God's Tree", unpropitious to cut down

Lng'eriyoi (*Olea africana* Mill.) - wood sticks used in Mugit age-set ritual to roast meat

Lokimeki (*Hibiscus micranthus* L.f.) - leaf tied to Lokore bark to make protective rope

Lokore (*Obetia pinnatifida* Bak.) - bark used as rope to "tie" or protect against disease, enemies, etc.

LParruai (*Hyphaene Coriacea* Gaertn.) - Down palm fibers used by groom in wedding (around legs) and by married women (around neck)

Rasia (*Cadoba ruspolii* Gilg) - chew roots to ward off Boran evil eye

Sakurdumi (*Kedrostis gijef* (J.F. Gmel.) C. Jeffrey) - women bring vine to village center (na'apu) in prayer for rain

Sakutari (*Gloriosa superba* L.) - pull stalk of flower and blow in direction of enemy

Serai (*Euphorbia Candelabrum* Kotschy) - latex is propitious for barren women; tree gave live to first Rendille Laisi

Seyei (*Cyperus articulatus* L.) - root ground and mixed with milk and hair of married couple in Samburu on their wedding day

Silipani (*Cordia* sp.) - evergreen branches placed on top of house during ritual occasions

Ntien (*Arundinaria alpina* K. Sch.) - bamboo sticks placed inside wedding house

Table 5.2

Botanical Species Employed in Samburu and
Ariaal Ritual Medicine (Continued)

2) Species used as ntasim by General Population (continued)

LTulelei (Solanum incanum L.) - bark tied with Lokore rope to protect from lions, etc.

3) Trees Burned in Ritual Fires

Larasoro (Cadaba farinosa Forsk.) - at age-set mugit and Ntasim laisar to protect cattle

Se'eki (Cordia ovalis D.C.) - burn branches in mugit, ntasim fires

Silipani (Cordia sp.) - branches burned in age-set and ntasim rituals

Sucha (Barleria spinisepala E.A. Bruce) - burn branches in ritual fires

Ltarakoi (Juniperus procera Endl.) - burn leaf-covered branches in ritual fires, inhale smoke

LTepes (Acacia Tortilis (Forsk.) Hayne) - burn branches in ritual fires

The most important ntasim used by Samburu loibonok are the roots from the Lparamunyo tree (Toddalia asiatica (L.) Lam.) and the Lkokolai tree (Rhamnus staddo A. Rich.) trees. Both plants are rare high altitude shrub trees with long hard roots that burn to a fine ash. Furthermore, both roots are characterized by a hard central core surrounded by a soft outer area, a feature pointed out as significant. Both roots are

prepared in similar ways by making scrapings of either the core or bark, either raw or when burnt. However, the two plants contrast each other, for the Lparamunyo root is yellow and sweet smelling when burnt, Lkokolai however is a black barked root, and very pungent and acrid when burnt. Although both plants are considered powerful in their own right, the most powerful ntasimi are those made from combinations of the two plants.

The Loiboni Leaduma carries a medicine bag containing 15 small gourds of different ntasim, as well as other artifacts used in the ntasim rituals. These gourds consisted of the following substances, and are referred to by their color.

1. Yellow: Lparamunyo, outer bark (raw); for madness, fits, epilepsy.
2. Yellow: Lparamunyo core (raw); for preventing epidemics, disease
3. Black: Burnt Lparamunyo core and bark; used in most ntasim cures.
4. Black: Lkokolai root bark only, for ntasim amulets, washing, general protection
5. Yellow: Lkokolai and Lparamunyo unburnt - for ntasim laisar ritual fire.
6. Black: Lparamunyo and kokolai, burned, used widely.
7. Black: "Head ntasim" (lengue ntasim) - contains "all types", used widely.
8. Black: Ntasim of the Honey - contains #1, 2, 3, 4, 5 for ingestion
9. Red: reteti tree (Ficus thonningi Blume) inner bark-scrapings; for barrenness in women.

10. Red: reteti - ground bark, for barrenness, possibly for nkurupore poison
11. Black: Lkiloriti tree (Acacia nilotica (L.) Del.) and lokidia (Tinnea aethiopica Hook F.) burnt roots; to protect the settlement
12. Black: Burnt mole-rat (nturumet) and burnt lparamunyo; to prevent attack by enemies
13. Black: ntasim of the lion (leng'natuny), ground iron's fur-ball mixed with #11 and #12. Used as amulets for warriors to protect from "lions and police", i.e., to go on cattle raids.
14. White: ntasim mpangas, white chalk "to bless the nkidong divination"
15. Yellow: ntasim naisuki ("snuff") soda ash and lparamunyo to ingest through the nose

In addition to these medicinal preparations, Leduma carried certain ritual paraphernalia that are used in the ntasim ritual. These included a blue cloth on which the medicines are placed, a large dish made from a sea shell (nkarau) to mix the medicines, and a long metal spoon. Most intriguing are certain objects that the loiboni places on the cloth around the dish and gourds. These are the Lmaneta, large objects that encircle and ritually bless ntasim which include a cord made from lion's skin (nke'ene lengn'atuny), a white rock and a black rock, and two large tiger cowrie shells, 1 female (light), 1 male (dark) loaded with ntasim and sealed with gum from the silalei tree. (Boswellia hildebrandtii Engl.).

The Lmaneta are important ritual objects prepared by the loibonok. The small amulets, such as leather bags or hollow-dik-dik

horns filled with ntasim worn to protect against sorcery are also known as Lmaneta, as are the larger objects such as warthog or elephant tusks filled with ntasim that are carried by Moran on dangerous forays.

Lmaneta means "the tying ones", from the Masai verb a-en to tie, or tie up. "Tying" is a form of ritual blessing "asking for God's protection". By ritually "tying" an object, a dangerous situation can be averted. For this reason, an essential feature of the Loiboni's medicine is wearing or carrying an Lmanet object, such as a small bag tied to one's necklaces or carrying an ivory piece filled ntasim. Often, a woman will tie an ntasim amulet around a milk guord belonging to her son, daughter or husband if they are travelling in dangerous areas.



Photo 5.4 - The Loiboni prepares ntasim medicine.

The power to "tie" is held by all loibonok, as well as by certain individuals born into certain families such as the Ltoiyo clan of Masala section. Tying is a recurrent feature in the loibonok's curing rites. Once a loiboni dreamt of an illness approaching the settlement, and prepared strings from Lokore bark soaked in Lparamunyo ntasim, to be worn around the necks or arm's of all members of the community.

In the ntasim prepared for Lelekule, the man with the dying cattle and barren wife described in Section 3.3, tying plays an important part in the subsequent curing rite. The ntasim ritual for Lelekule occurs in the late afternoon. It is a three-part procedure that consists of 'tying' hair from his cattle herd, preparing amulet charms to be worn by members of his family, and the burning of a ritual fire in his cattle enclosure.

The loiboni sits in the same place as earlier that afternoon. On the blue cloth, he places the large half-shell, two large tiger-cowries, a black and white rock, and a long metal spoon. From his bag, he removes five small gourds, each with a different preparation of ntasim. Around all of these objects, he places the long cord made of lion's skin.

Lelekule presents the loiboni with three bundles of hairs clipped from the tails of cattle from his three herds (his and his two wives cattle). Each pile represents the hair of 27 cattle for each herd, or 81 cattle together. In a large half-shell, the loiboni mixes milk with ntasim from five gourds consisting of:

- 1) Black entasim (no. 3) - burnt root of the LParamunyo tree
- 2) Yellow entasim (no. 1) - unburnt root scrapings of Lparamunyo
- 3) Yellow entasim (no. 5) - unburnt root scrapings of Lparamunyo and LKokolai tree
- 4) Black entasim (no. 4) - burnt root of Lkokolai tree
- 5) Honey entasim (no. 8) - honey mixed with raw and burnt scrapings of Lparamunyo and Lkokilai

These ingredients are mixed until a brown paste is created. Taking one of the three piles at a time, the loiboni separates them into 27 units of several hairs each, knotting each unit in the middle. From the three original piles of hair, 81 piles are created. To Lelekule the loiboni says,

"These cattle must never be given away, although you may continue to milk them or slaughter them for the mugit age-set rites. Do not remove any blood from any of your cattle for 4 days."

And to the women, "Do not borrow or lend any of your hearth fire for 4 days".

The loiboni then divides the 81 hair knots into 9 large groups, knotting them again, and soaking each in the ntasim solution. One at a time, the tied hair piles are given to Lelekule, his two wives, his sister, and her husband, that is the members of his ntipat lineage group presently and are put in strategic places, such as on the neck beads or in the personal containers of the women. In addition, small square bags are filled with the paste, which will later be sewn by the women and worn as amulets by Lelekule and his family.

When these two procedures are completed, the loiboni and his client go outside to prepare a ritual fire, known as the "ntasim of the burning" (ntasim laisar), inside the cattle enclosure. Two branches of the Se'eki tree (Cordia ovalis D.C.) are placed by the gateway for the cattle to step over, and a fire is made from branches of four evergreen trees: Ltepes (Acacia tortilis (Forsk.) Hayne), Sucha (Barleria spinisopala E.A. Bruce), Silipani (Cordia sp.) and Larasoro trees (Cadaba Farinosa Forsk.). Onto the fire, the Loiboni sprinkles the four types of ntasim used to tie the cattle hair (excluding the honey mixture). Both men watch until the fire has died, and then retire for the night. The ntasim is completed, and later Lelekule the client will pay the Loiboni one heifer for his services.

As in the divination procedure, the ntasim for Lelekule and his family is a private ceremony between the loiboni and his client. Both the divination and the ntasim comprise a curative ceremony, a "ritual of affliction", as Turner describes, performed on behalf of persons believed to be afflicted with illness or misfortunes by ancestor spirits, witches or sorcerers (1968:15).

The divination process is a necessary component in the ritual to determine both the causation of the illness and the remedial action to be taken. Leaduma 'saw' in his divination that Lelekule's cattle and wife were bewitched and sought in the divination the correct ntasim procedure to apply, although this was not revealed in the spoken transcript. Both "infertility" and "cattle" cures have prescribed ntasim

treatments, such as using the red ntasim of the roteti tree for the barren women, or burning the ritual fire in the cattle enclosure.

Medicinal treatment for mystically-caused afflictions are of different type than herbal cures taken to relieve strictly physical problems such as an upset stomach or malaria. Unlike the physical cures, whose efficacy is determined by their empirically verifiable physical effects, ritual medicines are effective primarily by their context in the domain of religious beliefs and ritual symbolism.

Both the nkidong divination and the ntasim medicines are integrated components of a curing rite, and like other magical procedures "is not just a way of doing something, it is also, and essentially a way of saying something" (Beattie, 1967:230). Victor Turner, analysing mystically protective medicines among the Ndembu, described the plants employed as "contagious magic, where they confer on the patient certain powers and qualities analagous to properties of the plant" (1970:369). To this end it could be argued that the red-barked roteti tree, which exudes a reddish resin when cut, is associated with women's menstruation with the reproductive quality of women. The woods used in the ritual fires of the ntasim of the burning, as well as those used in age-set rituals, are usually evergreen species, such as the cedar Ltarakoi (Juniperus procera Endl.) and the silipani bush (Cordia sp.) whose branches are placed on the top of houses during rituals such as Sorio.

Samburu and Ariaal ritual symbolism is characterized by relationships of symbolic forms, of using two types of ntasim, both yellow lparamunyo and black Lkokolai, or using four types of wood at a ritual fire, rather than just one.

There exists a dialectic in Samburu and Ariaal ritual symbolism, as exemplified in the Loiboni's ntasim and nkidong, that constantly contrasts two features that both coexist and oppose each in a continuing process. The basis of the ntasim are black Lkokolai and yellow lparamunyo, often combined or mixed with milk (white) or reteti ntasim (red). The Lmaneta objects that surround the ntasim procedure include two large cowrie shells distinguished as male and female, and two rocks, black and white. In certain ntasim procedures, as in symbolic expression in other spheres of the society, distinctions are made between left and right side, male and female, light and dark.

The ritual symbolism found in the Loiboni's rites are not simply a binary symmetry reflecting a quality in nature, but a process that combines and transforms ritual symbols in the larger ritual context.

In the three ntasim procedures administered to lelekule, tying the cattle hairs, preparing the amulet bags, worn by his family and making the ritual fire for the cattle enclosure). The two ntasim ingredients were employed in two forms (as yellow (unburnt) or black (burnt), yielding four main ntasim substances: - yellow lparamunyo, black lparamunyo, yellow (unburnt) kokolai, and black kokolai. These

four ingredients can be further combined with each other or with other ntasim substances such as reteti bark (red ntasim), honey or the lion's fur. The use of four basic types of ntasim, however introduces a symbolic concept recognized by the loiboni and widespread among the Samburu and Ariaal - that of quantity and numerology.

In the major Ariaal and Samburu rituals and blessings, the number four (4) is held to be propitious. The blessings of elders (are repeated four times; four types of woods (the same as in Laisar burning) are used in ritual fires at the Lmugit age-set rituals, eight cattle (2x4) are presented by a man to his father-in-law as bridewealth, and so on.

In Ariaal and Samburu, as in many East African cultrics, even numbers are considered benevolent, while odd numbers are thought unpropitious and dangerous. Rituals, both rites-de-passage and the loiboni's rituals of affliction are performed on the 8th, 10th or 14th day of the new moon, with no ceremony held after the full moon (14th day). This numerology is expressed in the loiboni's nkidong, as throw's of 0, 2, 4 6 or 8 are thought peaceful; with 8 as the most favorable throw, while odd numbers are unpropitious, with 9 the most dangerous throw.

Nine is an unusual number in Samburu. Although all rituals should be held on even numbered days, the ninth day of the month is considered the most powerful day. Second only to the day of the full moon (14th day), and circumcisions, both male and female, are thought fortuitous if performed on this day. Similarly, the number nine in the

nkidong divination is dangerous not in the sense of being 'unlucky', but in being very powerful.

Although the Loiboni's ntasim is characterized by combinations of even numbers, such as four types of medicines or four types of wood used in ritual fires, odd numbers, and particularly the number nine, play an important part in the curative rituals. The tying of the cattle hairs, for example, formed nine rings of hair cut from 27 cattle (3x9) in each of three herds (81 or 9x9, cattle in all). These hairs--rings as ntasim, were tied on nine members of Lelekule's ntipat group.

