

TRADITIONAL MEDICINE AND CONCEPTS OF HEALING AMONG SAMBURU PASTORALISTS OF KENYA

ELLIOT FRATKIN

Department of Anthropology
Smith College
Northampton, MA 01063

ABSTRACT.—Samburu pastoralists of Kenya, who are closely related to Maasai, attribute many illnesses to polluting influences that block internal digestion and blood circulation. These pollutants include eating the “wrong” foods, the introduction of contagious substances from ill people, and the action of sorcery attacks. Treatment of these health problems is aimed at relieving blockages through herbal purgatives and laxatives or, in the case of sorcery, consulting diviners (*loibonok*) who dispense ritually protective medicines. In addition to purgatives and ritual medicines, Samburu also use herbal preparations to treat wounds and burns, relieve aches, and kill parasites. Samburu treatment of illnesses is pluralistic. An individual and his or her family may seek the services of herbalists, diviners, or Western health care providers, depending on proximity, costs, and beliefs in causation of the health problem. This article describes Samburu concepts of illness, the practices of healing specialists including *laibon* ritual curers, herbalists, and midwives, and lists Samburu medicinal plants and their uses.

RESUMEN.—Los grupos pastoriles samburu y maasai de Kenia atribuyen muchas enfermedades a influencias contaminantes que obstruyen internamente la digestión y la circulación de la sangre. Estos contaminantes incluyen el comer alimentos “indebidos,” la introducción de sustancias contagiosas de personas enfermas, y la acción de ataques de brujería. El tratamiento de estos problemas de salud está dirigido a remediar las obstrucciones mediante purgantes y laxantes vegetales, o, en el caso de brujería, mediante la consulta de adivinos (*loibonok*) quienes administran medicinas ritualmente protectoras. Además de los purgantes y las medicinas rituales, los samburu usan también preparaciones de plantas para tratar heridas y quemaduras, aliviar dolores y matar parásitos. El tratamiento samburu de las enfermedades es pluralista, donde un individuo y su familia puedan buscar los servicios de especialistas en herbolaria, adivinos, o proveedores de cuidado médico woccidental, dependiendo de la proximidad, los costos, y las creencias acerca de la causa del problema de salud. Este artículo describe los conceptos samburus de la enfermedad, las prácticas de los especialistas en curación incluyendo los curanderos rituales *laibon*, los herbolarios y las parteras, y lista las plantas medicinales samburus y sus usos.

RÉSUMÉ.—Les Samburu et les Masai, peuples pasteurs du Kenya, attribuent plusieurs maladies à des influences polluantes qui viennent bloquer la digestion interne et la circulation sanguine. Ces agents pollueurs comprennent l’ingestion de « mauvais » aliments, l’introduction de substances contaminées provenant de

personnes malades et les actions maléfiqes des sorciers. Les traitements de ces problèmes de santé visent à dégager les obstructions à l'aide de médicaments laxatifs et purgatifs à base d'herbes ou, dans les cas de sorcellerie, en consultant les devins (*libonok*) qui dispensent les médicaments rituels protecteurs. En plus de médicaments purgatifs et rituels, les Samburu utilisent aussi des préparations d'herbes pour soigner les blessures et les brûlures, pour soulager la douleur et tuer les parasites. Le traitement samburu des maladies est pluraliste dans la mesure où un individu et sa famille peuvent recourir aux services d'herboristes, et de devins autant que de dispensateurs de soins de santé occidentaux, selon la distance à parcourir pour obtenir les services, les coûts et les croyances concernant la cause de la maladie. Dans cet article, nous décrivons les concepts samburu relatifs aux maladies et les pratiques des spécialistes thérapeutes y compris les guérisseurs rituels *laibon*, les herboristes et les sages-femmes. Une liste des plantes médicinales samburu avec leurs usages complète cet article.

INTRODUCTION

The Samburu are livestock-keeping pastoralists of northern Kenya related to both Maasai (Nilotic-speakers of the Sudanic language family) and Rendille (Cushitic-speakers of the Afro-Asiatic family). The Samburu share with the Maasai a healing tradition that combines knowledge of herbal medicines (*ol-chani; il-keek*, "trees" in Maa) which are used as purgatives, emetics, analgesics, and salves. They also share with the Maasai beliefs and practices in ritual medicines (*entasim; intasimi* in Maa) which are prepared and dispensed by diviner-prophets known as *laibons* (*ol-oiboni, il-oibonok*).

In a recent treatment of Maasai conceptions of health and illness, Westerlund (1989:179) argues that there is no sharp distinction in African healing between religious beliefs and empirical knowledge, and that most curing activities operate along a continuum distinguishing "natural" from "supernatural" causation, combining naturalistic healing with ritual activities. In this same volume, Arhem (1989:75) argues that Maasai make no conceptual difference between "supernatural" and "natural" illnesses, as both "tree medicine" and ritual medicine "derive their power from God." However, Samburu, as well as Maasai, do distinguish those illnesses caused "by God alone" (*nkai openy*) from those due to the malicious forces of sorcery sent by a human enemy (*nkuruporen* in Samburu; *esayet* in Maasai), a distinction George Foster (1976) contrasted as "naturalistic" versus "personalistic" etiology of illness. Determination of an illness' origin is essential to prescribe the most appropriate treatment. If an illness is thought to derive from "God alone," one seeks treatment from local herbalists or Western health clinics. If an illness or misfortune is believed to result from sorcery—infertility, insanity, or death by unusual causes—Samburu will consult a *laibon* diviner/healer to protect themselves with ritual medicines.

The spread of Western health care has not greatly affected traditional beliefs about illness among Samburu. While the government of Kenya has expanded medical services including vaccination programs and the use of anti-malarials and antibiotics, many rural and pastoralist regions remain underserved. The seeking of health care by Samburu remains pluralistic, where health providers are selected

based on availability, location, cost, and beliefs in the effectiveness of treatments.

I have studied Samburu and Samburu-speaking Ariaal Rendille pastoralists since 1975 mainly exploring topics of ecology and economy (e.g. Fratkin 1986, 1991a, Fratkin and Roth 1990; Fratkin and Smith 1994, 1995). During my earlier fieldwork, I collected and identified Samburu herbal medicines (Fratkin 1975), and developed friendships with several Samburu healers including the *laibon* Lekati Leaduma who adopted me into his family (Fratkin 1979, 1991b). This paper is an opportunity to discuss Samburu traditional medicine as a whole, integrating a discussion of Samburu concepts of health and illness with a description of their indigenous practices and medical knowledge.

Recently there have appeared important discussions of Maasai identity (Galaty 1982; Spear and Waller 1993; Spencer 1988) as well as studies of Maasai beliefs about pollution, healing, and divination (Arhem 1989; Berntsen 1979; Galaty 1979; Hurskainen 1989; Spencer 1991). Moreover, there are now published inventories of Samburu plants (Heine *et al.* 1988) building on the earlier work of colonial ethnographers (Hollis 1905; Merker 1910) who collected and discussed Maasai uses of shrubs and trees.

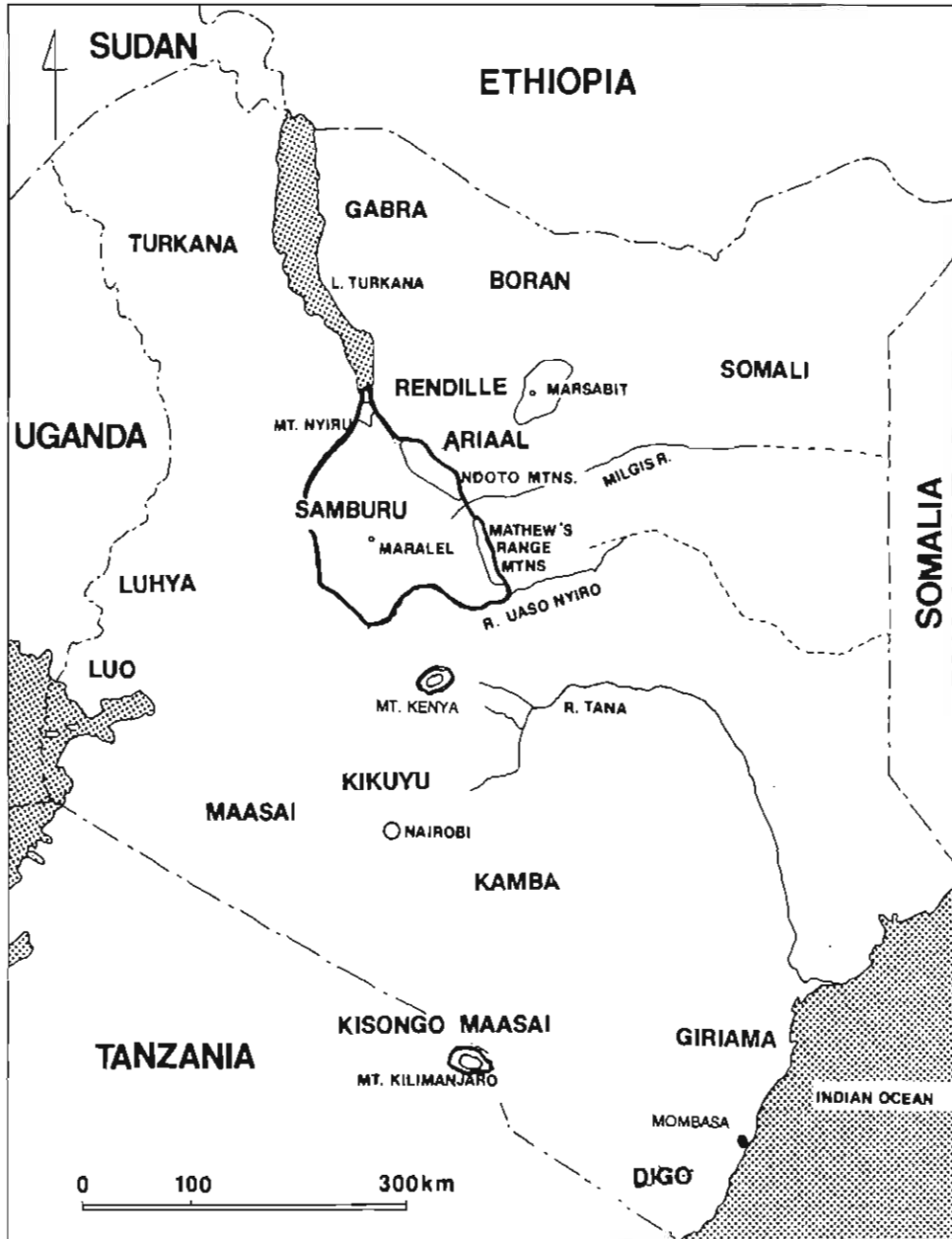
Following a brief description of health problems experienced by the Samburu, I discuss Samburu concepts of health and illness, traditional cures employing "tree medicine" and ritual medicine, and the role of the traditional healers: the herbalist, midwife, and *laibon*. A concluding discussion places Samburu medical beliefs and practices in the wider context of African systems of healing.

HEALTH AND ILLNESS IN SAMBURU

Most of northern Kenya is too dry for extensive agriculture, and the majority of its small populations subsist as pastoralists on the milk, meat, blood, and trade of their domestic cattle, camels, goats and sheep. The Samburu (population 80,000), who live in the arid plains and highlands of Samburu District, keep mainly cattle and small stock (goats and sheep), while their allies and neighbors the Rendille (pop. 20,000), keep camels and small stock in the arid lowlands of Marsabit District (see Figure 1). The Ariaal Rendille (population 7000), with whom I lived for most of my fieldwork, are a mixed group of Samburu and Rendille living along the Ndoto Mountains separating Marsabit and Samburu Districts and on Mt. Marsabit in Marsabit District. The Ariaal are bilingual in both Samburu and Rendille but are incorporated in the Samburu age-set and descent-group systems. Although they follow certain Rendille customs associated with camel production, they hold many Samburu and Maasai beliefs including beliefs in the *laibon* diviners and shared knowledge of plant medicines.

Closely related to Maasai pastoralists of southern Kenya and Tanzania (population 500,000), Samburu speak a northern dialect of Maa and follow Maasai customs of named age-set organization (with distinct age-grades of boys, warriors, and male elders), marriage practices (including female circumcision, polygyny, and levirate inheritance of widows), acephalous and autonomous village structure, and shared religious beliefs which includes a distant creator god (*en'gai* in

FIGURE 1.— Location of Samburu in Kenya.



Maasai; *nkai* in Samburu) without defined ancestors or spirits. However Samburu do have strong beliefs in the power of living elders' curses, as well as traditions of divination, prophesy, and beliefs in sorcery (Spencer 1965, 1973, 1988).

Samburu, Maasai, Rendille, and other pastoralist groups, do not share the *ngoma* healing tradition widespread among Bantu-speaking farmers (e.g. Kongo, BaGanda, Zulu), in which illnesses are believed to result from the punishing powers of deceased ancestors and in which cures are effected through human spirit mediums (*m'ganga, wa'ganga*) who combine herbal medicines with songs, drumming, and dance performances (Janzen 1992).

However, Samburu and Maasai possess an elaborate healing tradition based on the use of herbal medicines. Among Samburu, over one hundred and twenty species of trees and shrubs are employed as purgatives, emetics, analgesics, poultices, and salves (see Table 1). Many plants used by the Samburu are toxic and are used as emetics and diarrhetics, as Samburu medicinal cures are aimed at cleansing the body of polluting influences.

Access to Western health care is not widely available in the underpopulated regions of northern Kenya where the Samburu live. The government maintains a hospital in the capital of Maralal, and the Catholic Diocese a hospital in Wamba, while most towns have small clinics maintained by Catholic and Protestant missions which are staffed by missionary and local nurses. Because the majority of Samburu live in semi-nomadic settlements distant from these towns, visits to clinics and hospitals are rare and usually only for serious and life threatening illnesses (Nathan *et al.* 1996).

The major health problems experienced by Samburu, as with most rural African populations, are infectious diseases including malaria, pneumonia, gastroenteritis, diarrhea, measles, and whooping cough. Gonorrhea and other sexually transmitted diseases are widespread. While the incidence of HIV infection and AIDS have not been reported, they are known to exist in Samburu and Marsabit Districts. Samburu also carry a specific health burden associated with the hazards of livestock herding. Internal and external parasites (mites, ticks, scabies), fungal skin rashes, eye and ear infections, anthrax and brucellosis combine with frequent accidents including lacerations, burns, embedded thorns, animal and snake bites, fractures and dislocations (Nathan *et al.* 1996). The health problems of Samburu are compounded by nutritional stresses, particularly during periods of extensive droughts when milk supplies are low and animals are too emaciated or decimated to trade for grains (Galvin *et al.* 1994). Milk is the main food in both Samburu and Rendille diets, providing 70% of the daily calories in the wet season. In the dry seasons people rely on meat, blood, and grains, with tea and sugar acquired from trading livestock. Poor families are the most vulnerable to prolonged drought and may move (temporarily or permanently) to towns to receive famine-relief foods. Settled pastoralists face increased malnutrition due to the reduced consumption of milk, meat and blood and reliance on maize meal as the only food source. While medical care is improving, particularly with immunization campaigns against measles, polio, and diphtheria-pertussis-tetanus (DPT), these services are still irregular and distantly based in the rural pastoral regions. For many ailments, rural Samburu depend on their local healers and traditional medicines (see Table 2).

TABLE 1.–Samburu Medicinal Plants and Their Uses.

Samburu Name	Scientific Name and Identification	Scientific Family	Specimen Numbers	Medicinal Uses
<i>l-aarami</i>	<i>Cistanche tubulosa</i> (Schenk.) Hook.	OROBANCHACEAE	KNMUS/H250/59:133	childbirth
<i>l-abaa</i>	<i>Psiadia arabica</i> Jaub. and Spach	COMPOSITAE	KNMUS/H133/75:39	burns, ticks
<i>l-aishimi</i>	<i>Commiphora africana</i> (A. Rich) Engl.	BURSERACEAE	Heine <i>et al.</i> 1988:55	diarrhea
<i>l-aimuronyai</i>	<i>Maytenus senegalensis</i> (Lam.) Exell	CELASTRACEAE	Heine <i>et al.</i> 1988:56	arthritis
<i>l-akirding'ai</i>	<i>Croton dichogamus</i> Pax	EUPHORBIACEAE	KNMUS/H133/75:25	malaria, chest, stomach
<i>l-amai</i>	<i>Ximenia caffra</i> Sond.	OLEACEAE	KNMUS/H250/59:47	stomach
<i>l-ampurrorri</i>	<i>Commiphora</i> sp.	BURSERACEAE	KNMUS/H250/59:1'	liver, stomach
<i>l-amurie</i>	<i>Carissa edulis</i> (Forsk.) Vahl	APOCYNACEAE	KNMUS/H133/75:37	polio, gonorrhea
<i>l-aramirami</i>	<i>Senecio petitiannus</i> A. Rich	COMPOSITAE	KNMUS/H250/59:152	strength for baby
<i>larasoro</i>	<i>Cadaba farinosa</i> Forsk.	CAPPARIDACEAE	KNMUS/H133/75:72	fever, ritual
<i>l-asaremai</i>	<i>Harrisonia abyssinica</i>	SIMAROUBACEAE	KNMUS/H133/75:46	gonorrhea, malaria, chest congestion
<i>l-aturdei</i>	<i>Capparis elaeagnoides</i> (Gilg.) de Wolf	CAPPARIDACEAE	KNMUS/H133/75:32	wounds, burns
<i>lauragi</i>	<i>Sansevieria</i> sp.	AGAVACEAE	KNMUS/H250/59:53	gonorrhea
<i>l-bolan</i>	<i>Plectranthus forskholii</i> (Poir.) Briq.	LABIATAE	Heine <i>et al.</i> 1988:68	childbirth
<i>l-bukoi</i>	<i>Momordica spinosa</i> (Gilg) Chiov.	CUCURBITACEAE	KNMUS/H250/59:168	headaches, hepatitis
<i>l-cheni ng'iro</i>	<i>Commiphora africana</i> (A. Rich.) Engl.	BURSERACEAE	KNMUS/H250/59:122	diarrhea, stomach
<i>l-ching'ei</i>	<i>Euclea divinorum</i> Hiern.	EBENACEAE	KNMUS/H133/75:36	diarrhea, stomach
<i>l-dalampo</i>	<i>Entada leptostachya</i> Harms	MIMOSACEAE	KNMUS/H250/59:34	polio, back pain