There exists in this ritual a distinction of even and odd numbers, and a particular distinction of the number four and the number nine. The ritual fire, used not only to protect cattle, but to protect morán in age-set ceremonies, typically use four types of wood. This fire, which can be made by any circumcised male in the society, is a procedure to invoke God's blessings. Tying the cattle hair, however, is a procedure only certain individuals like the loiboni may perform. It is a direct prevention against an act of sorcery. It can be summarized that even numbers such as four, constitute a moral prayer, a situation imploring God's intervention in the affairs of men. Odd numbers such as nine, however, call on direct mystical intervention by specialists with pre-existing mystical forces utilized by other men, sorcerers. Thus the distinction of odd and even numbers in the ritual symbolism of the Loiboni reveal distinctions Samburu and Ariaal hold in their supernatural

order---that between the moral and public recognition of Nkai (God, order, harmony) and the immoral secret power of witchcraft (man, disorder, misfortune).

Where odd numbers, such as three and nine, appear often in the Loiboni's rituals of affliction, only even numbers appear in the ritos of passage such as age-set ceremonies, marriage, or birth. Even numbers can be said to recognize basic dualities in the social order: God vs. Man, Man vs. Woman, Senior vs. Junior, Age Grades, etc. Odd numbers, however, symbolize the assymetric relation of man to mystical forces, a world where only a few dangerous men have access. The fact that the Loiboni is one of the few who can enter and operate in this mystical domain, makes him one of the most dangerous members of the society and a figure often mistrusted and avoided.

5.4 The Ambiguous Social Position of the Loibonok

The Loibonok occupy an ambiguous social position in Samburu and Ariaal society. Although they possess mystical powers of prophesy and curing, they are not "holy men" or priests in Beidelman's sense of "speaking for men to God" (Beidelman, 1973:377). The Laisi fulfill this role, with their strong powers of blessings and cursing, and are often called to lead a prayer after a dispute, during a wedding, and so on.

Nor do the Loibonok play a strong role in the rites of passage in Samburu and Ariaal, although certain Masai Loibonok provide ntasim to

Moran performing in their age-set ceremonies. The ritual role of the Samburu Loibonok is confined to performing rituals of affliction, those private curative rites concerned with sorcery and witchcraft.

The Loibonok are welcomed for their curative powers, but because their skills also imply their possible participation in sorcery acts, they are feared and avoided, particularly by women and children.

The Loiboni doesn't quite fit into normal Samburu and Ariaal society where respect and reasoning in discussion characterize social behavior. The Loiboni is most untypical of proscribed behavior--he is often a wildly drunk, outspoken, and brazen individual, dressed in bold green or blue cloths and adorned with heavy necklaces of ntasim amulets, a far cry from the sedate and slightly dishevelled appearance of Samburu elders in their old blankets and red cloths.

The Loibonok nevertheless participates in community decisions as any married man, and is entitled to all the privileges and respect of an elder. Moreover, a Loiboni in the community is a valuable asset, as he can use his powers of prophesy and protective medicines to help the council of elders make important decisions about the settlement and livestock herds, such as where to move. One often has the impression, however, that the Loibonok are frustrated, that they search for wider recognition, higher authority, and greater power.

A follower of a Loiboni once remarked, "You must see that the Loibonok are great, that their ntasim medicines are beautiful. But as men, they're terrible. They want to be 'big men' (Laiguenak, or "chiefs"), but they are only little men."

Often, the loiboni will get in heated disputes with other members of the society, such as the Moran or the elders. These contradictions are revealed in the following transcript, where the Loiboni summarizes at length his service to the community and the lack of appreciation he receives. This oration is the result of a dispute between a Loiboni from Lorokushu section living among the Lukumai clan of Ariaal, and the settlements 25 Moran who were tardy in paying fees of one goat each to the Loiboni for ntasim he provided six months earlier. After an outrageous charade where the Loiboni threatened to curse all the Moran unless they paid immediately, the Moran agreed to pay the stock even though they had few livestock on hand. Furthermore, the moran were fined by the elders to provide a case of store-bought beer. The following speech was made by the loiboni outside his house to a seated assembly of elders and moran. The Loiboni has consumed about 12 bottles of beer:

Loiboni: They (the moran warriors) "Don't understand what a "loiboni" means, they don't understand what it means." ("They don't understand", echo some elders). They don't know the right things anymore, ("They don't know", agree the elders). An what happened to those warriors at Marsabit Mountain (who didn't listen to me?) Poisoned (nkurupore), that's right! Are you listening, my brother? (To an elder near him who replies, "I'm listening").

"And who did the loiboni of Lukumai section (a contemporary rival) give his ntasim bag to yesterday? To me, didn't he?" ("Kedede, that's right", murmur the elders).

"Of what people am I? Lorokusho section! (Lorokushu, "echo the elders.") And when I left Lorokushu, who did I come to live with? Lukumai! ("Lukumai", agree the elders).

"I did Lorokushu a great favor (Note - this loiboni is credited for saving Lorokushu's moran with his ntasim during a Shifita-insurgent attack in 1969). The people of Lorokushu said 'Ashe naibon' (Thank you for your magic). They said 'thank you'! (i.e., with goats and cattle). When I needed shoes, I was given shoes. ("Shoes", assent the elders). When I needed a cloth robe, I was given a cloth robe. ("Cloth robe", say the elders). They knew how to say 'Thank you, loiboni'

(The warriors are openly yawning now, bored and anxious to join in the evening dances on the other side of the village. The loiboni pauses and changes his tone, softly now.)

"And for Lewokoso clan, the settlement of the "elephant" (i.e., the totemic name for Lukumai section), they have many things to be thankful for ..."

A warrior (cutting off the loiboni)

"I wish to speak for all of Lukumai. You see now about our sheep and goats, ..."

The loiboni (interrupting)

"Stop now, stop now (Taisho, taisho) ...What's the word from Lerapo (a moran who didn't want to pay the loiboni)? How many animals does he have at Irrer now? Many! How many does he have at Soritari? Many! ("Many, agree the elders)."

(The loiboni stands up now, getting excited and pacing up and down)

"How many did Pardopo Lorokushu settlement give me for protecting their hair? i.e., the moran) How many from the Makelilit Lorokushu? Many, and they didn't give me goats and sheep. They gave me cattle!"

(The loiboni leaves momentarily to urinate. The elders murmur, and the moran talk among themselves in low voices. He returns, and asks an elder:)

"How many did they give me? Many!" (Many, agrees the elder)."

(A warrior approaches the gathering, a visitor from another settlement, and the loiboni greets him in a friendly manner:)

"Leparta, you see how our warriors have given us beer. And you can see how our good warriors are in a festive mood, already preparing to dance at Longieli settlement, and show the people there how proud are the warriors of Lukumai settlement."

(The loiboni leaves to urinate again. The elders are now making conversation with the moran, greeting them and talking softly. The elders and moran appear relieved that the loiboni is not seriously considering harming the village, nor are the elders hostile towards the moran; on the contrary it is likely they sympathize with the warrior's reluctance to pay fees to the loiboni. After all, if the loiboni demands large fees from the moran, then he'll also raise the going rate for his ntasim with the elders. The loiboni returns, openly warm and joking now, as he's scored a major point. He begins to address individual warriors in the gathering:)

"How is it now with your herds? They're fat and large, and free of disease, aren't they? (The moran respond warmly, "yes it is true".)

(To the elders now, the loiboni continues)

"And your cows, are they suffering the Bitter Disease (Lodua), as others? Now tell me, Ukari, truthfully, to what do you attribute this? And the health of your moran, who faced all the hazards of Lankata (the cattle-grazing area known for its dangers of enemies, lions, and sorcery), was any one of them harmed?" "Have you ever known the peace we've known here? All the badness, it is at Uiyam in Korr, but not here among the Lukumai."

(The loiboni is getting emotional and drunkenly loquacious at this point. Several warriors are rising to leave, and one speaks up and addresses the loiboni quite respectfully:)

Moran: "And we know our good fortune. And we know why we have it. And we say "thank you".

(The warriors would like the loiboni's blessings now, but its obvious that he's just getting started:)

loiboni: "And what have I done for the hair of Marsabit? What have the people of Uiyam faced since I left that place? Thieves, war, raids, and hunger! And what has Lukumai suffered since I've been here? Nothing! And the warriors of Lukumai are safe. And happy. For the elders of Lukumai, what have I done? For the cattle of Lugi, Lembere, Lepasile? (Families in the settlement) And who am I now, am I not a "big man" (laiquenani) of Lukumai? For the Lturia settlement, how many times have I helped them (with ntasim)? Four times! In Lankata, how many women have I helped have babies (treated barrenness)? Eighteen! I, the loiboni. And how have they helped me? They gave me cattle..."

(The loiboni's monologue continued well into the night. As he spoke on, prophesies started to occur, a situation that often occurs spontaneously when he's intoxicated, and he made favorable predictions concerning the absence of enemies, the coming of rain, etc.)

The loiboni's behavior contrasts sharply to the expected norm of patient dialogue among elders, where displays of emotions, particularly anger, are disapproved of and thought to be dangerous. But the loiboni can, and indeed must, express himself this way, to show his separation and isolation from the normal social group. And in the last analysis, no one could dispute that in the two years of the loiboni's residence in Lukumai settlement, no death or serious disease actually occurred, a most unusual situation.

5.5 The Role of the Loibonok in Treating Mental Illness

The Ariaal and Samburu believe that sorcery and witchcraft exist, and they believe that the loibonok's cures are effective in treating the health problems and misfortunes that result from these mystical attacks. As we have seen, the interaction of sorcery acts and the loiboni's treatments are a component of the wider symbolic complex of their magico-religious belief system. However, such a description by no means implies that people do not suffer real health problems as a result of such beliefs. It is well documented how psychological stress may have a direct effect on physiological functions, where stress and anxiety may lead to

functional disorders such as peptic ulcer or bronchial asthma and contribute significantly to degenerative diseases such as cancer. Furthermore, there is a definite relationship of beliefs in witchcraft and psychiatric disorders, as documented by Swift and Asuni (1975).



Photo 5.5 - The Loiboni gives moran ritual medicine.

The majority of cases that the Loiboni treats in Ariaal and Samburu can be described as psycho-physiologic disorders that include infertility and impotence, and psychoneurotic disturbances including anxiety and depression. The Loiboni will also treat more serious mental health problems such as epilepsy and acute psychotic disorders, but I have never witnessed these treatments.

Not all mental health problems are thought due to witchcraft, but most of the health problems treated by the Loiboni are mental illnesses. Mental illness is a difficult health problem to recognize and define,

because it largely depends on social criteria that define whether a person's thinking, feeling, and behavior is abnormal or "sick" before effective treatment can be undertaken. Emotional disturbances may not be considered abnormal, depending on the framework of specific dominant cultural values. This point is well taken by Von Mering (1970) whose disorders such as hallucinations may be a legitimate, albeit painful, way of life for certain individuals such as priests or prophets.

There is certainly no agreement within western medicine as to what types of problems should be included as psychiatric illnesses and the literature on mental health in Africa reveals that continent is no exception. Mental or emotional illness, nevertheless, can be said to uncomfortable, undesirable, or impairing disorders in thought, mental and emotional processes. Swift and Asuni (1973) in their study of mental health and disease in Africa describe the occurrence of psychiatric illness on the African continent as roughly similar to that found in the rest of the world, on the order of 10% of the population suffering a mental disorder. Furthermore, the type of psychiatric illness does not vary greatly from one culture to another, and most of the major psychoses including schizophrenia, manic-depressive illness, as well as classic neurotic behaviors occur in traditional African society. Some disorders are more common in these societies, such as conversion hysteria, while others such as obsessive-compulsive neurosis are quite low.

In Ariaal society, most mental disturbances are attributed to sorcery. The Loiboni is consulted for treatment, and significantly, his ritual cures are often effective.

An interesting case was that of a young girl of ten years old who for a period of one month was listless, uncommunicative, and most dangerously starving due to her refusal to eat food or drink liquids unless forced. Initially the herbalist Lemeriwias was consulted, who proclaimed the girl was suffering from measles, and the pox was not breaking out on the skin. His purgative treatments were of no avail and the girl's condition worsened. A western doctor, in the area administering inoculations, was consulted and he confided in me privately that he thought the girl was suffering an hysterical reaction, compounded no doubt by her father's constant beating her to force her to eat. He recommended that the loiboni residing in the settlement be consulted.

The loiboni through discussion with the girl's family, concluded that the family had been bewitched and administered ntasim medicines to her forehead and tongue. Within a few days, the girl had recovered, showing both a lively disposition and a healthy appetite. The effectiveness of the loiboni's treatment is no small part is based on the milieu in which his cure is carried out. An important component of the ritual curing of ntasim is the participation of the wider social group surrounding the patient, such as the girl's family. In this context, the loiboni elicits responses from the family, that reveal and expose social

tensions that exacerbate the condition if not actually cause the original problem. The ntasim and nkidong curative ceremony becomes a ritualized 'family therapy', where tensions are not only revealed, but focused on a force outside the family's own control that of a sorcery act. By isolating and separating the blame for the misfortune to a force greater than the individuals involved, such as between the father and the withdrawn daughter or Lelekule and his barren wife, a therapeutic milieu is created which generates mutual understanding and support between the patient and her family as they unite against a shared enemy. Turner describing a similar cure among the Ndembu, focuses on the importance of expressing the social tensions responsible for the sorcery acts.

"It seems that the Ndembu doctor sees his task less as curing an individual patient than as remedying the ills of a corporate group. The sickness of a patient is mainly a sign that 'something is rotten' in the corporate body. The patient will not get better until all the tensions and aggressions in the group's inter-relations have been brought to light and exposed to ritual treatment" (Turner, 1967:392).

Psychiatrists have attributed much of the effectiveness of native healers in psychiatric illnesses to the generally supportive context of the curing rituals. Approaches in treatment regarded as particularly helpful include treating the patient at home, using suggestion and assurance, naming the illness and explaining the cause which helps reduce anxiety, encouraging and supporting the patient's belief in the protective and therapeutic power of the healer and encouraging some acting

out or abreaction in the curative rituals which permit the patient to speak his mind and unburden himself of certain troubles (Swift and Asuni, 1975:200).

Levi-Strauss, the distinguished scholar of symbolic thought, does not agree with the view that native curers act as western psychiatrists. In psychoanalysis, he argues, it is the patient who talks and abreacts against the listening therapist, while in traditional healing it is the native doctor who speaks and abreacts for the silent patient. This is because the native doctor is not seeking a scientific explanation which attributes mental or emotional disorders to an objective cause, but rather attempting to articulate the disorder within the wider system of the mystical universe, itself a projection of the social universe. For this reason, it is essential that the ritual milieu consists of the curer, the patient and the social group.