Samburu Name	Scientific Name and Identification	Scientific Family	Specimen Numbers	Medicinal Uses
<i>l-dawa lenkop</i>	<i>Melhania ovata</i> (cav.) Spreng.	STERCULIACEAE	KNMUS/H250/59:114	wounds, burns
<i>l-depe</i>	<i>Acacia nubica</i> Benth.	MIMOSACEAE	KNMUS/H133/75:58	women's stomach pain, hepatitis, fever, gonorrhea
<i>l-dupai</i>	<i>Sansevieria robusta</i> N.E. Br.	AGAVACEAE	Heine <i>et al.</i> 1988:75	gonorrhea, arthritis
<i>lekule</i>	<i>Euphorbia systyloides</i> Pax.	EUPHORBIACEAE	KNMUS/H250/59:163	wounds
<i>lekuru</i>	<i>Withania somnifera</i> (L.) Dunal	SOLANACEAE	Heine <i>et al.</i> 1988:81	eyes, burns, wounds
<i>leminshiria</i>	<i>Combretum aculeatum</i> Vent.	COMBRETACEAE	KNMUS/H304/74 & 56/75-4	malaria, gonorrhea, stomach, back pains
<i>lepurana</i>	<i>Jatropha dictar</i> Macbr.	EUPHORBIACEAE	KNMUS/H133/75:41	stomach, chest
<i>lerai</i>	<i>Acacia hockii</i> de Wild.	MIMOSACEAE	KNMUS/H133/75:43	stomach, childbirth
<i>lesayyet</i>	<i>Withania somnifera</i> (L.) Dunal	SOLANACEAE	KNMUS/H250/59:27	ritual fires
<i>letuala</i>	<i>Crotalaria incana</i> L.	PAPILIONACEAE	KNMUS/H250/59:105	chest, coughs
<i>l-gweita</i>	<i>Cordia sinensis</i> Lam.	BORAGINACEAE	KNMUS/H304/74 & 56/75-2	fractures, ritual
<i>l-jipilikua</i>	<i>Strychnos</i> sp.	LOGANIACEAE	KNMUS/H250/59:38	malaria, wounds
<i>l-karasha</i>	<i>Stericulia africana</i> (Lour.) Fiori	STERCULIACEAE	KNMUS/H250/59:66	children's stomach
<i>l-kaukawa</i>	<i>Oxyanthus speciosus</i> DC.	RUBIACEAE	Heine <i>et al.</i> 1988:96	sore throat
<i>l-kelelit</i>	<i>Euphorbia heterochroma</i> Pax	EUPHORBIACEAE	KNMUS/H250/59:138	malaria, gonorrhea
<i>l-kerdeedi</i> (<i>l-terikesi</i>)	<i>Acacia senegal</i> (L.) Willd.	MIMOSACEAE	KNMUS/H250/59:169	abortion, stomach
<i>l-kiloriti</i>	<i>Acacia nilotica</i> (L.) Del.	MIMOSACEAE	KNMUS/H133/75:64	stomach
<i>l-kimanshoi</i>	<i>Hibiscus greenwayi</i> Bak. f.	MALVACEAE	KNMUS/H250/59:2	colds
<i>l-kinoi</i>	<i>Lannea alota</i> (Engl.) Engl.	ANACARDIACEAE	KNMUS/H250/59:115	wounds, burns, stomach

Samburu Name	Scientific Name and Identification	Scientific Family	Specimen Numbers	Medicinal Uses
<i>l-kinyil</i>	<i>Rhamnus prinoides</i> L'Herit.	RHAMNACEAE	KNMUS/H250/59:224	fever, malaria, snakebites
<i>l-kiriantus</i>	<i>Plumbago zeylanica</i> L.	PLUMBAGINACEAE	KNMUS/H133/75:69	stomach, malaria
<i>l-kitalaswa</i>	<i>Myrica salicifolia</i> A. Rich.	MYRICACEAE	KNMUS/H250/59:207	strength
<i>l-kukulai</i>	<i>Rhamnus staddo</i> A. Rich.	RHAMNACEAE	KNMUS/H133/75:49	polio, gonorrhea, malaria, colds, ritual protection
<i>l-maim</i>	<i>Commiphora</i> sp.	BURSERACEAE	KNU/H200/83:585	polio, gonorrhea, arthritis
<i>l-makutukuti</i>	<i>Clerodendrum myricoides</i>	VERBENACEAE	KNMUS/H133/75:44	gonorrhea, malaria, polio, abortions, colds, headache
<i>l-mang'wei</i>	<i>Sclerocarya birrea</i> (A. Rich.) Hochst.	ANACARDIACEAE	Heine <i>et al.</i> 1988:113	stomach, colds
<i>l-marag</i>	<i>Blepharis linearifolia</i> Pers.	ACANTHACEAE	KNMUS/H250/59:141	malaria
<i>l-margweet</i>	<i>Croton megalocarpus</i> Hutch.	EUPHORBIACEAE	KNMUS/H133/75:25	stomach, malaria, fever, chest fleas
<i>l-masikirai</i>	<i>Heliotropium steudneri</i> Vatke	BORAGINACEAE	KNMUS/H304/74 & 56/75:5	
<i>mira'a</i>	<i>Catha edulis</i> (Vahl) Endl.	CELASTRACEAE	Heine <i>et al.</i> 1988:118	stimulant
<i>l-miskiyei</i>	<i>Rhus natalensis</i> Krauss	ANACARDIACEAE	KNMUS/H133/75:38	children's stomach
<i>l-momoi</i>	<i>Kigelia aethiopica</i> Decne	BIGNONIACEAE	KNMUS/H250/59:81	stomach
<i>l-morijioi</i>	<i>Acokanthera longiflora</i> Stapf.	APOCYNACEAE	KNMUS/H133/75:65	arrow poison
<i>l-mugutan</i>	<i>Albizia anthelmintica</i> Brongn.	MIMOSACEAE	KNMUS/H250/59:5	malaria, tapeworms, gonorrhea, stomach malaria
<i>l-murgusyan</i>	<i>Gardenia jovis-tonantis</i> (Welw.) Hiern	RUBIACEAE	KNMUS/H250/59:107	
<i>l-ng'alayoi</i>	Possibly <i>Cissus</i> sp.'	VITACEAE	KNMUS/H250/59:89	strength, gonorrhea, cough, headache
<i>l-ng'erriyei</i>	<i>Olea africana</i> Mill.	OLEACEAE	Heine <i>et al.</i> 1988:123	tapeworms
<i>l-ng'iriai</i>	<i>Lawsonia inermis</i> L.	LYTHRACEAE	KNMUS/H133/75:60	stomach

Samburu Name	Scientific Name and Identification	Scientific Family	Specimen Numbers	Medicinal Uses
<i>loduaporo</i>	<i>Commicarpus plumbagineus</i> (Cav.) Standl.	NYCTAGINACEAE	Heine <i>et al.</i> 1988:127	malaria, earache, headache stomach
<i>loimugi</i>	<i>Newtonia hildebrandtii</i> Vatke.	COMPOSITAE	KNMUS/H250/59:42	
<i>loisugi</i>	<i>Fagara chalybea</i> (Engl.) Engl.	RUTACEAE	KNMUS/H250/59:67	chest congestion, sore throat
<i>loitaakine</i>	<i>Maerua triphylla</i> A. Rich.	CAPPARIDACEAE	KNMUS/H133/75:34	wounds, burns
<i>loitokutok</i>	<i>Commiphora</i> sp.	BURSERACEAE	KNMUS/H250/59:120	hepatitis, fractures
<i>lokildia</i>	<i>Tinnea aethiopica</i> Kotschy & Peyr.	LABIATAE	KNMUS/H133/75:28	ritual
<i>lokii</i>	<i>Lycium europaeum</i> L.	SOLANACEAE	KNMUS/H250/59:4	malaria, rheumatism, swelling of breast
<i>lokumaati</i>	<i>Vernonia brachycalyx</i> O. Hoffm.	COMPOSITAE	KNMUS/H133/75:68	eye infections
<i>lokiteng'i</i>	<i>Ipomoea spathulata</i> Hall f.	CONVOLVULACEAE	KNMUS/H133/75:33	eyes
<i>loliontoi</i>	<i>Olea hochstetteri</i> Baker	OLEACEAE	Heine <i>et al.</i> 1988:141	tapeworms, stomach
<i>lolsesyai</i>	<i>Osyris abyssinica</i> A. Rich.	SANTALACEAE	Heine <i>et al.</i> 1988:154	pregnancy, swollen breasts
<i>lororai</i>	<i>Boscia angustifolia</i> A. Rich.	CAPPARIDACEAE	KNMUS/H304/74 & 56/75:16	malaria
<i>loro</i>	<i>Cyphostemma adenocaula</i> (A. Rich.) Willd. & Drum.	VITACEAE	KNMUS/H133/75:47	tuberculosis, arthritis
<i>lowwai</i>	<i>Balanites aegyptiaca</i> (L.) Del.	BALANITACEAE	KNU/H200/83:873	wounds, burns, eyes, ribs, chest
<i>l-paraa</i>	<i>Euphorbia</i> sp.	EUPHORBIACEAE	KNMUS/H250/59:55	wounds, burns, malaria
<i>l-perentai</i>	<i>Adenium obesum</i> (Forsk.) Roem & Schult	APOCYNACEAE	KNMUS/H304/74 & 56/75:9	poison
<i>l-paramunyo</i>	<i>Toddalia asiatica</i> (L.) Lam.	RUTACEAE	KNMUS/H133/75:50	strength, ritual
<i>l-tarakwai</i>	<i>Juniperus procera</i> Hochst. ex Endl.	CUPRESSACEAE	KNMUS/H250/59:156	sore throat

* Heine *et al.* (1988:122) identify this as *Cucumis* sp. (CUCURBITACEAE).

Samburu Name	Scientific Name and Identification	Scientific Family	Specimen Numbers	Medicinal Uses
<i>l-tepes</i>	<i>Acacia tortilis</i> (Forsk.) Hayne	MIMOSACEAE	KNMUS/H304/74 & 56/75:18	malaria, fever, polio, colds stomach
<i>l-terikesi</i> (<i>l-kerdedi</i>)	<i>Acacia senegal</i> (L.) Willd.	MIMOSACEAE	Heine <i>et al.</i> 1988:123	polio, rheumatism
<i>l-teroi</i>	<i>Commiphora</i> sp.	BURSERACEAE	Heine <i>et al.</i> 1988:167	malaria, polio, snakebites
<i>l-tigomi</i>	<i>Cardiospermum corindum</i> L.	SAPINDACEAE	KNMUS/H133/75:62	sore throat, polio, fever, wounds
<i>l-tulelei</i>	<i>Solanum incanum</i> L.	SOLANACEAE	KNMUS/H304/74 & 56/75:6	malaria
<i>l-turkan</i>	<i>Sericocompsis pallida</i> (S. Moore) Schinz	AMARANTHACEAE	KNMUS/H133/75:42	stomach
<i>n-aiba layyok</i>	<i>Solanum renschii</i> Vatke.	SOLANACEAE	Heine <i>et al.</i> 1988:180	gonorrhoea, rheumatism
<i>n-dupai</i>	<i>Sansevieria robusta</i> N.E. Br.	AGAVACEAE	KNMUS/H250/59:92	malaria, chest colds, stomach
	<i>Euphorbia uhligiana</i> Pax	EUPHORBIACEAE	KNMUS/H250/59:94	warrior's strength
<i>ng'aing'aipiapi</i>	(unidentified)			nemunyi hepatitis
<i>ng'elai orok</i>	<i>Vepris eugenifolia</i> (Engl.) Verdoorn	RUTACEAE	KNMUS/H133/75:70	children's coughs
<i>n-kaiteteyyai</i>	<i>Commelina imberbis</i>	COMMELINACEAE	KNMUS/H250/59:57	burns
<i>n-keju nkitejo</i>	<i>Portulaca</i> sp.	PORTULACACEAE	KNMUS/H250/59:117	sore throat, hepatitis
<i>ng'ilai orok</i>	<i>Vepris eugeniifolia</i> (Engl.) Verdoorn	RUTACEAE	KNMUS/H250/59:84	
<i>n-kilenyei</i>	<i>Syzgium cordatum</i> Hochst.	MYRTACEAE	Heine <i>et al.</i> 1988:195	strength
<i>n-kunee</i>	<i>Cissus</i> sp.	VITACEAE	Heine <i>et al.</i> 1988:198	eyes, arthritis
<i>nyiriman</i>	<i>Hildebrandtia sepalosa</i>	CONVOLVULACEAE	Heine <i>et al.</i> 1988:201	stomach
<i>raraiti</i>	<i>Kalanchoe diesiflorum</i> Rolfe.	CRASSULACEAE	KNMUS/H250/59:25	wounds, stomach
<i>reteti</i>	<i>Ficus wakefieldii</i> Hutch.	MORACEAE	KNMUS/H133/75:29	ritual, women's ntasim
<i>sakurdumi</i>	<i>Kedrostis gijef</i> (J.F.Gmel) C. Jeffrey	CUCURBITACEAE	KNMUS/H133/75:61	malaria, stomach

Samburu Name	Scientific Name and Identification	Scientific Family	Specimen Numbers	Medicinal Uses
<i>sarai</i> <i>seketeti</i>	<i>Balanites</i> sp. <i>Myrsine africana</i> L.	BALANITACEAE MYRSINACEAE	KNMUS/H250/59:131 KNMUS/H250/59:153	eyes, stomach tapeworms, malaria, tuberculosis
<i>senatoi</i>	<i>Cassia longiracemosa</i> Vatke.	CAESALPINIACEAE	KNMUS/H304/74 & 56/75:12	malaria, stomach, headache
<i>serai</i>	<i>Euphorbia candelabrum</i> Kotschy	EUPHORBIACEAE	KNMUS/H250/59:75	chest, bronchitis, headache, barrenness
<i>serijioi</i> <i>silalei</i>	<i>Boscia coriacea</i> Pax <i>Boswellia hildebrandtii</i> Engl.	CAPPARIDACEAE BURSERACEAE	Heine <i>et al.</i> 1988:215 KNMUS/H250/59:127	malaria, burns chest, headache, ribs, diarrhea
<i>silipani</i> <i>simalelei</i> <i>sinandei</i> <i>siteti</i>	<i>Cordia sinensis</i> Lam. unidentified <i>Cassia longiracemosa</i> Vatke. <i>Grewia bicolor</i> A. Juss.	BORAGINACEAE CAESALPINIACEAE TILIACEAE	Heine <i>et al.</i> 1988:219 Heine <i>et al.</i> 1988:220 KNMUS/H304/74 & 56/75:22	chest, pneumonia women's stomach malaria coughs, soreness after childbirth
<i>sokoltei</i>	<i>Phytolacca dodecandra</i> L'Herit.	PHYTOLACCACEAE	KNMUS/H250/59:157	stomach, childbirth
<i>sokotei</i>	<i>Salvadora persica</i> L.	SALVADORACEAE	KNMUS/H250/59:100	malaria, fever, abortion, childbirth
<i>sokoni</i>	<i>Warburgia ugandensis</i> Sprague	CANELLACEAE	KNMUS/H223/75:6	stomach, diarrhea, tuberculosis, chest
<i>sucha</i>	<i>Barleria spinisepala</i> E.A. Bruce	ACANTHACEAE	KNMUS/H133/75:40	polio, fever, ritual ntasim
<i>sukoro</i> <i>sukurtuti</i>	<i>Aloe secundiflora</i> Engl. <i>Cissus quadrangularis</i> L.	LILIACEAE VITACEAE	KNMUS/H133/75:30 KNMUS/H250/59:51	eyes, tuberculosis malaria, stomach, tuberculosis
<i>sunoni</i>	<i>Lippia ukambensis</i> Vatke	VERBENACEAE	KNMUS/H133/75:26	measles, malaria, smallpox, strength

TABLE 2. SAMBURU MEDICINAL CURES BY LOCATION OF SYMPTOMS

Location/ Symptoms	Herbal Medicine	Preparation
The chest (<i>l-go'o</i>)		
Cough, colds (<i>l-chema</i>)	<i>l-margweet</i> (<i>Croton megalocarpus</i>)	boil bark as tea
	<i>l-kimanshoi</i> (<i>Hibiscus greenwayi</i>)	chew bark
	<i>letuala</i> (<i>Crotalaria incana</i>) curry powder or red pepper	chew outer layer of root add to tea
Bronchitis and pneumonia (<i>nkanyaragi</i>)	<i>sokoni</i> (<i>Warburgia ugandensis</i>)	boil bark and root
	<i>nemunyi</i> (<i>Euphorbia</i> sp.)	boil bark in soup
	<i>silalei</i> (<i>Boswellia hildebrandtii</i>)	chew bark
	<i>silipani</i> (<i>Cordia sinensis</i>)	boil gum in water, add milk
	<i>lowwai</i> (<i>Balanites</i> sp.)	boil gum in water, add milk
Chest congestion believed due to poisonous substances		
<i>l-asaremai</i> (<i>Harrisonia abyssinica</i>) <i>l-makutukuti</i> (<i>Clerodendrum myricoides</i>) <i>l-ng'alajoi</i> (<i>Cissus</i> sp.) <i>loisugi</i> (<i>Fagara chalybea</i>) <i>l-akirding'ai</i> (<i>Croton dichogamus</i>) <i>lepurana</i> (<i>Jatropha dictar</i>) <i>sukurtuti</i> (<i>Cissus quadrangularis</i>)	<i>l-asaremai</i> (<i>Harrisonia abyssinica</i>)	boil roots, stems as soup
	<i>l-makutukuti</i> (<i>Clerodendrum myricoides</i>)	boil roots, add milk, sugar
	<i>l-ng'alajoi</i> (<i>Cissus</i> sp.)	boil roots, add fat as soup
	<i>loisugi</i> (<i>Fagara chalybea</i>)	boil tuber roots in milk and drink
	<i>l-akirding'ai</i> (<i>Croton dichogamus</i>)	boil roots in water, prepare as tea
	<i>lepurana</i> (<i>Jatropha dictar</i>)	boil roots as tea
	<i>sukurtuti</i> (<i>Cissus quadrangularis</i>)	stew root
Children's coughs (treated with milder purgatives)		
<i>n-kaiteteyyai</i> (<i>Commelina imberbis</i>)	pound stalk, boil and add milk	
Tuberculosis (<i>shurr</i>)		
<i>seketeti</i> (<i>Myrsine africana</i>)	crush berries or seeds, boil in water or soak and drink cold	
<i>sukoroi</i> (<i>Aloe secundiflora</i>)	stew roots, take as enema	
<i>sokoni</i> (<i>Warburgia ugandensis</i>)	soak bark and roots, boil as tea	
Pneumonia (<i>l-marei</i> or "ribs")		
<i>silalei</i> (<i>Boswellia hildebrandtii</i>)	mix resin with <i>silipani</i> (<i>Cordia sinensis</i>) bar, add pepper and soda ash	
<i>lordo</i> (<i>Cyphostemma adenocaula</i>)	Mix with blood and stalks of <i>nkunee</i> (<i>Cissus</i> sp.) as soup	
<i>lepurana</i> (<i>Jatropha dictar</i>)	boil roots with <i>sokoni</i> (<i>Warburgia ugandensis</i>) roots and bark	
The stomach (<i>Ngosheke</i>)		
Upset stomach		
<i>l-kiloriti</i> (<i>Acacia nilotica</i>)	boil bark as soup	
<i>sakurdumi</i> (<i>Kedrostis gijef</i>)	boil roots, mix with <i>l-ng'iriai</i> (<i>Lawsonia inermis</i>) leaves, as enema or tea	