All share in a collective sense of security from the beliefs underlying the cure and from the conceived system upon which their universe is constructed. "Magic readapts the group to predefined problems through the patient, while psychoanalysis readapts the patient to the group by means of the solutions reached." (Levi-Strauss, 1967:39).

In conclusion, it has not been the aim of this chapter to argue whether sorcery and witchcraft exist among the Ariaal. For those that believe in it, it obviously does exist and is responsible for a wide range of health problems, mostly associated with mental disorders. The

Samburu loiboni, despite, or perhaps because of his incongruity in the wider social field, is an effective health therapist for those who believe in the efficacy of his divination and protective medicines. The important question to consider now is methods of integrating traditional beliefs in health and illness, and the native practitioners who treat these diseases, into a wider system of modern health care currently being undertaken in traditional societies such as the Ariaal.

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Chapter 6

The Integration of Modern and Traditional Health Care

6.1 Introduction

The Ariaal have an extensive traditional system of health care that is closely interwoven with the fabric of pastoral life. Possessing an extensive knowledge of anatomy and physiology, the Ariaal view many diseases such as malaria, tuberculosis, or pneumonia as obstructions in vital internal pathways that are caused by polluting or poisonous influences such as bad diet, insects, or human infection. Treatment for these diseases are aimed at relieving internal congestion in the digestive and circulatory system by the use of strong purgatives prepared from trees and shrubs.

The Ariaal also attribute certain health problems such as infertility, emotional disorders, and accidents to supernatural causes, particularly to the sorcery of jealous neighbors or enemy. Treatment of these disorders rely on the specialized skill of the Loibonok who can determine by divination if sorcery exists, and combat the witchcraft with powerful ritual medicines.

This description of Ariaal concepts and practices of health care is an accurate portrayal of their society as it exists today, and is not a reconstruction of "how things used to be". The Ariaal, however, do not live in a social vacuum, but like all societies develop from old forms to new at a continuous, although irregular, pace.

The pace of social change is increasing quickly for the Ariaal at this time. In former periods social change was slow and based on their limited and often hostile contact with neighboring tribes as they migrated from previous locations to their present area in north central Kenya. Within the last twenty years, however, the relatively isolated Ariaal and Rendille have been exposed to western influences, particularly Christian missionaries, government administration and trade. These agencies have brought both new ideas and practices that affect in varying degrees, the life and livelihood of the pastoralists. The Ariaal have been offered new services that include mechanized and regular water resources, markets for livestock sales and increasing trade for items such as cloths, tools, grains and sugar; an administration that centralizes political participation and government policy, and essential services in education and health care. In short, the Ariaal have been put in communication with the modern world.

The integration of a traditional society into the wider world is a complex and often difficult process. Pastoral populations in particular have been described as conservative and independent, and often distrustful of new ideas that might interfere with or jeopardize their traditional pastoral economy (Goldschmidt, 1971). Equally obstinate are certain agents of modernization, such as church missionaries or government administrators, who often belittle traditional practices and cultures as 'old fashioned' or 'primitive'. There is a tendency in developing

countries for the urban elite to 'ape the west' without critical appraisal of the needs of the countries rural populations, and to belittle local practices even to the extent of causing serious consequences. An example is the increasing trend in developing countries to substitute foreign bought formula milk for breast-feeding, resulting in increased disease and malnutrition (Morley, 1973).

Rapid 'modernization' results in the pitting of two conflicting systems of ideas, the traditional and the western rather than their conscious integration. This is apparent and crucial, in the integration of modern health care with traditional societies such as the Ariaal. Health care services in Marsabit District were largely established by Italian and American Christian missions, and later expanded by the Kenya government after independence. Health care followed western models, such as the building of large dispensaries and hospitals in urban centers at often large distances from the majority of people in the rural areas. Traditional concepts and practices of health care were either ignored or dismissed as 'primitive and superstitious'. The traditional populations, although recognizing the efficacy of western medicines in treating certain diseases, tended to accept the western medical services as an addition rather than a substitute for coping with all forms of disease. In particular, traditional societies such as the Ariaal still retain beliefs in supernatural causes of disease, such as witchcraft, and continue to consult traditional healers such as the loibonok holding firmly that witchcraft cannot be effectively treated by western medical services.

This chapter examines the effect of modern health care services on the Ariaal, and offers positive recommendations in improving the health care delivery system by the integration of traditional and modern techniques and practices. In particular, the role of native doctors, the training of health care personnel, and the expansion of preventative medicine such as vaccinations and health education are emphasized.

6.2 Conflicting Ideologies: the Missions, the Government, the Development Planners and the Ariaal Rendille

Development has come only recently to Marsabit District. Unlike the central and western highlands of Kenya whose agricultural populations have been exposed to western ideas and agencies since the turn of the century, Kenya's vast northern semi-desert area, with its scarce resources and small pastoral populations had largely been neglected under British rule. The seven areas that comprised the colonial administrative Northern Frontier District (Samburu, Turkana, Marsabit, Wajir, Mandera, Isiolo, and Garissa Districts) had few administrative centers, and served more as police outposts than populated urban centers.

Marsabit District, the largest area in Kenya (72,858 Km²) but with the lowest population density (0.7 person per sq. km), had no primary schools or dispensaries until the establishment of the first mission, the Marsabit Catholic Diocese, in 1953. It wasn't until independence (1963) however that government services were systematically developed, since which time 23 primary schools, one secondary school, 3 hospitals,

ten dispensaries, and 19 water projects have been built. (Marsabit District Report, 1976).

Many of these projects were initiated by the missions, particularly the Catholic Church of Marsabit (CCM), established by the Consolata Order of Italy, and the African Inland Church (AIC), a protestant organization with ties to the USA, Great Britain, and Germany.

The pace of these development projects was interrupted by the prolonged national dispute between Kenya and Somalia in the late 1960's known as Shifta, ("bandits") where pro-Somalia populations (including Boran and Somali's) raided and counter-raided Kenyan populations (including Rendille and Samburu). The temporary settlement of the dispute in 1971 occurred during a period of increasing drought which was in fact part of the larger and devastating Sahelian Drought of 1971-73. During this period, foreign and local aid agencies flooded into the district to initiate water, agriculture, health care, and educational programs. The National Christian Council of Kenya (NCCCK), an interdenominational aid agency with ties to the World Council of Churches, initiated several agricultural schemes on Marsabit Mountain for improvershied populations from Ethiopia seeking Famine Relief. Other projects included the UNDP/FAO study of livestock production (Rangeland Survey, 1971) and the initiation of the Arid Lands Project under the joint administration of UNESCO and the newly established United National Environment Program (UNEP), whose international headquarters are in Nairobi. Ironically,

the solar eclipse of 1973, which many Ariaal and Rendille feared as an omen of great changes, brought Marsabit District to world attention as scientists flocked to Lake Turkana (Rudolf) for the most advantageous view, and who consequently helped promote the plight of Marsabit's inhabitants suffering the drought. For the most part, development agencies in Marsabit are accepted and appreciated by Ariaal and Rendille residents. Water is now available on a regular basis due to installation of pumps and troughs at key watering areas; hospitals, mobile dispensaries, and the availability of western medicines are viewed as a great benefit "brought by the white man"; and administrative policing and local political representation are considered stabilizing forces in an area where livestock raiding is always a threat.

The advent of rapid development is also viewed by the Ariaal as disruptive. Missionaries are distrusted as temperamental and inconsistent, sometimes helping and sometimes not, and as foreigners whose main concern is pulling people away from the settlements and into service for the mission compound. The government is viewed as foreigners from down-country (the majority of administrators in Marsabit are from the central highlands near Nairobi) who don't understand local conditions and whose aim is to make money or help only local businessmen in the district.

These suspicions are based on concrete experiences Ariaal have with the missionaries and government administrators, and reveal weakness in

the approach of these modernizing agencies in implementing development projects.

a) The Missions

1) The National Christian Council of Kenya

The NCCCK have been active only recently in Marsabit District, and their influence is not very wide. Their main project has been the distributing Famine Relief, and the encouragement of agricultural production at three schemes on Marsabit Mountain, at Songa, Masikakwe, and Kiturni. In the eight years since their inception (1970), only Songa was able to produce a successful maize crop during a few years of good rain. The lack of rainfall contributed to the failure of these schemes, and its residents are today dependent for Famine Relief foods.

2) The African Inland Church

The AIC established three full missions in Marsabit District at Logologo (1963), Gatab on Mt. Kulal (1967), and at Ngurunit (1971), all areas of natural water resources Arisaal and Rendille used by populations. In addition, the mission has established water, agriculture, or medical services in ten other locations. Although the AIC has established two primary schools and two professional staffed dispensaries (at Logologo and Gatab), their primary work has been developing water resources such as digging boreholes, mechanizing pumps, and creating resevoirs. The presence of these regular water sources, coupled with

the health and educational services of the mission, helped develop Logologo into an important commercial center for Ariaal and Rendille. The mission in Ngurunit, an important watering area for the Rendille and Ariaal along the NDoto Mountain wall marking their western boundary, has a gravity-fed livestock trough, an airstrip, and a small dispensary which serves approximately 6,000 people. Commercial activities are quite small here, owing to poor roads, but is one of the only urban center's for Ariaal settlements in the area.

3) The Catholic Church of Marsabit (CCM)

Establishing a church, primary school and dispensary in Marsabit town in 1954, the Catholic Church developed a mission at Laisamis in 1967, an important water location south of Logologo, which includes a church, hospital and primary school. In Samburu District, also part of the Marsabit Diocese, churches, dispensaries and schools were built at Maralel, Baragoi and South Horr.

Much of the attention of the CCM in the 50's and 60's was medical, educational, and religious facilities that would attract a resident population. This orientation was changed in the 1970's as progressive missionaries saw the need to go out among the pastoral nomads, who comprised over 95% of the District's population.

Mobile Dispensaries, that is a land rover with medicines and health workers, were initiated in 1972 to visit the nomadic Ariaal and

Rendille settlements on a regular basis. A new mission was established in 1973 at Korr, in the heart of Rendille near the Halisurewa wells in a broad open plains. This mission was a departure in form from the large stone churches at Laisamis and Marsabit, as the priest and his volunteers lived in burlapped-cover domes similar to Rendille houses. A church and dispensary (also domed construction) were built in a compound, from which base mobile dispensaries would visit the fifty-odd Ariaal and Rendille settlements in the area. A great deal of attention and expense was paid to developing water resources, although the Italian geologists were unable to find any new sources unknown to the resident pastoralists. An interesting innovation promoted by the head of the Korr mission was the establishment of a Korr Committee, a meeting held every two weeks by two representatives, male and female, from over twenty five Rendille settlements, who would discuss decisions by the mission concerning medical, educational and other services such as Famine Relief distribution that affect their communities.

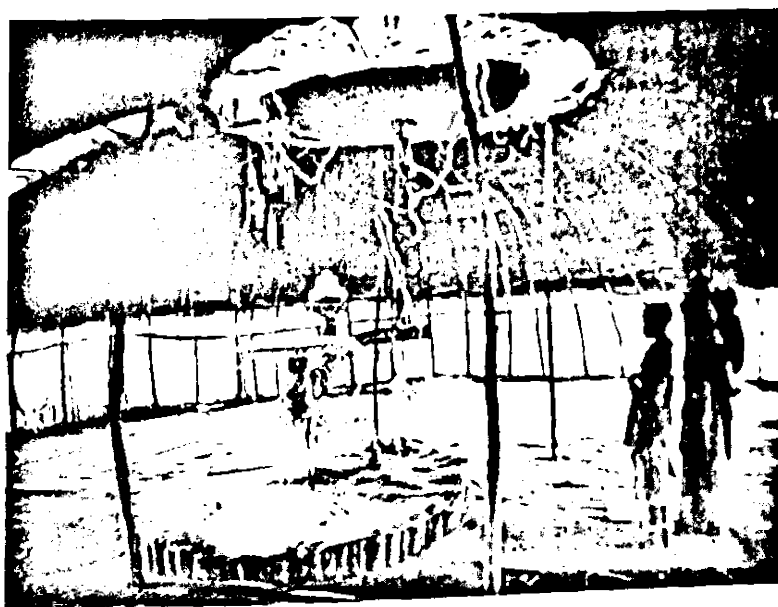


Photo 6.1 - Catholic Church at Korr (Courtesy of Anne Beaman).

b) The Government Administration

The government (Serkali, from Swa.) is viewed by the Ariaal as being primarily responsible for policing, settling disputes, and collecting taxes. The Marsabit District Administration however, is engaged in most development projects and actively promotes services in veterinary medicine, livestock auctions, education and health. Health and education institutions, although primarily financed and staffed by the missions, are supervised by the Kenyan Ministries of Health and Education.

The government's role in development in Marsabit district to a large extent follows the initiative of the missions. Water schemes, such as the piping of mountain reservoirs to the camel trough at Ngurunit, was built by the AIC, financed by the Ministry of Natural Resources. Famine Relief, provided by the government, is often distributed by the missionaries. In terms of health care, the government plays a passive role in the Mission hospitals and dispensaries at Laikipia, Logologo, and Ngurunit, although they assume direct responsibility for the government hospital at Marsabit town.

Since the increased participation of western aid agencies from Europe, the United States, and the United Nations in Kenya's development in the 1960's, the government has increasingly relied on these professionally staffed and well financed agencies to establish development policy. Development projects in Kenya range from building the Kisumu Polytechnic High School (Denmark) to the construction of a high

speed highway to Sudan (Norway), to the equipping of the Kenyatta National Hospital (USA and Germany). In the arid pastoral regions, international development aid has been aimed largely at improving livestock production and enlarging commercial sales.

c) The International Development Agencies

International agencies are new to Marsabit District, and have only recently proposed two projects. The United Nations Development Project and the Food and Agriculture Organization (UNDP/FAO) investigated the idea of settling nomadic pastoralists on "group ranches" with defined territory that could be improved with financial assistance, such as the building of boreholes, etc. Similar group-ranching projects failed in the much richer Masai land primarily because of lack of rainfall and the traditional organization of the Masai that depended on moving to new pastures utilized by kinship relatives in periods of drought. The UNDP/FAO maintain however that group ranches are the most viable way to utilize scarce resources under increasing population pressure (Halderman, 1972). Group ranches have not been formally proposed for Marsabit District, but have been developed on a small scale in the relatively well watered Baragoi plains in Samburu District.