Location/ Symptoms	Herbal Medicine	Preparation
	<i>l-kukulai</i> (<i>Rhamnus staddo</i>)	boil root and drink
	<i>l-amai</i> (<i>Ximenia caffra</i>)	boil bark add milk
	<i>l-akirding'ai</i> (<i>Croton dichogamus</i>)	boil roots add tea
	<i>l-ampurrorri</i> (<i>Commiphora</i> sp.)	soak bark in cold water and drink
	<i>lepurana</i> (<i>Jatropha dictar</i>)	boil roots, drink
	<i>lerai</i> (<i>Acacia hockii</i>)	boil roots as tea
	<i>leminshiria</i> (<i>Combretum aculeatum</i>)	soak roots in water
	<i>loimugi</i> (<i>Newtonia hildebrandtii</i>)	boil bark and drink
	<i>l-mang'wei</i> (<i>Sclerocarya birrea</i>)	stew bark in water, add milk or boil
	<i>l-mugutan</i> (<i>Albizia anthelmintica</i>)	boil bark, wood, or root and add milk
	<i>l-momoi</i> (<i>Kigelia aethiopica</i>)	soak bark, drink cold
	<i>raraiti</i> (<i>Kalanchoe diesiflorum</i>)	stew root, drink cold
	<i>sokoltei</i> (<i>Phytolacca dodecandra</i>)	stew root, drink cold
	<i>sokotei</i> (<i>Salvadora persica</i>)	boil roots and drink
	<i>l-terikesi</i> (<i>Acacia senegal</i>)	boil bark and drink
	<i>l-turkan</i> (<i>Sericocompsis pallida</i>)	boil roots and drink
	Congested blood vessels around the stomach (<i>ng'onny</i>)	
	<i>ching'ei</i> (<i>Euclea divinorum</i>)	boil roots and drink
	<i>l-kiriantus</i> (<i>Plumbago zeylanica</i>)	boil roots as tea
	Nausea	
	<i>l-kiloriti</i> (<i>Acacia nilotica</i>)	soak bark in water and drink cold
	<i>l-mang'wei</i> (<i>Sclerocarya birrea</i>)	boil bark in tea
	Menstruation, "women's stomach"	
	<i>nyeriman</i> (<i>Hildebrandtia sepalosa</i>)	stew roots as soup
	<i>simalelei</i> (unidentified)	boil tuberous roots, add milk
	<i>l-depe</i> (<i>Acacia nubica</i>)	soak bark in water 12 hours and drink
	Diarrhea, "children's stomach" (<i>airi</i>)	
	<i>l-cheni ng'iro</i> (<i>Commiphora africana</i>)	soak bark in tea
	<i>l-aishimi</i> (<i>Commiphora africana</i>)	soak bark in tea
	<i>l-miskiyei</i> (<i>Rhus natalensis</i>)	soak leaves, roots in water, drink cold
	<i>l-karasha</i> (<i>Sterculia africana</i>)	boil roots
	Intestinal worms	
	<i>l-mugutan</i> (<i>Albizia anthelmintica</i>)	boil bark, roots, and wood, add milk
	<i>l-ng'erriyei</i> (<i>Olea africana</i>)	soak bark in water 30 minutes, boil, let sit 12 hours, drink cold

Location/ Symptoms	Herbal Medicine	Preparation
The Head (<i>nkue</i>) Headache	<i>seketeti</i> (<i>Myrsine africana</i>)	crush berries, drink with milk
	<i>l-ng'alayoi</i> (<i>Cissus</i> sp.)	soak bark several days, ingest through nose
Sinus congestion (<i>lchema lenkue</i>)	<i>l-makutukuti</i> (<i>Clerodendrum myricoides</i>)	grind roots and sniff through nose
	<i>silalei</i> (<i>Boswellia hildebrandtii</i>)	place resinous gum near fire, inhale fumes through nose
	<i>l-bukoi</i> (<i>Momordia spinosa</i>)	peel bark, add to sheep brain soup
	<i>sokoni</i> (<i>Warburgia ugandensis</i>) <i>mira'a</i> (<i>Catha edulis</i>)	boil roots and bark as tea chew bark
Sore throat (<i>Igoso</i>)	<i>l-kaukawa</i> (<i>Oxyanthus speciosus</i>)	soak bark in cold water and drink
	<i>ng'elai orok</i> (<i>Vepris eugenifolia</i>) <i>l-tulelei</i> (<i>Solanum incanum</i>)	chew leaves peel root, stew and gargle, or chew peeled root
	<i>l-tarakwai</i> (<i>Juniperus procera</i>)	soak bark in cold water and drink
Eyes (<i>nkonjek</i>)	<i>l-ng'alayoi</i> (<i>Cissus</i> sp.)	grind roots and soak in water, snuff through nose
	<i>sukoroi</i> (<i>Aloe secundiflora</i>)	place drops of sap in eyes, later wash
	<i>lokitem'gi</i> (<i>Ipomoea spathulata</i>)	wash eyes with leaves soaked in water
	<i>lokumaati</i> <i>lowwai</i> (<i>Balanites</i> sp.)	soak leaves in water, wash eyes place resinous gum in eyes, wash out
The Liver (<i>eminyua</i>)	<i>l-depe</i> (<i>Acacia nubica</i>)	peel bark, soak in water, drink as tea
	<i>sukurtuti</i> (<i>Cissus quadrangularis</i>)	stew root in water and drink cold; avoid sheep meat
Hepatitis (<i>ndis</i>)	<i>l-depe</i> (<i>Acacia nubica</i>)	soak bark in water over night, heat and drink cold
	<i>ng'elai orok</i> (<i>Vepris eugenifolia</i>)	soak leaves, mix with bark and tea
	<i>l-kiloriti</i> (<i>Acacia nilotica</i>)	boil bark as soup
	<i>loitokutok</i> (<i>Commiphora</i> sp.) <i>l-bukoi</i> (<i>Momordia spinosa</i>)	boil bark as tea boil bark as tea, fat, and liver
Fractures and dislocations Limbs are set using branches of	<i>l-gweita</i> (<i>Cordia sinensis</i>)	held together by the resinous gum of <i>l-tepes</i> (<i>Acacia tortilis</i>), <i>lowwai</i> (<i>Balanites</i> sp.) and <i>loitokutok</i> (<i>Commiphora</i> sp.)
	<i>seketeti</i> (<i>Myrsine africana</i>)	crush berries or seed, drink as tea for "strength"

Location/ Symptoms	Herbal Medicine	Preparation	
Wounds and burns	<i>l-jipilikua</i> (<i>Strychnos</i> sp.)	dry and grind root, place on cut to dry	
	<i>l-kinoi</i> (<i>Lannea alota</i>)	apply red surface of roots	
	<i>l-aturdei</i> (<i>Capparis elaegnooides</i>)	grind outer root, apply to cuts	
	<i>loitaakine</i> (<i>Maerua triphylla</i>)	chew leaves, place on wound	
	<i>lowwai</i> (<i>Balanites</i> sp.)	heat gum and place on wound	
	<i>l-paraa</i> (<i>Euphorbia</i> sp.)	place sap on wound	
Burns	<i>l-kiloriti</i> (<i>Acacia nilotica</i>)	boil bark or chew leaves and apply to burn	
	<i>l-dawa lenkop</i> (<i>Melhania ovata</i>)	grind leaf into paste with water, or chew leaf and apply to burn	
	<i>n-keju nkitejo</i> (<i>Portulaca</i> sp.)	chew leaf and place on burn	
	<i>l-abaai</i> (<i>Psiadia arabica</i>)	burn leaves, sprinkle ash on burns	
	<i>lekuru</i> (<i>Withania somnifera</i>)	dry root and grind, sprinkle on burn	
Skin rashes	<i>l-tulelei</i> (<i>Solanum incanum</i>)	boil peeled root and place on skin	
Muscular-skeletal aches (<i>l-bai</i>)	<i>l-dalampo</i> (<i>Entada leptostachya</i>)	soak root in water, soup, or tea	
	<i>l-depe</i> (<i>Acacia nubica</i>)	soak bark overnight and drink warm leaves, squeeze and drink juice	
	<i>l-dupai</i> (<i>Sansevieria robusta</i>)	boil roots in soup and drink	
	<i>l-aimuronyai</i> (<i>Maytenus senegalensis</i>)	boil root, add milk	
	<i>lauragi</i> (<i>Sansevieria</i> sp.)	soak roots overnight, add milk	
	<i>l-eminshiria</i> (<i>Combretum aculeatum</i>)	soak roots and drink	
	<i>l-makutukuti</i> (<i>Clerodendrum myricoides</i>)	soak roots and drink	
	To relieve swelling	<i>lokii</i> (<i>Lycium europaeum</i>)	boil root, let sit and drink cold
		<i>l-teroi</i> (<i>Commiphora</i> sp.)	boil bark and stew leaves, add milk
		<i>lordo</i> (<i>Cyphostemma adeno-caule</i>)	boil leaves with <i>n-kunee</i> (<i>Cissus</i> sp.), mix with blood, eat
Malaria (<i>nkirewa</i>)	<i>l-ching'ei</i> (<i>Euclea divinorum</i>)	soak roots with <i>sunoni</i> (<i>Lippia ukambensis</i>) twigs and goat's meat and drink; or boil stems and leaves, add milk	
	<i>l-asaremai</i> (<i>Harrisonia abyssinica</i>)	boil roots as soup	
	<i>loduaporo</i> (<i>Commicarpus plumbagineus</i>)	boil roots as tea	
	<i>lowwai</i> (<i>Balanites</i> sp.)	boil bark as tea	
	<i>l-makutukuti</i> (<i>Clerodendrum myricoides</i>)	boil roots as tea	

Location/ Symptoms	Herbal Medicine	Preparation
	<i>l-marag</i> (<i>Blepharis linearifolia</i>)	stew whole plant in water, add milk
	<i>l-mugutan</i> (<i>Albizia anthelmintica</i>)	boil roots and bark in tea
	<i>l-murgusyan</i> (<i>Gardenia jovis-tonantis</i>)	boil fruit and drink cold
	<i>nyeriman</i> (<i>Hildebrandtia sepalosa</i>)	stew roots
	<i>l-paraa</i> (<i>Euphorbia</i> sp.)	stew leaves
	<i>sinandei</i> (<i>Cassia longiracemosa</i>)	stew leaves
	<i>serijioi</i> (<i>Boscia coriacea</i>)	boil roots, add milk
	<i>l-turkan</i> (<i>Sericocompsis pallida</i>)	boil roots
Measles (<i>l-tipu</i>)	<i>sunoni</i> (<i>Lippia ukambensis</i>)	boil leaves, stem, drink milk, butter, and animal fat
Smallpox (<i>l-pepedo</i>)	rub skin with fat from the monitor lizard	
Polio (<i>nkurotet</i>)	<i>l-kukulai</i> (<i>Rhamnus staddo</i>)	boil root
	<i>lamuriei</i> (<i>Carissa edulis</i>)	boil root, add milk
	<i>l-makutukuti</i> (<i>Clerodendrum myricoides</i>)	boil roots
	<i>sucha</i> (<i>Barleria spinisepala</i>)	boil whole plant
	<i>l-dalampoi</i> (<i>Entada leptostachya</i>)	soak root in water, soup, or tea
	<i>l-depe</i> (<i>Acacia nubica</i>)	soak bark in water
	<i>l-maim</i> (<i>Commiphora</i> sp.)	boil bark in water
	<i>leminshiria</i> (<i>Combretum aculeatum</i>)	boil roots
	<i>l-tepes</i> (<i>Acacia tortilis</i>)	boil bark
	<i>l-teroi</i> (<i>Commiphora</i> sp.)	stew leaves, boil bark
Gonorrhoea (<i>kisunono</i>)	<i>l-mugutan</i> (<i>Albizia anthelmintica</i>)	boil root, bark, leaves, mix with sheep fat as enema
	<i>l-dupai</i> (<i>Sansevieria robusta</i>)	enema, as above
	<i>l-makutukuti</i> (<i>Clerodendrum myricoides</i>)	enema, as above
	<i>l-depe</i> (<i>Acacia nubica</i>)	soak bark in water 12 hours
	<i>l-kelelit</i> (<i>Euphorbia heterochroma</i>)	burn stems in fire to remove white gum, prepare in fat soup
	<i>l-kukulai</i> (<i>Rhamnus staddo</i>)	boil root
	<i>l-amuriei</i> (<i>Carissa edulis</i>)	boil root, add milk
	<i>leminshiria</i> (<i>Combretum aculeatum</i>)	soak roots in water, add milk
	<i>l-asaremai</i> (<i>Harrisonia abyssinica</i>)	boil branches and roots as tea
	<i>l-makutukuti</i> (<i>Clerodendrum myricoides</i>)	boil roots
	<i>l-mugutan</i> (<i>Albizia</i>)	

Location/ Symptoms	Herbal Medicine	Preparation
For difficulties in passing urine	<i>anthelmintica</i>	boil bark and roots, add milk
	<i>lauragi</i> (<i>Sansevieria</i> sp.)	boil root, add milk
	<i>l-dupai</i> (<i>Sansevieria robusta</i>)	boil roots and inner stem in sheep's fat as enema For women boil roots as enema, add above
Pregnancy and childbirth	<i>l-makutukuti</i> (<i>Clerodendrum myricoides</i>)	
	Upset stomach	
Soreness after delivery	<i>l-miskiyei</i> (<i>Rhus natalensis</i>)	soak leaves and roots in water, drink
	<i>nyeriman</i> (<i>Hildebrandtia sepalosa</i>)	boil roots in soup and drink
Swelling in the breasts	<i>siteti</i> (<i>Grewia bicolor</i>)	boil berries in water five hours, add milk and drink
Problems urinating	<i>lokii</i> (<i>Lycium europneum</i>)	mix leaves and stem, boil roots, let sit and drink cold
	<i>lolsesyai</i> (<i>Osyris nbyssinica</i>)	burn wood, hold smoking ember near breasts rubbed with goat's fat
Strength for mother	<i>l-aarami</i> (<i>Cistanche tubulosa</i>)	boil root in water, add milk and drink
Strength for baby	<i>l-bolan</i> (<i>Plectranthus forskholii</i>)	mix leaves and stem with blood and drink
Abortion (<i>airony</i>) or retained placenta (<i>mudong</i>)	<i>l-aramirami</i> (<i>Senecio petitianus</i>)	mother chews roots and gives pulp to baby mouth to mouth
	<i>makutikuti</i> (<i>Clerodendrum myricoides</i>)	boil roots, mix with sheep's urine, as enema or orally
	<i>l-terikesi</i> (<i>Acacia senegal</i>)	boil bark in water and drink
For soreness following abortion	<i>sokotei</i> (<i>Salvadora persica</i>)	boil root and mix with sheep urine and dung, drink, massage abdomen
	<i>l-terikesi</i> (<i>Acacia senegal</i>)	boil bark and drink
Barrenness: usually treated by <i>loibon</i> ritual specialists, but also by	<i>siteti</i> (<i>Grewia bicolor</i>)	boil bark and drink
	<i>simal lei</i> (unidentified)	boil roots in water, add milk and drink
Stimulants	<i>serai</i> (<i>Euphorbia candelabrum</i>)	tap trunk for latex, mix with water and ox-meat boiled in an ox bladder; drink soup and vomit 3 to 5 times a day
	<i>l-kambau</i> (chewing tobacco)	chew, for men

Location/ Symptoms	Herbal Medicine	Preparation
	<i>naisuki</i> (snuffing tobacco)	grind tobacco and mix with soda ash, for women
	<i>mira'a</i> (<i>Catha edulis</i>)	boil roots in soup, chew bark and sugar
For strength (<i>ngolon</i>)	<i>n-aiba layyok</i> (<i>Solanum renschii</i>)	boil roots in tea or sour milk
	<i>l-ng'alayoi</i> (<i>Cissus</i> sp.)	boil root and drink
	<i>siteti</i> (<i>Grewia bicolor</i>)	boil berries, add milk
For warrior's strength (results in "shaking" [<i>aduku</i>] or "trembling" [<i>nkirakirr</i>])	<i>l-kinyil</i> (<i>Rhamnus prinoides</i>)	boil roots and drink
	<i>l-kitalaswa</i> (<i>Myrica salicifolia</i>)	boil roots in soup
	<i>lolsesyai</i> (<i>Osyris abyssinica</i>)	boil roots in soup
	<i>ng'aing'aipiapi</i> (unidentified)	boil roots in tea or soup
	<i>n-kilenyei</i> (<i>Syzygium cordatum</i>)	boil roots in tea
	<i>seketeti</i> (<i>Myrsine africana</i>)	boil roots in soup
Poisons	<i>l-morijioi</i> (<i>Acokanthera longiflora</i>)	as arrow poison, boil wood, roots, bark
	<i>l-perentai</i> (<i>Adenium obesum</i>)	boil bark, to kill lions
	<i>laturdei</i> (<i>Capparis elaeagnoides</i>)	grind roots and boil
Snakebite	<i>l-tigomi</i> (<i>Cardiospermum corindum</i>)	soak roots in water 2 hours, drink to vomit
	<i>l-kinyil</i> (<i>Rhamnus prinoides</i>)	boil roots in soup
Ritual cures: medicines of <i>loibonok</i> diviners	<i>l-paramunyo</i> (<i>Toddalia asiatica</i>)	grind outer bark of root, for madness, fits, epilepsy
	<i>l-kukulai</i> (<i>Rhamnus staddo</i>)	grind outer bark of root, mix with <i>l-paramunyo</i> (<i>Toddalia asiatica</i>) root
	<i>reteti</i> (<i>Ficus wakefieldii</i>)	scrape inside of bark, for barrenness in women
	<i>l-kiloriti</i> (<i>Acacia nilotica</i>)	burn roots
	<i>lokildia</i> (<i>Tinnea aethiopica</i>)	burn roots
Livestock diseases		
Trypanosomiasis (<i>saar</i>)	<i>l-depe</i> (<i>Acacia nubica</i>)	soak bark and bathe
Foot and mouth disease (<i>l-kulup</i>)		ritual blessings by <i>L-Toiyo</i> clan
Tick fever (<i>l-merimer</i>)	<i>l-abaii</i> (<i>Psidia arabica</i>)	boil leaves, bathe
"Lungs," i.e., bovine or carpine pleuro-pneumonia (<i>l-kipei</i>)		no local cure
Sheep disease, possibly glanders (<i>l-pus, nadol manyeta</i>)		no local cure except solutions of tea, milk, tobacco
Anthrax (<i>lokochem</i>)		no local cure; Samburu believe it is caused by poison blown in the grass by toads (<i>ntua'an</i>)

Location/ Symptoms	Herbal Medicine	Preparation
Camel "glands," viz., lymphatic swellings, diarrhea	(<i>ng'aring'ari</i>)	no cure
Swollen udder	<i>lolsesyai</i> (<i>Osyris abyssinica</i>)	burn plant, hold smoking embers near udder greased in fat
Fleas	<i>l-abaai</i> (<i>Psiadia arabica</i>) <i>l-masikirai</i> (<i>Heliotropium steudneri</i>)	boil leaves boil leaves
Worms	<i>loliontoi</i> (<i>Olea hochstetteri</i>) <i>l-mugutan</i> (<i>Albizia anthelmintica</i>) <i>l-ng'erriyei</i> (<i>Olea africana</i>) <i>seketeti</i> (<i>Myrsine africana</i>)	soak in water 12 hours, ingest boil bark, wood, and root soak bark in water 30 minutes, ingest soak seeds in water
Infected eyes	<i>sarai</i> (<i>Balanites</i> sp.)	grind leaves and place in eyes
Retained placenta	<i>sokotei</i> (<i>Salvadora persica</i>)	burn roots and grind, pour powder in a shed snake skin stuffed with grass, force feed to cow
Swollen liver	<i>sukurtuti</i> (<i>Cissus quadrangularis</i>)	pound wood until soft, feed to cow

SAMBURU CONCEPTS OF HEALTH AND ILLNESS

Samburu cognitively distinguish health problems by causality, distinguishing those illnesses which result from "natural" or expected events from those unusual occurrences believed to result from "mystical" causes such as the curse of one's kinsmen or the immoral attacks of sorcery directed by known or unknown enemies. In this discussion, illness refers to Samburu notions of physical disability and poor health, while disease refers to Western medical categories, particularly infectious disease. Samburu treat "naturalistic" illnesses with medicines derived from trees and shrubs (*dawa lo l-chani*, combining Swahili *dawa* or "medicine" with Samburu "tree") or increasingly, Western medicines, and sorcery illness with ritual medicines known as *ntasim* (spelled *entasim* in Maasai) prepared by *laibon* ritual curers and which protect against attacks of sorcery and witchcraft.