Concern for the environment and the current analysis of 'desertification', which holds that the Sahara is increasingly moving south, was the principle motive for establishing the Arid Lands Project, a scientific monitoring station on Mt. Kulal near the AIC mission at Gatab. This

UNEP-UNESCO financed and staffed project is concerned not only with monitoring the desert, but in proposing "ecologically sound strategies consistent with rehabilitation of degraded areas" (UNEP, 1976). The project proposal concludes that these strategies must lead to alternative means of livelihood for the nomadic pastoralists, who are held largely responsible for 'desertification' by poor methods of livestock management. The consequences of this development plan may be severe on the people who live in this environment, but as of yet, no concrete proposals on curtailing traditional livestock proposals have been made.

d) Conflicting Ideologies

The general aim of development projects in Marsabit District is to improve the welfare of the nomadic populations by introducing new ideas in land and resource management and offering essential services in health care and education. However, consideration of 'what's best' for the residents of the district is determined by the particular needs and goals of each development agency, with little, if any, scientific understanding of the economic and social needs of the pastoralists themselves.

Projects of international aid agencies such as the UNEP-UNESCO Arid Lands Project are admirably aimed at rehabilitating the desert environment, but because their analysis holds the pastoralists responsible for environmental degradation through over grazing and over population,

their strategy is to reduce livestock populations, by culling and livestock sales and encouraging birth control and settlement in urban centers for the human population. The desired effect of such projects is the integration of pastoral societies into the market economy by increased livestock sales and the education of children to perform labor of benefit to the wider national economy. However, these planners fail to distinguish, as Dysen-Hudson points out, the objectives of a pastoral economy, where a large number of livestock are owned by a large number of people, "whose aim is the production not of a marketable surplus, but of a regular daily supply of food" (Dysen-Hudson, 1969:76).

Ranching schemes encourage the commercial ownership of large livestock herds by a relatively small number of people, as seen in other parts of Kenya, hastens the formation of classes of rich and poor where a few can grab the best resources and through 'land adjudication' force other pastoralists off their land (Halderman, 1972).

The goal of education, where Kenya has recently established free and universal primary education to the 4th year, is also directed more towards the needs of the national administration than to particular needs of the rural areas. School enrollment in Marsabit District is low (5,065 students in 23 primary schools, from a school age population of 35,000), for despite the compulsory enrollment of one child per household attempted by the colonial administration, the Ariaal and Rendille see little gain from formal education, which "makes our children lazy and uninterested in livestock". Somerset (1973) has criticized the curriculum of Kenya's primary schools as the memorizing of esoteria and

often irrelevant information, "attractive enough for display... but otherwise not much to the purpose". (Somerset, 1973:26). The lack of employment opportunities in the rural districts, despite the recent improvement in training rural youth the appropriate jobs through polytechnical secondary schools, forces a growing migration of unemployed youth to large urban centers such as Nairobi seeking the most menial labor.

If the government administration and the international planners can be justly criticized for not adequately considering the needs of the pastoral populations in their development projects, the religious missions bear the further onus of misrepresenting the pastoralists views altogether and imposing their own often misguided assessment of who the pastoralists are and what they truly need.

Both the AIC and the CCM hold paternalistic views of the Ariaal and Rendille that characteristically alternate from acts of charity and kindness to expressions of wearied patience and finally to harsh chastisement.

"The Rendille are very primitive, they are really children," says a Catholic priest working at Korr. "They look for today, for they have to eat, but they can simply disappear when they don't need you anymore".

Some missionaries view the Ariaal and Rendille in a social evolutionary view. "There's no doubt the Rendille represent a degeneration from the Jewish religion, as they still practice circumcision, a blood

sacrifice and atonement for sin (in their Sorio rituals), and have beliefs in the exodus story and the coming of a Messiah," said an AIC missionary, who believed that Rendille are a lost tribe of Israel, sharing myths about Adam, Eve and the Creation. "The laying of a dead man on his left side acknowledges the origin of woman from the left rib".

These conceptions held by the missionaries reinforce their orientation that the Ariaal and Rendille are not capable of looking after themselves, and that only those with the wider experience of the western world can lead them to improvement in this world and salvation in the next. The conflicting needs of the pastoralists and the missionaries sometimes reach frightening proportions, as when on an American missionary, armed with a rifle, chased off Ariaal morán watering their cattle in the water catchments above Ngurunet. Frustrated and cynical, the missionary related the experience,

"The Rendille don't have enough sense to see they're killing the area. Two years ago, the water ran right past the house here, now they have their cattle in the hills and the water's dried up. What's the sense of all our work here if there will be no water later on?"

The Ariaal claim that there was enough water before the missionary came in 1971.

"Before (the missionary) came, we had no trouble with water. The wells at Ngurunet were never more than 2 men deep, now they're always 3 men deep. He claims our cattle destroy the trees (highland water catchments),

but how do cattle walk on trees? The government also told us it was bad to graze our cattle up there, but they knew we only go there when we have trouble down here (i.e., drought), but (the missionary) comes after us with guns and says get off!"

To the Ngurunit mission's credit, they did provide a valuable service by building weirs and catchments in the forested hills to feed the gravity pipeline to a watering trough and faucet below. But the mission regulates the water flow through a 10,000 gallon storage tank, of which only the overflow is permitted to the trough and faucet. As the mission compound consumes 60-100 gallons a day for its flush toilet, bathroom and garden (which gets watered daily), the pastoralists can rely on the mission's water supply for no more than four-months a year when there is sufficient overflow from the tank. It is no wonder the pastoralists blame the missionaries for stealing their water!

The various development projects of the government international agencies, and the missions are not coordinated in a systematic fashion by an overall development policy, although the government is moving towards this goal. But development in Marsabit District is anarchistic and unsystematized, which agencies competing against each other. Both the missions and international agencies complain about inefficiency and corruption in government administration of the projects, while the government accuses the foreign agencies of belittling government initiative and expertise. Furthermore, the AIC and CCM are intensely competitive, accusing each other of theft of government funds or even attempting to sabotage each other's projects.

The missions, both Catholic and Protestant, do share certain features, however, that reflect their common missionary ideology. Both groups are worried about the spread of Islam which is gaining converts among Rendille, a fact they attribute to "status" of being Muslim (as both local politicians and businessman are primarily Muslim from Somali or Boran nationalities). There is some truth to this assertion, but an additional factor must be the relative non-disruptiveness of traditional values that accompany Islam, which does not attempt to pull people away from their culture by such means as the Christian missions, which uphold monogamy, western dress, and speaking English as attributes of modern man.

A more insidious effect of the missions on the population is their approach to health care. Much effort by the missions is paid towards establishing sanitary hospitals and dispensaries that offer services such as x-rays, surgery, and outpatient clinics. These services are of course essential and of great benefit to the population, but they emphasize, with the Christian aim of 'relieving suffering', basically short-term curative services, and pay little attention to longer-term preventative programs. To the AIC's credit, they have an ongoing vaccination program (unlike the Catholic dispensaries), but by confining themselves to the mission's settlements, have effectively vaccinated no more than 5% of the Airaal and Rendille children.

In light of the conflict between the ideologies of the development agencies and those of the indigenous populations they attempt to

serve, and given the contradictions and competition between these agencies, development among the Ariaal and Rendille has been disorganized and relatively ineffective in providing genuine improvement in their health and welfare. A closer examination of health care services, including the innovative Maternal and Child Health Care project in Marsabit District, helps define and formulate a recommended policy for Health Care services in the future.

6.3 Existing Health Care and the Initiation of the Maternal and Child Health Program (MCH) in Marsabit District

Marsabit District has four hospitals and ten dispensaries with a total of 190 beds. There are only two full-time physicians at the Government health centers at Marsabit and Moyale. The dispensaries, as well as the mission hospitals at Laisamis and Sololo, are staffed by nursing sisters with varied training in nursing and public health plus local subordinate staff. At the smaller dispensaries are full-time local 'dressers' selected and trained by the missions with help from the District Hospital. In addition, there are Government Public Health Technicians in most urban centers who are responsible for immunization, sanitation, water, meat inspection, pest control and building inspection.

Dividing Marsabit District into five 'health areas' (Wiseman, 1977), the existing health facilities are described in Table 6.1 with an accompanying Map 6.1. The Ariaal and Rendille, live predominantly in Area 2. 'CCM' refers to health facilities maintained by the Catholic Church of Marsabit and 'AIC' to those of the African Inland Church.

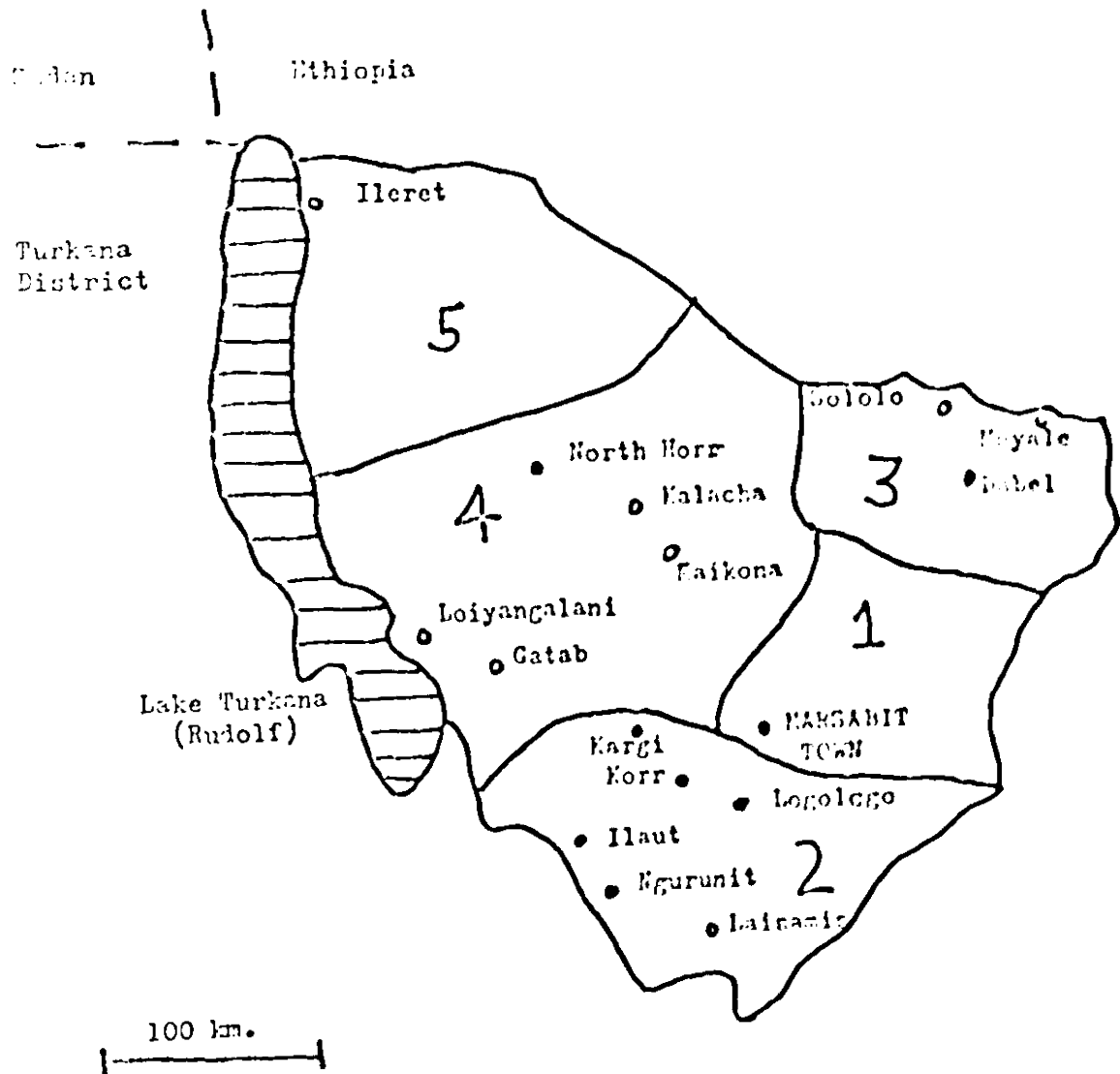
Table 6.1

Health Facilities in Marsabit District

<u>Area</u>	<u>Population</u>	<u>Health Facilities</u>	<u>Services</u>
1 Marsabit Town	15,000	Marsabit District Hospital (Ministry of Health)	Physician, surgery, x-rays, inpatient, outpatient clinic
2 (Artaal and Rendille)	15,000	Laisamis Hospital (CCM) Kargi Dispensary (CCM) Korr Dispensary (CCM) Logologo Dispensary (AIC) Ngurunit Dispensary (AIC)	Inpatient, outpatient clinic, mobile dispensary Outpatient clinic, mobile dispensary Outpatient clinic, mobile dispensary Inpatient, outpatient clinic Outpatient clinic
3	15,000	Moyale Subdistrict Hospital (Ministry of Health) Sololo Hospital (CCM)	Physician, surgery, x-rays, inpatient, outpatient clinic Inpatient, outpatient clinic
4	10,000	Malkona Dispensary (CCM) North Horr Dispensary (CCM) Loliyenjalant Dispensary (CCM) Gatad Dispensary (AIC) Kalahna Dispensary (AIC)	Outpatient clinic, mobile dispensary Outpatient clinic, mobile dispensary Inpatient, outpatient clinic Inpatient, outpatient clinic Outpatient clinic
5	5,000	Eleret Dispensary (Ministry of Health)	Inpatient, outpatient clinic

MAP 6.1

MARSABIT DISTRICT: FIVE HEALTH AREAS



(After Wiseman, 1977)

Most modern health facilities in the District are in the larger urban centers such as Marsabit Town, Laikipia or Logologo. Certain dispensaries have been initiated near those missions established in populated areas near water sources such as Ngurunit and Horr among the Ariaal and Rendille. Modern Health care on the whole is accessible to most of the population, although a walk of three days is not unusual to a health center if there are no mobile dispensaries in the area.