Infectious diseases, wounds, fractures, and burns are accepted as everyday events and are treated by traditional specialists knowledgeable in tree medicines, bone-setting or massage, or by Western medicine if available. Unusual events such as drowning, attacks by wild animals, snakebites, and problems of infertility and recurrent infant deaths are often attributed to mystical causes, and can only be treated by the interventions of *laibon* diviners and healers or, in the case of infer-

tility, by blacksmiths whose iron flakes from their hearths (*l-kunee*) are believed to act as powerful *ntasim* medicines.

Diet, anatomy, and pollution.—As cattle pastoralists Samburu and Maasai believe God gave them cattle and small stock to provide them with milk, meat, and blood (see Figure 2). To eat animal foods from outside this domain risks both natural and mystical misfortune. "Unclean" foods include most wild animals - fish, birds, eggs, reptiles, and non-ruminant mammals including pigs, carnivores, and rodents. Only those wild animals that resemble domestic livestock in their diet and behavior such as giraffe (considered an archaic "camel"), antelope ("small stock") and eland ("cattle") are considered edible, and they are only eaten during periods of severe shortages and famine.



FIGURE 2.— Samburu warrior herding cattle.

Distinctions of "clean" from "unclean" foods mirror social categories within Samburu society. Sexually mature women are considered by men to be unclean, particularly during menstrual or child birth periods, and are excluded from male-dominated rituals. Women are "made clean" at their wedding ceremonies by female circumcision (clitoridectomy), which ensures the culturally approved reproduction and birth of children. Men refrain from sexual relations during female menstruation, lest "polluting" menstrual blood enter their bodies.

Samburu believe many health problems are caused by the presence of "unclean" substances which block vital internal systems such as blood circulation or

food digestion. Notions of illness resulting from blocked internal circulations has been described for other African societies, as in Taylor's (1992) discussion of Rwandan medicine. Samburu believe these blockages may result from food congestion, caused by eating the wrong foods or fatty foods, or from invisible substances which enter the body from insect bites or contact with other humans. These substances are thought to "turn blood from red to black," obstruct circulation, stiffen the limbs, and lead to fevers and headaches. Samburu worry about constipation (which is probably common due to little roughage and much animal protein in their diet), and seek herbal medicines to relieve it.

According to Lemeriw as the herbalist, food enters the mouth (*nkutuk, nkutkui*) and proceeds to the stomach (*ngoshoke, ngoshuaa*), which separates waste (*ng'ik*, or excrement) and conveys the nourishment through surrounding fatty tissue (*emanyit, imanyit*) directly to the kidneys (*lare, larie*). The kidneys extract urine (*nkulak*) and pass the remaining food to the liver (*emwinyua, imwinyuashi*) via blood vessels (*ng'onyo, ng'ony*). The liver is considered the most vital organ next to the heart (*l-tau, l-tauja*) 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. If blood is contaminated by the "wrong" foods or other pollutants, the blood turns black and hard and poisons the body. Meat is considered the best food for blood production although animal blood is also good as it "strengthens the system." Milk, while not directly contributing to blood production, is thought valuable for growth in muscles and bones. The eating of crops such as maize or potatoes is not prohibited but they are not considered to be strength-building foods. The gall bladder (*lodua, loduan*, or the "bitter one"), helps to filter out poisons, but bile (also *lodua*) is considered poisonous and Samburu believe that humans need to urinate regularly to remove the bile.

A serious illness caused by undigested foods is *ng'ony*, the congestion and swelling of the blood vessels in the abdomen region believed to convey food from the stomach to the liver. The uncirculated blood is believed to turn "black and hard", blocking digestion and blood flow and poisoning the entire system. *Ng'ony* is thought to result from mixing the wrong types of food (meat and milk, or porridge and meat), or may result from illnesses such as liver disease or hepatitis (*ndis*). It is believed that one who suffers *ng'ony* feels nauseated, and blood may be seen in the stool. Cures for *ng'ony* include massaging the stomach and consuming a variety of herbal purgatives, listed in Table 2.

Whereas stomach disorders are usually associated with eating the wrong foods, illnesses of the "whole body" (*sisen po'oke*) including malaria, measles, or tuberculosis, are thought to derive from invisible poisons that enter the body. While Samburu today attribute malaria to mosquito bites, it is not clear that they conceptualized this prior to European contact in the late nineteenth century. Samburu nevertheless attribute malaria to a foreign poison which results in blood loss by the liver and spleen giving rise to headaches and fever. Lemeriw as, the herbalist explained:

If a person doesn't remove the poison from the body by vomiting and

diarrhea, he's in trouble. The longer the poison stays in the body, the worse it becomes. It turns into *l-tikana loibor* (the white illness), where the blood turns white, the stomach and liver swell, the person becomes weaker and weaker. Usually people will eat anything, even porridge and blood, that just entraps the poison in the system even more, so the person becomes stiff and ultimately lame.

"Liver illness" (*ndis*) is commonly associated with malaria, although people use the term to complain of pains in either the right side or left side of the abdomen (i.e. liver or spleen area). The term *ndis* may refer to different health problems, however, including liver disease, urinary tract infections, and ulcers. It is also believed that drinking too much alcohol will damage the liver and contribute to *ndis*. Polio (*nkurotet*) is also thought to be caused by poison which is believed to lodge in the legs, arms and backs, causing swelling, pain and paralysis.

Samburu recognize several infectious diseases including measles (*ntipu*), smallpox (*l-pepedo*), whooping cough (*l-muruti*), tuberculosis (*tibi* or *shurr*), and gonorrhea (*kisunono* in Swahili). It is not clear to what degree Samburu attribute these infectious diseases to human contagion. Epidemics such as measles and, previously, smallpox, are believed to result from curses and sorcery attacks. Samburu are aware of the Western medical explanations for sexually transmitted diseases, but men have asserted, for example, that gonorrhea can appear spontaneously, "when a man wants a woman too much, and can't relieve himself." AIDS, like other terminal illnesses, is viewed fatalistically, and few men I interviewed believed that it was sexually transmitted and they saw little use in protecting themselves or their partners with condoms. I often heard the comment, "If God wants me to die, then I will die; if He wants me to live, I will live."

Herbal medicines as purgatives.— Samburu have a detailed knowledge of their grazing environment and recognize many of the plant species within the varied montane, savanna, desert, and riverine resources. Samburu identify over 300 species of plants, categorized as useful "trees" (*l-chani* sing., *l-keek* pl.), "grasses" (*nkujit*, *nkujita*) as well as "weeds" or "useless" plants (*nyeerte*) (Heine *et al.* 1988). Heine found that where the largest category of useful plants are grasses and shrubs used to feed livestock, the second largest category is medicinal plants from which Samburu employ bark, roots, leaves, and woody parts of 122 species (42% of the total), mainly trees and shrubs.

Samburu herbal medicines are not placebos whose value is mainly symbolic, but effective purgatives, astringents, and analgesics based on their particular chemical constituents. I was not able to analyze the specific compositions of my Samburu plant samples, but many of the species used by Samburu are referred to in other sources on African plants. For example, the poisonous qualities of alkaloids are thought to be responsible for the purging qualities of *l-kiloriti* (*Acacia nilotica* [L.] Del.), *l-karasha* (*Sterculia africana* [Lour.] Fiori), *l-bukoi* (*Momordia spinosa* [Gilg] Chiov.), and *sinandei* (*Cassia longiracemosa* Vatke.). In addition, plants containing saponins induce nausea and vomiting when added to water and contribute to the purging uses of *leminciria* (*Combretum aculeatum* Vent.), *sokoltei* (*Phytolacca dodecandra* L'Herit.), and the snakebite cure *tigomi* (*Cardiospermum corindum* L.)

(Verdcourt and Trump 1969:120, Watt and Breyer-Brandwijk 1962:257, 927, 158).

Samburu medicines also include plants such as tannin rich *lesayyet* (*Withania somnifera* L. Dunal) which have astringent qualities that dry wounds and burns (Watt and Breyer-Brandwijk 1962:927). Other plants used to quell a cough and relieve chest congestion such as *sokoni* (*Warburgia ugandensis*) and *margweet* (*Croton megalocarpus* Hutch.) contain amorphous resinous substances which irritate mucus membranes and act as expectorants (Watt and Breyer-Brandwijk 1962:158). The anti-malarial effect of a *Cassia* species known in Samburu as *senetoi* derives from its anthraquinone cathartics. This plant is used widely throughout southern and East Africa to reduce malarial fevers (Watt and Breyer-Brandwijk 1962:568).

Samburu descriptions of illnesses.—Individuals in Samburu usually describe ailments by the location of their symptoms, such as the chest, stomach, or head. If they are suffering a known disease such as malaria, they will name the illness and add the description "I am sick in my whole body." This section discusses briefly the specific health problems named by Samburu. Herbal cures and their preparations are listed in Table 2.

The "chest" (*l-go'o*). *L-go'o* includes chest pains and congestion, and covers a variety of illnesses of the respiratory tract: upper respiratory illnesses, bronchitis, pneumonia (all referred to as *l-chema*). The word *l-chema* also refers to mucus congestion in the lungs (sometimes called *nkanyaragi*) or mucus congestion in the nose and sinuses (*l-chema lenkue* or head). Tuberculosis is recognized and called by a distinct name (*tibi*, derived from English, or *shurr*, origin unknown), suggesting it has become a recognized disease only recently.

Chest pain or pleurisy associated with lung infection is described as "ribs" (*l-marei*) and is treated with teas prepared from pepper, "magadi" soda (calcium carbonate, as found in Lake Magadi in southern Kenya), resin from *silalei* (*Boswellia hildebrandtii* Engl.), and bark from *silipani* (*Cordia sinensis* Lam.). In addition, a soup prepared from blood, the leaves of the *lorde* (*Cyphostemma adenocaula* [A.Rich.] Willd. & Drum.), and stalks of *nkunee* (*Cissus* sp.) add relief.