The Ariaal and Rendille have, accepted modern health services as an addition to rather than a substitute for their traditional resources for coping with health and disease. They regard certain western medicines as superior to their own, particularly those treating malaria, gonorrhea, and wounds. Although the Ariaal and Rendille are eager to attend outpatient clinics particularly for injections which they consider an effective device for combatting illness, they are disinclined to enter hospitals or dispensaries as inpatients, and fear the large hospitals as 'houses of death'. Dr. T.O. Lambo, the distinguished Nigerian psychiatrist, noted,

"My earlier experience in the general field convinced me that Africans, whether mentally ill or physically ill, loathe going to institutions. They are overwhelmed by vast modern structures and equipment. They come to a hospital only as a last resort." (Lambo, 1971:9).

Modern health care that requires lengthy stays in the hospital, such as major surgery, tuberculosis treatment, or post-natal complications, are usually referred by the local dispensaries, who also provide

transportation with the voluntary Flying Doctors program in Kenya. The Ariaal and Rendille seldom refer themselves to these larger hospitals, for fear of dying in a strange place far from one's family. Inpatient services, such as at the Laisamis Hospital, are alienating and demoralizing. Women, for example, must remove all their jewelry, including their large neck beads and brass arm and leg bands, which the hospital considers unsanitary. Without these ornaments, however, the female patients feel naked and exposed and their pessimistic disposition can be detrimental to recovery.



Photo 6.2 - Mobile Dispensary at Korr.

Attitudes to outpatient clinics are better than those towards inpatient hospitalization. Dispensaries, equipped with a dresser, basic medicines and dressings, are usually accessible to most Ariaal within

a one day's walk. For more distant populations, an extensive network of areas visited by mobile dispensaries is maintained by the Catholic Church from Laisamis, Korr, and North Horr. Many dispensaries are in small urban areas where shops and water resources exist, so a trip can be combined to obtain grains from the store, sell livestock, and treat an ill member of the settlement.

Whisson (1964) in a study of health practices among the Luo of Kenya, described the factors that influence a person to seek out western health care over traditional cures. These included:

- 1) The distance from the homestead to the hospital, store (selling certain medicines), or native healer;
- 2) The cost of the treatment; and
- 3) The nature of the complaint and who can best treat it.

Whisson reported that the Luo preferred hospitals and dispensaries for the treatment of cuts, ulcerated wounds, malaria, constipation and diarrhea; while vaguer but sustained feelings of illness were preferably dealt with by native doctors, particularly diviners or spirit-possessed practitioners.

For the Ariaal, western health care is considered effective for certain problems, but it cannot treat every health problem. In particular, the existing health facilities cannot treat infertility, high infant mortality, mental illness, or other problems that are usually associated with sorcery and witchcraft.

Reliance on native healers such as the lorbonok is a necessity when modern health care cannot address these particular health problems. A genuine criticism of the existing health care in Marsabit District is its emphasis on curative services, i.e., treating certain diseases or accidents, and its lack of emphasis on preventative medicine, particularly vaccinations against infectious disease such as measles and whooping cough, pre-natal care that includes combatting anemia, and health education that would improve the sanitary conditions that contribute to the spread of infection and disease.

Formulating the objectives of a comprehensive preventative medicine program, Dr. David Wiseman, a pediatrician at the Department of Community Health, University of Nairobi and Ms. Joan Harris, a health educator with the Kenya Ministry of Health, initiated the Maternal and Child Health Program (MCH) for Marsabit District from January 1976 to January 1977, which was financed by the Oxfam Foundation. I played a supplementary role by familiarizing the program with the traditional health care system of the Ariaal and in carrying out health surveys in Ariaal and Rendille communities from June to August, 1976.

The basic objective of the program was to establish primary health care throughout the district for women and children. Maternal and child health was emphasized because they are the majority of the population (65%); they have the highest morbidity and mortality rates, where 60 to 70% of mortality occurs in children under five; and because women and

children are the main attenders for outpatient services, constituting 80-90% of those seen in the dispensaries and hospitals.

A basic principle of the MCH program in Marsabit District was that "reducing infant and child mortality is essential to breaking the vicious cycle of high infant and child mortality with debilitating pregnancy". (Wiseman, 1977:6).

The program aimed at:

- 1) Promoting maternal and child health care by a vaccination program for children under 5 years against tuberculosis (BCG); Diphtheria, Pertussis (whooping cough), and Tetanus (DPT) and smallpox, polio and measles; establishing ante-natal care for mothers to include iron and folic acid supplements (against anemia), tetanus innoculations, and health education in nutrition and hygiene.
- 2) To train a cadre of primary health care workers, in particular locally recruited women with a standard 7 education, to extend maternal and child health care to a more peripheral level throughout the district.

The specific objectives and guideposts to assess the MCH program, as described in the final report (Wiseman, 1977) were as follows:

"I. Health Objectives:

The basic objective was to improve the overall health status of the people of Marsabit District. The three main target groups were infants under one year, children under five and women of reproductive age. The initial objectives for these groups were:

a) Infants birth to one year

- i) Clinic attendance - 80% to be seen at least once
65% to be seen twice
50% to be seen three times or more.

- ii) Vaccination - 50% to receive BCG, Smallpox,
DPT x 2, polio x 2 and measles.
- b) Children one to five years
 - i) Clinic attendance - 70% to be seen at least
during the year once
50% to be seen twice
35% to be seen three
times or more.
 - ii) Vaccination - 50% to receive BCG, Smallpox,
DPT x 2, polio x 2 and measles.
- c) Women in the period from conception until
six weeks after delivery
 - i) Clinic attendance - 30% to be seen at least
three times
 - ii) Vaccination - 30% to be vaccinated twice with
tetanus toxoid
 - iii) Treatment - to provide all attendees with
weekly chloroquine and daily iron
and folic acid.

The long term health objectives for these groups are:

- a) Infants - to decrease mortality by 50% from the
current level of 300 per 1,000 live
births to 150.
- b) Children one to five years - to decrease mortality
by 50% from the cur-
rent level of 60 to
1,000 children/year
to 30.
- c) Women in period from conception until six weeks
after delivery - to decrease maternal mortality
by 50% from 16 per 1,000 live
births to 8.
- to decrease by the number of
women with Haemoglobin levels
of less than 10 grams by 50%.

II. Family Planning and Health Education

Coordinated with these health objectives was a program to encourage traditional methods of child spacing such as avoidance of intercourse during the period of breastfeeding. Family Planning methods were made available to women who did not follow this custom. Family Planning methods were encouraged particularly for women with the greatest risk from pregnancy such as:

- i) Women with previous obstetric complications
- ii) Women with many previous pregnancies - that is, more than six
- iii) Women with frequent pregnancies - that is, less than thirty months between deliveries
- iv) Women over 35 years of age
- v) Women with debilitating disease

The objective was that two percent of the women of child bearing age would accept Family Planning. The original plan was to utilize intrauterin devices (IUD) but this was changed to emphasize use of birth control pills because of a marked preference for pills by women in the area.

III. Expanding Existing Health Facilities

- a) To train primary health care workers
- b) To integrate them with existing facilities
- c) To promote regular comprehensive MCH services at all facilities
- d) To bring health care within effective reach of the people of Marsabit District
- e) To encourage people to make effective use of these services
- f) To establish local health committees.

These objectives are to be coordinated with the activities of the government ministries concerned with community development, public works, animal management and agriculture." (Wiseman, 1977).

On the whole, the results of the MCH program in Marsabit District were excellent during its first year from January 1976 to 1977. The missions and government cooperated extensively in the project and systematically carried out vaccinations, antenatal care, and family planning in a coordinated effort supervised by Dr. Wiseman. Problems in government funding, however, limited the hiring of required staff such as mobile dispensary drivers and health technicians so that results of the program were much better in the large urban areas such as Marsabit town (Area 1) than in the outlying areas such as Ariaal and Rendille in Area 2.

Kuosha uso wa mtoto wako kunazuia
ugonjwa wa macho.



Photo 6.3 - Health Education Poster MCH Program, Marsabit District.

1) Marsabit Town

Marsabit District Hospital serves both a static and mobile population of about 15,000 through outpatient clinics and mobile dispensaries. The population under five is about 2,400. Of these 1,759 or 73% were seen at least once in the clinic, meeting the intended objective that 80% of infants and 70% of children are year to five years would be seen at least once. About 50% came at least twice, and 35% came at least three times.

a) Vaccinations - Children and Infants

The number of vaccinations given in 1976 compared with 1975 follows:

<u>Vaccine</u>	<u>1975</u>	<u>1976</u>
BCG	294	737
Smallpox	28	928
Polio 1st	184	1,756
Polio 2nd	130	640
Polio 3rd	100	640
Polio Booster	<u>0</u>	<u>599</u>
Polio total	414	3,299
DPT 1st	175	2,056
DPT 2nd	132	745
DPT 3rd	102	347
DPT Booster	<u>3</u>	<u>629</u>
DPT total	412	3,777
Measles	56	122

(Wiseman, 1977).

The number and percentage of the children vaccinated in Marsabit Town by 1976 was:

<u>Vaccine</u>	<u>1976</u>	
	<u>Number</u>	<u>Percent</u>
BCG	2,120	94%
Smallpox	2,187	97%
Polio 1st	1,882	84%
Polio 2nd	1,006	45%
Polio 3rd	718	32%
Polio Booster	411	18%
DPT 1st	2,187	97%
DPT 2nd	1,122	50%
DPT 3rd	791	35%
DPT Booster	373	17%
Measles	122	?

(Wiseman, 1977).

In terms of antenatal care in Marsabit Town, the number of women of reproductive age is about 2,000 of which 500 or 25% can be expected to become pregnant annually. 533 women attended the antenatal clinic in 1976, or 100% of the pregnant women in the town, of whom 260 (49%) received 1st tetanus toxoid and 112 (21%) received the second tetanus toxoid. This level was below the original objective of 80% to receive these two inoculations. All women were given weekly chloroquine and daily iron and folic acid.

The total number of women who used family planning methods in 1976 was 157, or 7.8% of the number of women of reproductive age. This greatly exceeded the original objective of 2.0%. (Wiseman, 1977).

b) Area 2: Ariaal and Rendille Nomadic Populations

Results of the MCH program were poorer in the rural areas than in Marsabit Town primarily because there were no regular MCH clinics and because of limitations of staff. Dr. Wiseman and the missionaries combined their efforts to carry out 1) vaccination campaigns for polio and DPT 2) antenatal care (emphasizing use of iron and folic acid).

These activities were combined with curative services and health education and carried out at the six health centers at Erti, Korr, Laisamis, Ngurunit, Ilaut, and Logologo.

Approximately 2,000 children attended vaccination clinics in Area 2 from January 1976 to January 1977. Of these about 900 were under 5 years. Thus about 50% of children under 5 attended at least once. Vaccination coverage was approximately:

Polio 1st	100%	DPT or TT 1st	95%
2nd	40%	2nd	35%
3rd	20%	3rd	15%
Booster	5%	Booster	5%

The coverage levels show only 20 to 25% of children are adequately immunized against polio, diphtheria, whooping cough and tetanus. These levels are not adequate to prevent epidemics. BCG/Smallpox vaccine scar rates for children of all ages is 50% to 60%. Measles coverage is unknown. (Wiseman, 1977).

The difference in health care delivery in urban centers such as Marsabit Town compared to rural areas such as Area 2, inhabited by Ariaal and Rendille nomadic populations are attributed primarily to lack of resources and trained staff, where mobile dispensaries could be effectively expanded to visit nomadic communities on a regular basis.

6.4 Integrating Traditional and Modern Health Care in Ariaal

The previous description of the Maternal and Child Health Program in Marsabit District offers some positive examples in introducing modern health care to rural and nomadic populations. A major feature of the program was going out to the nomadic communities who constitute the majority of the districts population. By working through the extensive network of mission dispensaries, as well as taking full advantage of the mobile dispensaries, fully 50% of the children under five living in the rural areas were vaccinated at least once. Previously, only a few children had received inoculations. Complete coverage of the rural population requires an even greater reliance on local clinic and mobile health units operating throughout the area.

A second feature of the MCH program was the training of local personnel and the coordinating of skills and services between existing personnel of varying training. A Health Manual was prepared by Dr. Wiseman to familiarize local 'dressers' to recognize and treat the most common diseases and health problems. In addition, four new personnel were trained with the specific tasks of health education, who would visit the local dispensaries periodically and help train local dressers

in problems related to maternal and child health. These four health workers were women recruited from the local populations, primarily Rendille and Boran. They were responsible for health education activities, speaking to residents in their own language and in concrete problems they could understand.

Perhaps the most important feature of the MCH program was its emphasis on preventative medicine, particularly on inoculations for children and expectant mothers, and on health education in hygiene and family planning. The majority of health problems can be attributed to infectious diseases, nearly all of which can be prevented. Measles, malaria, tuberculosis, smallpox, tetanus, conjunctivitis, and gastroenteritis are relatively minor problems in the western world where preventative health programs have been established for long periods and which are available to most of the population.

Despite the effectiveness and relatively low cost of preventative medicine, third world countries such as Kenya have been slow to take up such programs. Over 60% of Kenya's health budget is appropriated to the Kenyatta National Hospital in Nairobi, which has the most up-to-date facilities and trained staff. However, this hospital treats no more than 15% of Kenya's population.

Dr. David Morley of the Institute of Child Health, University of London and a leading authority on health care in developing countries, notes the trend of building large "showcase" hospitals in capitals such as Nairobi:

"Although three fourths of the population in most countries in the tropics and sub-tropics live in rural areas, three fourths of the spending on medical care is in urban areas, and also three fourths of the doctors live there. Three fourths of the deaths are due to conditions that can be prevented at low-cost, but three fourths of the medical services, is spent on curative services, many of them provided at high cost."
(Morley, 1973:4).

Proponents of large multi-million dollar hospitals such as the Kenyatta National Hospital argue such centers are essential in the training of doctors, as referral centers, and for research into the particular diseases of the country. Morley (1973) demonstrated that on the contrary, few doctors are trained at great expense, and tend to concentrate in the capital cities rather than in the rural areas. Medical education follows a western model, and does not usually have large-scale training of auxiliaries such as medical technicians or dressers working in the country side. As referral centers, these large hospitals cannot satisfy local demands for health care let alone admit from other centers. As regards research, it has proved too costly, future-oriented, and divorced from immediate problems to be of direct consequence to the majority of ill people in the country. Perhaps the most serious problem of the large hospitals is they receive first call on the national health budget, consuming about one-quarter of the initial building costs each year, and prohibiting the development of rural health centers (Morley, 1973:16-42).

Accompanying this emphasis on urban-based health care is the chauvinist attitude of the western health care proponents that ignores or belittles local concepts of disease and traditional methods of curing. The effect of this attitude leads to a considerable degree of ambivalence and often resignation with which people such as the Ariaal seek modern health care.

It is important that rural populations with traditional concepts of disease such as the Ariaal be educated in scientific principles such as the etiology, prevention, and treatment of disease. They must be taught basic concepts of physiology and pathology such as viral, bacterial, or other parasites causing infections, in order to adopt beneficial practices in hygiene and disease prevention.

It is also necessary that western health care workers become familiar with traditional concepts of disease, not only to learn the particular viewpoint of a society in order to aid modern health education, but to actively integrate traditional health care into a comprehensive health care system.

Dr. T.O. Lambo, who is currently Deputy Director General of the World Health Organization, writes:

"(It is) my conclusion, after long and determined attempts to appraise both indigenous and modern medicines within the African context, that they are not mutually exclusive ... traditional healing, which occupies such a vital part of the whole system of thought, should not be regarded as an absurd system of thought which comes into existence through chance or subjective experiences and superstitions. It should be conceived as a dynamic and meaningful part of living culture, quite able to survive changes in spite of the basic differences from the pattern posed by western culture ... I feel strongly that UNICEF, WHO, or any other specialized agency, could do a great deal of good by taking what Africa has and modifying and modernizing it." (Lambo, 1971:11-12).

6.5 Recommendations for a Comprehensive Health Care System Among the Ariaal, Rendille, and Samburu

Based on the analysis of the traditional health care system of the Ariaal, and on the initiation of the maternal and child health program in Marsabit District, the following recommendations can be made to develop a comprehensive health care system for the nomadic populations of northern Kenya, including the Ariaal, Rendille, and Samburu. This system is composed of three parts: promoting useful traditional methods in health care; introducing modern health concepts through locally recruited personnel trained in health education; and extending the health care delivery system through existing dispensaries and the extension of mobile health units.

1) Promoting Traditional Health Care

The Ariaal have a traditional health care system that is effective to some degree in alleviating certain health problems. The relative elements of their health care system must be promoted, while the relative aspects of their system must be analysed in order to educate the people of their danger. As described in Chapter 4, Ariaal have a large and well defined inventory of herbal medicines, many of which show active and beneficial qualities in reducing disease symptoms. Some herbal medicines have been effective in reducing fevers, treating burns and infections and stimulating gastero-intestinal processes as emetics and diarrhetics. The principal problem with administering herbal medicines has been in regulating the dosages that are administered. It is not unusual for the poisonous principles of these medicines to incur damage and even death to the patients.

Understanding the scientific principles of herbal medicines and formalizing their preparation and dispensation is a fundamental task of promoting their use as an auxilliary to western medicines. China has led in this field by systematizing all available traditional knowledge of herbal medicines and training local health care workers in the production and preparation of these medicines in regulated dosages, available in both tablet and liquid forms. Having systematized over 2,000 herbal preparations, China views the use of herbal medicines as a low-cost and widely available addition to their pharmacopeia, with the advantage of having little or no side-effects prevalent in synthetic pharmaceuticals. (China Health Care Study Group, 1974).

The World Health Organization, recognizing the tremendous potential of utilizing herbal medicines, has been actively promoting their use in developing countries such as Tanzania and Mozambique.

A second component of utilizing traditional practices in health care is the promotion of traditional curers, or 'native doctors'. Again, China has revolutionized this field by integrating the knowledge of traditional medicine, including acupuncture and moxibustion, with western concepts in anatomy and physiology. In the 1960's during the Great Proletarian Cultural Revolution, medical education in China was actively transformed to serve the needs of the vast majority of the people living in the rural areas. Traditional doctors, who numbered about 500,000 were trained in western techniques, while western trained medical doctors, numbering about 40,000, learned traditional techniques such as acupuncture points and the use of herbal medicines. These two great bodies of knowledge were synthesized and systematized into a health manual and 6 month course for "barefoot doctors", locally recruited health care workers living in the rural areas (China Health Care Study Group, 1974).

Traditional curers in Ariaal, as in Samburu, include the Kursan herbal specialists, the midwives and the Loibonok ritual practitioners. Each of these specialists have a particular and useful knowledge, which must be systematically integrated with modern health techniques. Rendille and Ariaal midwives, for example, were taught new techniques in prenatal and childbirth care by the MCH program, which included the dispensation

of folic acid and iron tablets to expectant mothers, and the use of "birth packets" which included sterilized razor blades and string for child delivery. The midwives were very receptive to these new techniques, recognizing the need to effectively combat infection and birth complications with techniques and medicines not available in the traditional culture.

Similarly, herbal medicinalists such as the Kurana must learn new techniques in the preparation and dispensation of herbal medicines, particularly relating to standardized dosages. More importantly, however, western health care workers must learn the traditional knowledge and techniques of these herbal practitioners in order to broaden and deepen their knowledge of traditional medicines. Steps in this direction have been recently undertaken in other African countries, such as the Drug Research Center at the University of IFE, Western Nigeria, which employs full-time traditional curers who help in the immense task of organizing traditional concepts of disease treatment. In addition, the Drug Research Center undertakes pharmacological research of the more important herbal medicines.

A more difficult problem exists in the modern integration of the Samburu Loibonok ritual curers. The basis of the Loibonok's services are found in religious beliefs related to concepts of mystical power and their manipulation by human specialists such as witches and sorcerers.

Over time, as people are educated in scientific explanations, these supernatural concepts will probably be abandoned as western concepts of causation and etiology replace them. However, this may be a prolonged process. Even in countries with a high degree of cohesiveness and modern education, spiritual beliefs have an enduring tenacity.

As described in Chapter 5, ritual specialists such as the Loibonok provide a useful and necessary medical service, particularly in treating mental health problems. Because their knowledge is deeply integrated in a larger system of thought and belief shared by the people, and because of the power and effectiveness of their treatments conferred by the people, specialists such as the Loibonok do effectively treat certain mental disorders such as neurosis. Their treatments provide peace of mind to the distressed, and give feelings of protection to the threatened. Moreover, the Loibonok provide techniques in the treatment of mental disease which may well offer lessons for western clinical practices. As Turner noted about Ndembu therapy, "Relief might be given to many sufferers from neurotic illness if all those involved in their social network could meet together and publicly confess their ill will towards the patient and endure in turn the recital of his grudges against them". (Turner, 1976:393).

In addition to certain techniques such as "filion therapy" the Loiboni helps integrate the individual into the wider community by concretely linking his condition with the much larger conceived state of the universe. Recently, the Department of Health, Education and Welfare

in the United States awarded grants to train young Navaho apprentices in traditional health care, particularly in ritual curing, as their services are considered essential in treating mental health problems that are not alleviated by western techniques.

Using the traditional model of the therapeutic milieu of African ritual curers, Lambo (1964) pioneered the village mental health system in Nigeria, where traditional settlements are created near large urban health centers, occupied not only by the patients, but their family members who provide much of the care for the patient in terms of cooking, washing, and communication. These mental health villages are staffed not only by western-trained physicians and health workers, but by ritual specialists who perform traditional curing as an auxiliary service to western care. Similar therapeutic villages have been initiated in Tanzania (Swift and Asuni, 1975).

Elements of traditional health care such as herbal medicine and local curers must be utilized in a comprehensive health care system. Not only do they provide essential links between traditional and modern world outlooks, they also provide low-cost and readily available treatment so necessary in developing countries. These traditional practices, however, must be carefully integrated with modern techniques in health care, and to this end conscientious health education in western ideas and techniques must be promoted in all rural communities.

2) Introducing Modern Health Education to the Rural Areas

Many traditional techniques in health care should be actively promoted among the Ariaal and Rendille. Furthermore, new and modern techniques in health care must also be taught to the broad masses of people living in the rural areas. Only through intensive and widespread health education can the health of third world populations begin to improve.

Many health problems experienced by the Ariaal can be treated or prevented locally by the introduction of modern concepts and techniques. Death from dehydration, which accompanies disease and diarrhea particularly in children and old adults, can be prevented by teaching the people how to recognize dehydration symptoms. If aware that dehydration is a graver problem than "trapped poisons" which are traditionally treated by strong and dehydrating purgatives, a parent can act immediately and effectively to save her child's life. It is remarkable what four cups of tea a day can do for a dehydrated patient.

Other health problems can also be treated by new techniques that do not violate normal behavior proscribed by social custom. For example, eye diseases such as conjunctivitis and trachoma can be reduced by daily washing of the eyes, even without cleansing or chemical agents. Infections caused by wounds can be treated by washing and keeping dry. Burns, which affect many children who fall into the cooking hearth, can be prevented by the cost-free technique of covering the hearth with the large flat stove women grind tobacco on, a simple but effective precaution encouraged by the Marsabit District Hospital.

An obvious advantage of these simple techniques is they encourage self-reliance and avoid an overdependence on high-cost western medicines. The recent influx of health services in the rural areas has led to misconceptions about the efficacy of western medicines, and consequently to an ineffective health care program. Local dispensaries, for example, usually treat infectious diseases such as pneumonia, gonorrhea, and malaria by injections, as treatment by tablet ingestion is usually incomplete for the patient stops taking his medication when he feels better. This wide use of injections reinforces the belief that diseases can be treated only by the needle, and Arias are reluctant to take tablets which they view as less effective.

This practice can be dangerous, as injected medicines may cause more medical complications than slow-acting, but equally effective tablets, as in the case of chloroquine which can damage the circulatory system when injected. Furthermore, by receiving an injection without any information about the disease he is suffering, a person is uninformed and uninterested in taking precautions to prevent that disease. Gonorrhea is a tremendous problem in Marsabit District because an infected individual does not inform his sexual partner, and because he feels he can treat the disease if he contracts it again simply by having another injection.

In part, the over dependency on western medicines is a result of local conditions where western health care workers are understaffed

and over worked, and in the end provide the simplest curative medicines---the manufactured pharmaceuticals. But this dependency in third world countries on western medicines is also reinforced and promoted by the pharmaceutical industry in the western nations, who often dump dangerous or banned medicines at high prices on third world markets. The case of Nestle's milk formula products such as Similac has achieved notoriety for increasing health problems such as malnutrition. Injectable chloroquine or tetracycline eye ointment, which caused dental problems in youth, have been discouraged in many western countries, yet they are used widely in third world countries such as Kenya.

Low-cost and effective health care, such as the promotion of preventative techniques in hygiene and treatment, aids in reducing the dependency on high-cost and sometimes dangerous western medicines. The question remains, however, on the means with which health education is promoted.

One often hears health care workers and government officials bemoaning the conservatism and resistance of pastoral peoples to new ideas. However, peoples such as the Ariaal or Masai have demonstrated openness to innovations of direct benefit to them, most notably in matters concerning the well-being of livestock. The Ariaal selectively breed their animals for size, fitness and milk production. Improvements in nutrition or health, such as veterinary medicines, that improve their herds are spread widely and quickly. The Ariaal are no less concerned about their children; to suggest so would be offensive. But the promotion

of innovations in human health care requires more than a 15 minute presentation once a month by professionals who can communicate only in Swahili.

A system of health care workers, recruited from local population and trained in health education and particular aspects of preventative medicine, must be established to visit the rural communities on a regular basis. The MCH program in Marsabit District is a good example. Accompanying the mobile clinics on their weekly visits, the MCH workers use each visit as an opportunity to follow-up on individual mothers and to demonstrate to the village health care techniques in anti-natal and post-natal care, including nutrition, hygiene, delivery procedure, and weaning. In addition, education about particular health problems were discussed with villagers in their own language and in terms everyone could understand.

The system of health education workers must be enlarged to include all major Ariaal settlements on a regular basis. The basis of establishing this system already exists. The Catholic Church of Marsabit has a large network of catechists, youth with a standard I to form II education who live in 35 Rendille and Ariaal settlements, and who visit over 57 settlements, or about 85% of all Rendille. Where the main function of these youth are to discuss the Gospel in hourly meetings each day, they also serve a health function by dispensing some medicines and referring sick members of the community to the weekly mobile clinic.

These youth can serve in a greater capacity if they were trained to educate the local people in fundamental health education. Presentations should include recognition of disease symptoms, follow-ups on drug treatment including anti-biotics and thiazine treatment for tuberculosis, hygienic techniques, and the use of traditional medicines.



Photo 6.4 - Ariaal Elders Distribute Famine Relief Food.

The settlements themselves must actively engage in health care. Settlement elders, who meet regularly to discuss village affairs are the best candidates to lead "health campaigns", concerted efforts to eradicate particular health problems. The integration of local people and

trained health workers led to the unparalleled eradication of schistosomiasis (Bilharzia) and gonorrhea in rural China (Horn, 1979). The establishment of the Korr Committee, consisting of male and female Rendille from every clan settlement served by the Catholic mission, is a positive step in this integrated health care system.

In order to establish this comprehensive health education program, the health priorities of the national government must be directed at the rural areas. One of the most accessible ways to achieve this is to train locally recruited people as health workers. Local residents have both knowledge and concern for local conditions. Furthermore, large populations of educated youth exist in the rural areas with little economic opportunity to keep them there, yet with little inclination to live in urban areas where unemployment is high. For this reason, the CCM can hire Form II leavers at 125 K.Sh. a month to work as catechists in the Rendille settlements. For the national government and the Ministry of Health in particular, opportunities must be developed to train local youth as health care workers for the rural areas, and abandon or modify their current medical education which recruits only to the university medical school for a 5 year Doctor of Medicine Program. For the national government, health care expenditure must increase in the rural areas, to establish more health centers and mobile clinics, and to hire more personnel for the rural areas. To this end, the government must modify its enormous expenditure to the large urban hospitals.

3) Extending Health Care Delivery in the Rural Areas

As described in Section 6.2 and 6.3, existing health care in Marsabit District is undeveloped, unsystematized, and uncoordinated. Each mission operates its own dispensaries in their own fashion, with only fundamental links to the government health program, such as referring difficult cases to the District Hospital. Furthermore, most existing health programs are oriented to curative rather than preventive programs.

Existing health care facilities in Marsabit District must be systematized and coordinated under a planned effort to improve the health care delivery system. In particular, the training of dressers, nurses, health education workers, and doctors must be coordinated so each have particular skills at an equal level.

Each type of health personnel should have a defined set of responsibilities and training; each type of health facility also should have a defined set of responsibilities and resources. Local dispensaries should have at least one dresser and one health education worker and be under the direct responsibility and communication by mobile units to a larger urban dispensary, such as Laikipia and Kericho, which have trained nurses, dormitories, and facilities for minor surgery. These larger dispensaries should be under the supervision of the District Hospital, which not only acts in its present capacity as a referral unit, but as the coordinator of health care delivery throughout the district.

On the level of the local dispensaries, services should be the same throughout the district. Each dispensary should have one dresser and one health education worker, trained in both curative and preventative services. Each dispensary should have the same stock of appropriate medicines that include folic acid, iron supplements, antibiotics, anti-venoms, and treatments for malaria (chloroquine) and tuberculosis (thiazine). Vaccination programs should be initiated by the urban dispensaries through the local dispensaries and mobile clinics in a systematic and documented fashion coordinated by the District Health Office.

The basic structure for this projected health care delivery system already exists in Marsabit District. The District Hospital, the urban dispensaries and the local dispensaries are established, and though generally uncoordinated, are effective in curative services. What must be expanded however, is the outreach of these facilities to the rural nomadic populations. To this end, mobile clinics must be expanded to cover at least 90% of the settlements, and local health care workers must be recruited to serve these communities from a base in the local dispensaries. The Chinese example, with their reliance on locally recruited "barefoot doctors" and coordination with settlement representatives in undertaking health campaigns, is a positive example with many features of benefit to rural health care delivery throughout the third world countries.

4) Conclusion

Health care among the Ariaal is provided by both traditional methods of curing and modern health services delivered by government and mission health facilities. Health care is unsystematized and often competitive among these independent agencies, however, and consequently is not effective over a wide area, particularly among the nomadic settlements in the rural areas.

In the absence of western health care, the Ariaal rely on traditional medicines provided by specialists such as midwives, herbalists, and the Loibonok. Where modern health care is available, such as through the mobile clinics or accessibility to dispensaries in urban areas, the Ariaal utilize these resources as an addition rather than a replacement for their traditional health care system.

Modern health facilities are managed independently by the foreign missions and the government, and although there is some coordination of efforts, health care is not systematized in terms of training, facilities, or dispensation of medicines. Furthermore, the modern health facilities do not show a deep understanding of Ariaal and Rendille attitudes and beliefs about health care, and have not attempted to integrate the two wide bodies of health conceptualization, the traditional and the western, which, it is argued would improve health care significantly in Marsabit District.

A positive program for improving the health care delivery system among the Ariaal in Marsabit District depends on a conscious integration of traditional and western concepts and practices about health and disease. Good health is not the result of the introduction of vaccines or antibiotics, but their integration into the entire conceptual framework of the economy, world outlook, and social organization of the society. To this end, traditional cures that have proven effective, such as the herbal medicines, must be promoted as well as the continuation of health services by traditional specialists such as the Ariaal Loibonok and Kursan herbalists. This integration and utilization of traditional curers and medicines not only provides psychological stability during the society's transformation into the modern world, but is also a serious economic consideration to third world countries dependent on western medicines and trained health care workers.

In addition to the conscious promotion of traditional health practices, modern health care must be expanded and coordinated to reach the majority of the nomadic population living in the rural areas. To this end, local health care workers, recruited from the local population, must be trained to provide primary curative and preventative health care in local dispensaries. Through the enlargement of mobile clinics operating from urban dispensaries, health care that includes vaccinations, anti-natal and maternal health care, and health education in hygiene and disease prevention must be brought to the majority of nomadic settlements on a regular basis. The maternal and child health program of Marsabit

District is a positive example in reaching out to rural communities through the use of locally recruited health personnel and the use of the mobile clinics.

In conclusion, promoting positive health care in the District requires the conscious integration of traditional and modern health care services to combat disease, poor hygiene, and mental illness. If this thesis has served in even the smallest way to aid in that effort, the efforts are rewarded.

District is a positive example in reaching out to rural populations through the use of locally recruited health personnel and extension of the mobile clinics.

In conclusion, promoting positive health care among the Afisal requires the conscious integration of traditional and modern health care services to combat disease, poor hygiene, and mental illness. If this thesis has served in even the smallest way to aid in this task, my efforts are rewarded.

APPENDIX 1

GLOSSARY OF AFRICAN WORDS USED IN TEXT

All vocabulary words, unless indicated, are Samburu (Maar language). l - is masculine prefix; n - is feminine prefix. Other languages used are Rendille (Rend.), Swahili (Swa.).

Na'apu, na'apo - (Rend.) Men's ritual center inside Ariaal settlement

Aduku - Shaking, tremors experienced predominantly by moran during ceremonies

Laigueni, Laiguenak - Chief or spokesman

Airi, Airr - (Rend.) Diarrhea

Airony, aironyi - Abortion

Lairuponi, lairupok - Witches

Lais, Laisi - (Rend.) Holy men

Aisho - Delivery, childbirth (Verb "to give")

Naisuk, naisuki - Tobacco snuff

Laiyoni, layok - Uncircumcised boys

Lajigan, lajigani - House flies

Lakirakir - Epilepsy (from v. "to shake")

Lalei, Lalei - Livestock camps

Almhato - (Rend.) Rendille and Ariaal ceremony blessing camels during Spring rains

Lamai dorrop - "Short hunger", dry period between December and March

Lamai O'odo - "Long hunger", dry period between June and October

Lare, Larei - Kidney

nBarratut, nbarratuti - Married woman

LBoset, lbosit - Uterus

GLOSSARY OF AFRICAN WORDS USED IN TEXT (CONTINUED)

- Bu'utan - (Rend.) Ox or goat killed four days after childbirth
- nChan, nCheni - Rainfall
- LChema - Cough, chest cold
- ndawa lol cheni - Herbal medicines
- LDeket, Ldeketi - Curse
- nDis - Hepatitis
- NDito, ntoyie - Unmarried girls
- NDotoi, NDoto - African board game
- Leng'atuny, Leng'atunyi - Lion
- NGolon, NGoloni - Strength
- LGosheke, LGoshekie - Stomach
- LGoso, LGos - Throat
- Gumaat - (Rend.) Friday
- NKaging'ani, NKaqing'ani - Mosquito
- Nkai - God, Creator
- NKaira lendito, NKara lentoyie - Illegitimate child, "child of (unnatural+
cumcised) girl"
- nKakwa - Pleiades constellation
- NKang, Nkangi - Settlement
- NKanyaragi, nkanyaragi - Lungs
- Nkapelani, nkapelak - Witch
- Katonute - Pregnancy
- NKeju, NKejuk - Leg
- Kemoi, Kemo - Sick
- LKerobi, LKerobin - Colds

GLOSSARY OF AFRICAN WORDS USED IN TEXT (CONTINUED)

- NKidi, NKidi - Meat
- NKidong, NKidongi - Divination container, a gourd or cow's horn filled with small objects
- NKii, NKiok - Ear
- NKik, NKek - Excrement
- LKipei, LKipei - Lung, lung disease, particularly pneumonia
- Nkirakir - Shaking, tremors
- NKirewa, Nkirewan - Fever, malaria
- Kisunono - (Swa.) Gonorrhea
- NKola, NKolai - Urine
- NKonchor, NKonchori - Forked wooden tool to make thorn-bush fences
- NKony, Nkonyek - Eye
- Nkop - Earth, ground
- LKulup, LKulupi - Foot and Mouth disease
- NKueny, NKuenea - Laughter, birds
- LKunono, Lkunonon - Blacksmith
- NKurotet, NKuroteti - Polio
- LKursa, LKursan - Medicinal specialists, particularly herbalists
- NKurupore, NKuruporen - Sorcery, sorcery medicines
- NKutuk, NKutuki - Mouth
- LMadai, LMadan - Insanity
- LMaimo, Lmaim - Monitor lizard
- LManang, LManang'i - New milk
- LManet, Lmaneti - Ritual objects of "tie" or protect from harm
- LManjeri, Lmanjer - Ticks

GLOSSARY OF AFRICAN WORDS USED IN TEXT

- LManyit, Lmanyet - Fatty tissue in abdomen over digestive organs
- LMaoi, LMao - Twin
- LMare, LMarei - Rib
- Marti - (Rend.) Lava plateaux
- LMerimer - Tick fever
- LMileka, LMilekai - Dangerous spirit, ghost
- Moran - (Eng. after "Murrani") Member of Masai, Samburu warrior age-grade
- Morr - (Rend.) Ritual goat or sheep slaughter at childbirth
- LMudong, LMudongi - Placenta
- Lmugit, Lmuget - Ritual ceremonies of the moran age-grade
- LMunyua, LMunyaishi - Liver
- LMurran, LMurrani - Member of warrior age-grade
- LMuruti - Whooping cough
- LNg'erng'erwa - "Large rain" occurring in the Spring
- Ng'onyo, ng'ony - Blood vessels, disease of blood vessels
- LNg'oret, Ng'oreta - Blood tapping arrow
- Lodua, Loduan - Gall bladder, bile., as adjective, bitter, Bitterness ("the bitter disease")
- Loiboni, Loibonok - Masai and Samburu diviner, sorcerer, ritual specialist
- Loikop - Samburu
- Loikop Lontemesi - Ariaal Rendille, lit. "Sorcerer of the Rendille"
- Loip, Loipi - Men's shade tree
- Lokochum - Anthrax
- Nolop, Nolopi - Vomit
- Paker, Pakerin - Mother-in-law

GLOSSARY OF AFRICAN WORDS USED IN TEXT (CONTINUED)

- Lpayen, Lpayeini - Elder, married male
- LPepedo - Smallpox
- Lposho - (Swa.) Maize meal flour
- Mpuro, Mpuron - Blood
- Reten, Reteni - Journey
- Saar - Trypanosomiasis
- Shurr - TB
- Sisen po'oki - 'Systemic diseases'
- Solbwa, Solbwai - Cattle stick
- Sorio - Ritual
- NTanu, NTana - Spleen
- NTare - Small stock, goats and sheep
- NTasim, Ntasimi - Protective medicines
- Ntasim Laisar - 'Burning' ritual fire
- LTau, LTauya - Heart
- Tibi - (Eng.) Tuberculosis
- NKurotet - Polio
- NTipat, Ntipati - 'Relatives', lineage grouping, lit. "ba"
- LTipu - Measles
- LMileka, LMilekai - Dangerous spirit, ghost
- NTua, NTuan - Toad
- LTumerin - 'Small rains', occurring in the fall
- NTurumet, NTurumeti - mole, rat
- Wakh - (Rend.) God

GLOSSARY OF AFRICAN WORDS USED IN TEXT (CONTINUED)

ETHNIC GROUPS MENTIONED IN TEXT

- Ariaal - Cattle and camel pastoralists of North Central Kenya, a bridge culture between the Samburu and Rendille.
- Boran - Galla-speaking cattle pastoralists of Northern Kenya and Southern Ethiopia, traditional enemies of Ariaal.
- Dorobo - Hunter and gathering group in close association with Samburu, Ariaal and Masai pastoralists.
- Elmolo - Fishing population of Lake Turkana, closely related to Samburu and Rendille.
- Gabra - Galla-speaking camel pastoralists of Northern Kenya, closely related to Boran.
- Jie - Nilotic-speaking cattle pastoralists of Northern Uganda, closely related to Karimojong and Turkana.
- Karimojong - Nilotic-speaking cattle pastoralists of Northern Uganda.
- Masai - Nilotic-speaking cattle pastoralists of Southern Kenya and Northern Tanzania, closely related to Samburu.
- Rendille - Cushitic-speaking camel pastoralists of Northern Kenya, closely allied to Samburu.
- Samburu - Masai speaking cattle pastoralists of North Central Kenya.
- Somali - Cushitic-speaking camel pastoralists of North East Kenya and Somalia.
- Turkana - Nilotic-speaking cattle, camel and mixed agricultural peoples of Northwest Kenya, closely related to Karimojong; traditional enemies of Samburu, Ariaal and Rendille.
- WoDaabe Fulani - Cattle pastoralists of Northern Nigeria and West Africa.

APPENDIX 2

GLOSSARY OF MEDICINAL PLANTS

This glossary lists plants used for medicinal and ritual purposes by the Ariaal, Samburu, and Rendille of Northern Kenya. The plants are listed alphabetically by their Samburu name, followed by their botanical name (Family: Genus species). Location is defined as Hills (above 1,200 metres) and Plains (below 1,200 metres). Uses (e.g., ritual; stomach, etc.) are described in section 4.5; and pharmaceutical data, if listed, are described in section 4.6.

All plants were identified by the East African Herbarium, Kenya National Museum, Nairobi, Mr. J.B. Gillett, Botanist in Charge. The material was collected by myself, Dr. John Galaty in his Masai research, and Dr. Paul Spencer in his earlier Samburu research. My appreciation is extended for permission to use their identifications. The following are the EA Herbarium references:

E. Fratkin	21 Feb 75	H304/74 & 56/75	(Nos. 1-23)
	23 Aug 75	KNMus/H133/75 H 187/75	(Nos. 24-65) (Nos. 66-72)
J. Galaty	23 Sep 75	KNU/H214/75/ks	(Nos. 1-4)
	15 Oct 75	KNU/H223/75	(Nos. 4a-10)
	18 Dec 75	USILC/H244, 246, 270, 280/75	(Nos. 11-171)
P. Spencer	7 Jan 60	H250/59	(Nos. 1-198)

La'amai, La'ama - Olacaceae: *Ximenia americana* L. Hills and Plains
- stomach. Tannins.

Labai, Laba - Compositae: *Psiadia punctulata* (DC.) Hills
Vatke - burns, ticks.

Lagratenai - See Sigteti.

Laibalayok, Labalayok - Solanaceae: *Solanum renschii* Hills
Vatke - strength. Alkaloids, solanine.

GLOSSARY OF MEDICINAL PLANTS (CONTINUED)

- Laibeleshi, Laibelesh - Asclepiadaceae: *Calotropis procera* (Ait.) Ait.f. - ritual use. Plains
- Laimurunyi, Laimuranya - Celastraceae: *Maytenus senegalensis* (Lam.) Exell - arthritis. Plains
- Lairamirami, Lairamiram - Compositae: *Senecio petitianus* A. Rich. - childbirth, strength. Alkaloids. Hills
- Lairipai - See Laishimi.
- Laishimi, Laishimin - Burseraceae: *Commiphora* sp. - stops diarrhea. Resins. Plains
- Lakirding'ai, Lakirding'a - Euphorbiaceae: *Croton dichogamus* Pax - chest, stomach. Tannins, resins, toxalbumin. Plains
- Lampurerei, Lampuror - Burseraceae: *Commiphora* sp. - Stomach. Resins. Plains
- Lamurie, Lamuria - Apocynaceae: *Carissa edulis* (Forsk.) Vahl - Polio, gonorrhea. Cardiac glucosides, tannins. Hills
- Larame, Larami - Orobanchaceae: *Cistanche tubulosa* (Schenk) Hook.f. - childbirth and pregnancy. Plains
- Larampai, Larampa - Unidentified, green algae
Ritual use.
- Larasoro, Larasoro - Capparaceae: *Cadaba farinosa* Forsk. - Ritual use. Plains
- Laserem, Laserem - Simaroubaceae: *Harrisonia abyssinica* Oliv. - chest, malaria, gonorrhea. Hills and Plains
- Laturide, Laturidia - Capparaceae: *Capparis elaeagnoides* Gilg - Wounds. Poisons. Hills
- Lauragi - Agavaceae: *Sansevieria* sp. - Gonorrhea, arthritis. Hills
- LBolan, LBolani - *Plectranthus forskohlii* Willd. - Strength. Emetic. Hills
- LBukoi, LBuko - Cucurbitaceae: *Momordica spinosa* (Gilg) Chiov. - hepatitis, headache, ritual use. Resins, alkaloids, saponins. Hills

GLOSSARY OF MEDICINAL PLANTS (CONTINUED)

- LCheni ng'iro, Lkeek ng'iroin - Burseraceae. Plains
Commiphora africana (A.Rich.) Engl. -
 stomach, resins.
- LDalampoi, LDalampo - Mimosoideae: *Entada* Hills
leptostachya harms - polio, rheumatism.
 Tannis, saponins, alkaloids.
- LDawa lenkop - Sterculiaceae: *Melhania ovata* Hills
 (Cav.) Spreng - burns.
- LDepe, LDepen - Mimosoideae: *Acacia nubica* Benth. Plains
 - stomach, hepatitis, gonorrhea, arthritis,
 polio. Tannins.
- NDupai, NDupa - Agavaceae: *Sansevieria robusta* Hills
 N.E.Br. - arthritis, gonorrhea.
- Le'ekuru, Le'ekurun - Solanaceae: *Witania somnifera* Hills and Plains
 Dunal - Wounds, burns. Tannins, alkaloids.
- Lekimojik, Lekimojikin - Filices: *Asplenium* Plains
loxoscapnoides Bak. - ritual use.
- Lekule, Lekulen - Euphorbiaceae: *Euphorbia* Hills and Plains
systyloides Pax - boys apply to penis. Latex.
- Lemawoi. See Lemicheria.
- Lemichiria, Lemichirian - Combretaceae: *Combretum* Plains
aculeatum Vent. - arthritis, gonorrhea, polio.
 Tannins, saponins, resins.
- Lemurran, Lemurrani - Labiatae: *Ocimum basilicum* L. Hills and Plains
 - Stimulent.
- Lerai, Lera - Mimosoideae: *Acacia hockii* De Wild. Plains
 - Stomach, ritual. Tannins.
- Letualan, Letualan - Papilionoideae: *Crotalaria* sp. Plains
 - Chest. Alkaloids.
- LJipilikua - Longaniaceae: *Strychnos* sp. - wounds. Hills
 Alkaloids.
- NKaisujioi, NKaisujo - Polynaceae: *Rumex bequaerti* Hills
 De Wild. - Masai ritual medicine.

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GLOSSARY OF MEDICINAL PLANTS (CONTINUED)

<u>NKaitetevei, NKaiteteya</u> - Commelinaceae: <i>Commelina</i> sp. - children's colds.	Hills and Plains
<u>LKarasha, LKarash</u> - Sterculiaceae: <i>Sterculia africana</i> (Lour.) Fiori - children's stomach. Alkaloids.	Hills
<u>LKaukawa</u> - Rubiaceae: <i>Oxyanthus speciosus</i> DC - Sore throat.	Hills
<u>Nkeju nkitejo</u> - Portulacaceae: <i>Portulaca</i> sp. - Burns.	Hills and Plains
<u>LKelelit, LKeleliti</u> - Thymelaeaceae: <i>Gnidia glauca</i> (Fres.) Gilg - Gonorrhea, chest pains.	Plains
<u>LKerdedi, LKerded</u> - See <u>LTerikesi</u> .	
<u>LKidomporoi, LKidomporo</u> - Possibly Scrophulariaceae: <i>Pseudosopubia hildebrandtii</i> (Vatke) Engl. - Ritual use.	Plains
<u>NKilai Orok, NKila Oroki</u> : Rutaceae: <i>Vepris eugenifolia</i> (Engl.) Verdoorn - sore throat, hepatitis.	Hills
<u>LKilenyei, LKilenya</u> - Myrtaceae: <i>Syzygium cordatum</i> Krauss - Stimulant. Essential oils.	Hills
<u>LKiloriti, LKilorit</u> - Mimosoideae: <i>Acacia nilotica</i> (L.) Del. - Stomach, childbirth, wounds. Tannins, saponins, alkaloids.	Hills
<u>LKimanshoi, LKimansho</u> - Malvaceae: <i>Hibiscus</i> sp. - Coughs.	Plains
<u>LKing'or</u> - Unidentified, ritual use.	Plains
<u>LKinoi, LKino</u> - Anacardiaceae: <i>Lannea alata</i> (Engl.) Engl. - Wounds, stomach. Tannins, resins.	Hills
<u>LKinyil, Lkinyil</u> - Rhamnaceae: <i>Rhamnus prinoides</i> L'Herit. - Stimulant, snakebites.	Hills
<u>LKiriantus, LKiriantusi</u> - Plumbaginaceae: <i>Plumbago zeylanica</i> L. - Stomach. Plumbagin.	Hills and Plains
<u>LKitalaswa, LKitalaswa</u> - Myricaceae: <i>Myrica salicifolia</i> A.Rich. - Stimulant.	Hills

GLOSSARY OF MEDICINAL PLANTS (CONTINUED)

- LMomoi, LMomo - Bignoniaceae: *Rigelia aethiopica* Decne. - Stomach, stimulant. Tannins. Plains
- LMurkusian, LMurkusiani - Rubiaceae: *Gardina* Sp. - Malaria. Tannins, resins. Plains
- LMurijioi, LMurijio - Apocynaceae: *Acokanthera friesiorum* Markgraf - Poison. Cardiac glucosides. Hills
- LNq'aboli, LNq'abolo - Moraceae: *Ficus natalensis* (Miq.) Hochst. - Ritual use. Hills
- LNq'aninq'apiapi - Unidentified. - Stimulant.
- LNqalayoi, LNqaloyo - Unidentified. - Stomach, gonorrhea, cough, headache, eyes.
- LNq'eriyo, LNq'eriyo - Oleaceae: *Olea africana* Mill. - Tapeworm, ritual. Hills
- LNq'iriai, LNq'iriya - Lythraceae: *Lawsonia inermis* L. - Stomach. Tannins, resins. Plains
- LNq'orroshi, LNq'orrosh - Papilionoideae: *Erythrina burttii* Bak. f. - Gonorrhea. Tannins, alkaloids. Plains
- Nemunyi, Nemuny - Euphorbiaceae: *Euphorbia* sp. - Chest. Latex, essential oils. Plains
- LNyiriman - Unidentified. Malaria, stomach. Plains
- Loduaporo, Loduaporo - Compositae: *Erlangea* Sp. - Headache, earache. Plains
- Loimugi, Loimugi - Mimosaceae: *Newtonia hildebrandtii* (Vatke) Torre - Stomach. Plains
- Loisuk, Loisuk - Rutaceae: *Fagara chalybea* (Engl.) - Chest. Resin. Hills
- Loitakine, Loitakinete - *Maerua triphylla* A.Rich. - Wounds, burns. Plains
- Loitukituk, loitukituk - Burseraceae: *Commiphora* sp. - Hepatitis, fractures. Plains
- Lokidia, Lokidian - Labiatae: *Tinnea aethiopica* Hook f. - Ritual use. Plains

GLOSSARY OF MEDICINAL PLANTS (CONTINUED)

- Lokii, Lokin - Solanaceae: *Lycium europaeum* L. Plains
- Rheumatism.
- Lokiteng'i, Lokiteng - Convolvulaceae: *Ipomoea*
kituiensis Vatke - Infected eyes. Resins. Plains
- Lokore, Lokoren - Urticaceae: *Obetia pinnatifida* Hills
Bak. - Ritual use.
- Lokumati, Lokumat - Compositae: *Vernonia brachycalyx* Hills
O. Hoffm. - Infected eyes. Glucodies, alkaloids.
- Lokumeki, Lokumek - Malvaceae: *Hibiscus micranthus* Hills
L.f. - Ritual use.
- Lolborana, Lolboran - Euphorbiaceae: *Jatropha* Plains
dichtar Macbr. - Stomach, chest ribs. Tanning,
essential oils.
- Loliontoi, Lolionto - Oleaceae: *Olea hochstetteri* Hills
Bak. - Tapeworms.
- LPara'a, LPara'ai - Euphorbiaceae: *Euphorbia* sp. Hills and Plains
- Wounds, malaria. Latex.
- LParamunvo, LParamunva - Rutaceae: *Toddalia asiatica* Hills
(L.) Lam. - Ritual medicine.
- LParuai, LParua - Palmae: *Hyphaene coriacea* Gaertn. Plains
- Sore throat, chest.
- LPeriantai, LPerianta - Apocynaceae: *Adenium obesum* Plains
(Forsk.) Roem. & Schult. - Poison. Cardiac
glucosides.
- LPupoi, LPupo - Tiliaceae: *Grewia villosa* Willd. Plains
- Chest. Tannins.
- Rankaun, Rankau - Mimosoideae: *Acacia gerrardii* Benth. Plains
- Ritual use.
- Raraiti, Rarait - Crassulaceae: *Kalanchoe* sp. Hills and Plains
- Stomach. Resins.
- Rasia, Rasia - Capnariaceae: *Cadaba ruspolii* Gilg Plains
- Ritual use.
- Reteti, Retet - Myrsinaceae: *Ficus thonningii* Blum. Hills
- Ritual use.

GLOSSARY OF MEDICINAL PLANTS (CONTINUED)

- Sokoni, Sokonini - Canellaceae: *Warburgia ugandensis* Hills
Sprague - Chest, ribs. Amorphous resinous sub-
stances.
- Sokotei, Sokoten - Salvadoraceae: *Salvadora persica* Plains
L. - Childbirth, stomach. Alkaloids.
- Sukoroi, Sukuro - Liliaceae: *Aloe secundiflora* Engl. Plains
- Eyes. Latex.
- Sukurtuti, Sukurtut - Vitaceae: *Cissus* sp. Hills
- Stomach, liver, chest. Tannins, oxalic acid.
- Sunoni, Sunon - Verbenaceae: *Lippia ukambensis* Vatke Plains
Lippia somalensis Vatke
- Malaria, measles, essential oils.
- LTarakoi, LTarakwa - Cupressaceae: *Juniperus procera* Hills
Endl. - Sore throat, ritual. Essential oils.
- LTepes, LTepesi - Mimosoideae: *Acacia tortilis* Plains
(Forsk.) Hayne - Polio, ritual. Tannins.
- LTerikesi, LTerikes - Mimosoideae: *Acacia senegal* Plains
(L.) Willd. - Stomach, childbirth. Tannins.
- LTeroi, LTero - Burseraceae: *Commiphora* sp. Hills and Plains
- Polio, rheumatism. Resins.
- LTiani, LTian - Gramineae: *Arundinaria alpina* Hills
K.Sch. - Bamboo, ritual use.
- LTikomi, LTikom - Sapindaceae: *Cardiospermum* L. Hills
- Snakebites. Saponins.
- LTukumi, LTukum - Rubiaceae: *Xeromphis keniensis* Plains
Tennant - Children's coughs.
- LTulelei, LTulelai - Solanaceae: *Solanum incanum* Plains
L. - Sore throat, skin sores, ritual use.
Alkaloids, solanine.
- LTurkan, LTurkan - Amaranthaceae: *Sericocompsis* Hills and Plains
pallida (S. Moore) Schinz - Malaria, stomach.

APPENDIX 3LCHENI LONTOROSI SONG

1. Arukoyeiki naishanie
chorus: ontoki ma'ape ontoki ma'ape
2. Arukoyeiki nang'ayana anyote ma'ape
(Chorus)
3. Arukoyieki mang'uyani
(Chorus)
4. Nakera nang'uyana peshori
(Chorus)
5. Kara nang'uyana ayiesho
(Chorus)
6. Ayea nkera kumok natim (ontolu ma'ape)
(Chorus)
7. Keyea Kurtunyi lo ntoyie
(Chorus)
8. Keya'a nkera kumok natim
(Chorus)
9. Kurtunyi lo ntoiyie
10. Neyea sorori ye nkartak
(Chorus)
11. Neyea Lkoroi Lolmurran
(Chorus)
12. Aruko yieki naishaine
(Chorus)
13. Nkai ai ntalalaki ruatin
(Chorus)
14. Kashomo ngusula ya ntawakai
(Chorus)

APPENDIX 3LCHENI LONTOROSI SONG
(Continued)

15. Nashulu Lng'anayio le kera
(Chorus)
16. Najo Lai mpotoki nkiyo ya ng'aiye
(Chorus)
17. Najoki ng'otonye numuruk
(Chorus)
18. Kinshori sutani yol Loibonok
(Chorus)
19. Nanyayie Lng'aneyio nguruna
(Chorus)
20. Nanya Lo'oleku nkiji yorruet
(Chorus)

APPENDIX 3

LCHENI LONTOROSI SONG

Translation: (The Barren's Women Song)

1. Stay with me, those who are in need
Chorus: We are ready to go,
We are ready to go
2. And those who need children, we have to go
(Chorus)
3. And those who want children, (Chorus)
4. And those who ask will be give,
5. I am disturbing you, for I need something
6. I am looking for many children, and I will get them
7. I want many girls,
8. I want many children, which I will get
9. I want many girls
10. I will find many sorori (metal rings), for
I will have many boys
11. I will find colobus skins for my warriors
12. Come with me those who don't have children
13. My God, make the bed large (for my new family)
14. I went to look for my heifer
15. I brought some fruits (Lng'alayoi tree) for the children
16. I tried to give them to another woman's child
17. And the mother told that child not to take those fruits
18. Otherwise you'll be given poison from the Loibonok
19. I was ashamed of the fruits I brought
20. I left the fruits on my bed.

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