The "stomach" (*ngosheke*). A "sick stomach" (*ngoshoke kemoi*) refers to all abdominal symptoms and is associated with food digestion. It includes cramps, constipation, diarrhea, and "women's stomach," i.e., menstrual cramps. Many "stomach" problems are thought due to congestion of undigested food and "old blood," which is treated by both massage and purgatives. Abdominal problems are a common complaint, and are treated by over twenty herbal preparations (Table 2). The illness *ng'onny* ("congested blood vessels around the stomach") is considered a grave condition (the category may include appendicitis), and is treated with powerful purgatives including *ching'ei* (*Euclea divinorum* Hiern.), *l-kiriantus* (*Plumbago zeylanica* L.), *l-kiloriti* (*Acacia nilotica*), and *l-mang'wei* (*Sclerocarya birrea* [A. Rich.] Hochst.).

While many Samburu cures induce diarrhea (*airi*) to relieve constipation, excessive diarrhea is considered dangerous. Nevertheless, the cures used by Samburu to treat diarrhea are themselves purgatives. They are not ingested to prevent diarrhea as much as to cleanse the body of polluting substances.

Among digestive problems, Samburu specifically recognize parasitic worms,

usually tapeworm and ascaris, which they treat with several widely known anthelmintics, including *l-mugutan* (*Albizia anthelmintica* Brong.), *l-ng'erriyei* (*Olea africana* Mill.), and *seketeti* (*Myrsine africana* L.) which is known widely in East Africa.

The head and throat. *Nkue* (the head) specifically refers to headaches, but also includes problems of the throat (*l-goso*) and sinus congestion around the eyes (*l-chema lenkue*). Headaches are relieved by drinking or inhaling the vapors of several herbal cures prepared from *l-ng'alayoi* (*Cissus* sp.), *l-makutukuti* (*Clerodendrum myricoides* [Hochst.] R.Br.), and *silalei* (*Boswellia hildebrandtii*), whose resinous gum is burned and inhaled.

Sore throats (*l-goso*) are treated by boiling the bark of several highland trees including *l-kawa* (*Oxyanthus speciosus* DC., *ng'elai orok* (*Vepris eugenifolia* [Engl.]), and the juniper *l-tarakwai* (*Juniperus procera* Hochst. ex Endl.).

Eyes (*nkonjek*). Eyes frequently become irritated or infected by dust. Eye problems examined at local dispensaries include infections, conjunctivitis, cornea opacity, and trachoma. Some eye problems are thought (not incorrectly) to result from waste matter left by flies. Treatment includes applying substances that make the eyes tear, including *l-ng'alayoi* (*Cissus* sp.), and the aloe plant *sukoro* (*Aloe secundiflora* Engl.).

The liver (*eminyua*) and spleen (*ntanu*). Illnesses of the liver and spleen are distinguished from other stomach problems. Liver and spleen are thought to swell as the result of malaria, hepatitis, and polio. Liver pains are relieved by purgatives mixed with milk, particularly from the bark of the acacia tree *l-depe* (*Acacia nubica* Benth.). Additional cures include eating roasted goat's liver and avoiding the meat, fat, and liver of sheep, which are thought to be more fatty and congesting.

Samburu, Maasai, and Rendille will also treat swollen spleens by making small cuts on the abdomen with a razor blade or knife. They do this to bleed the area, which is believed to prevent *ng'ony* (congestion and hardening of the blood), and to reduce the pressure and reduce the swelling.

Systemic illnesses. These refer to those health problems affecting the entire body such as malaria, measles, and polio. Often systemic illness are thought to be due to poisons that obstruct circulation of blood and digestion of food. Cures usually involve ingestion of purgatives as well as treatments for specific pains and discomfort.

Malaria (*nkirewa*, "hot" or "fever") is believed to result from poison introduced by mosquito bites, which are thought to inhibit blood circulation and destroy the liver, heart, and ultimately the entire body. Treatment is by expurgation (vomiting and diarrhea) brought about by strong purgatives taken orally and anally. Belief in disease transmission by mosquitoes is probably recent. It is not noted in earlier accounts of Maasai healing (Merker 1910, Thomson 1885).

Hepatitis (*ndis*), "the yellow illness," causes fever, swollen liver, jaundice, and yellow eyes. It is also thought to be conveyed by the mosquito, which lodges a poison that is trapped in the liver. Cures, as with malaria, include expurgation. Polio (*nkurotet*) is also believed to be caused by the mosquito - the poison is believed to spread throughout the body via the blood. A person afflicted with polio will take as many purgatives as possible, although people say there is little one

can do once the weakness and muscle loss sets in.

Measles (*l-tipu*) is recognized by its rash; its fevers are known to kill people. Unlike malaria, measles is not attributed to congestion. Ill people are encouraged to drink milk and eat butter and animal fat (of both sheep and goat).

Smallpox (*l-pepedo*) is remembered from the 1890s, when a large segment of the Samburu and Rendille populations succumbed (Sobania 1988). It is said that the intense itching of the pox can be relieved by rubbing the skin with fat from the monitor lizard. No other treatments are known.

Injuries, accidents, and snakebite. In addition to these major ailments, Samburu use a variety of herbal preparations to deal with injuries. Bone fractures and dislocations are set by specialists, usually older 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 *l-gweita* (*Cordia sinensis* Lam.) or *l-tepes* (*Acacia tortilis* [Forsk.] Hayne), held together by the resinous gum of *lowwai* (*Balanites* sp.) or *loitokutok* (*Commiphora* sp.). The patient should drink tea made from *seketeti* (*Myrsine africana*) for "strength" and avoid fat, meat, and posho for several weeks. Depending on the fracture, the patient will wear the cast from two to six months.

Wounds and burns are common occurrences that often lead to infection. Wounds may be caused by thorns, steel weapons, or falls from rocks. They are treated by a variety of drying substances including *l-jipilikua* (*Strychnos* sp.), *l-kiloriti* (*Acacia nilotica*), and *loitaakine* (*Maerua triphylla* A. Rich.). Burns occur most frequently among small children who are apt to fall into the open cooking hearths. Burns are washed and treated with astringent leaves of *l-dawa lenkop* (*Melhanianthus ovata* [Cav.] Spreng.) and *nkeju nkitejo* (*Portulaca* sp.), the leaves of which are chewed and placed on the burn.

Stimulants. Samburu use a variety of herbal stimulants to give them "strength," but also for relaxation. Tobacco (*l-kambau*) is chewed by married elders or ground and mixed with soda ash (*magadi*) as snuff (*naisuki*) that is consumed by married women, single girls, and single men. The cocaine-like stimulant *Catha edulis* (Vahl) Endl. (*mira'a* or *khat* in Somali) is popular among men; it is grown in the highlands of Mt. Meru or Mt. Marsabit, and bought from sellers in towns.

Members of the warrior age-grade consume a variety of "strength-producing" soups, some of which are said to cause "shaking" (*aduku*) or "trembling" (*nkirakirr*), pronounced muscular spasms characteristic of Maa-speaking warriors during intense social situations including ceremonies and warfare. These plants include *l-kinyil* (*Rhamnus prinoides* L'Herit.), *l-kitalaswa* (*Myrica salicifolia* A. Rich.), and *n-kilenyei* (*Syzygium cordatum* Hochst.) (Spencer 1959).

Mental health. Insanity (*l-madai*, or "foolishness") is said to result from certain illnesses (measles, malaria, or other high fevers) or from misfortune brought about by sorcery or a curse. Several forms of madness are distinguished, including depression (*l-tung'ani erobi* or the "cold person"), epilepsy (*lakirikirr*), and psychological trauma following an attack by a wild animal or human enemy, which is manifested in shaking fits and nightmares. Treatment for insanity brought about by physical illness includes taking purgatives. Treatment for madness attributed to sorcery must be sought from a *laibon* ritual specialist.

Livestock diseases. In addition to human illness, Samburu have a wide knowl-

edge of illness and health problems affecting their livestock, specific to the different types of animals they keep (cattle, camels, goats, sheep, and donkeys). The most serious cattle diseases are trypanosomiasis (*saar*, or "the fly disease"), foot and mouth disease (*Ikulup*), anthrax (*lokochum*), and rinderpest (*Iodua*, or "the bitter disease"), an epidemic which decimated African livestock at the end of the 19th century. Ticks (*I-merimer*) affect all livestock, leading to both allergic responses and the transmission of microbial infections. Ticks are controlled by bathing the animals with boiled leaves from *I-abaa*i (*Psiadia arabica* Jaub. and Spach). Further descriptions of the treatments for these diseases are listed in Table 2.

SAMBURU HEALERS—HERBALISTS, MIDWIVES, AND LAIBONS

Not everyone is equally knowledgeable in the preparation and dispensation of herbal medicines. Individuals caring for ill relatives will try to obtain the services of specialists including herbalists, bone setters, masseurs, and midwives, known generally as *I-kursan*. More often than not, *I-kursan* are poor and rely on the few shillings they receive from dispensing treatments to earn a living. This contrasts sharply to *laibons*, who have an especially high status and who receive large payments for their treatments of sorcery. This section describes three Samburu healers living near the town of Ngurunit, along the Samburu/Marsabit District line: the herbalist Lemeriwias, the midwife Lenkuye, and the *laibon* Leaduma.

Lemeriwias the herbalist.—Lemeriwias was, in 1976, a fifty year old male healer from the Masala section of Samburu who lived in a Dorrobo community in the Ndoto Mountains near Ngurunit town. Dorrobo is a Maasai term meaning "poor," without cattle. It also refers to foraging populations, some of which prey upon pastoralists. Other Dorrobo groups have established interdependent relations with pastoralists including trade in honey (Galaty 1982; Kratz 1980). They may also provide services as herbalists based on their knowledge of "tree medicines."

Lemeriwias made a meager living visiting various Samburu and Rendille villages, selling his services as an herbalist, masseur and bone setter. He carried a large goat-skin bag containing rare highland plants including *sokoni* (*Warburgia ugandensis* Sprague) to treat chest pains, *makutikuti* (*Clerodendrum myricoides* [Hochst.] R.Br.) to treat gonorrhea, and powerful emetics such as *I-gilai orok* (*Vepris eugenifolia* [Engl.] Verdoorn) to treat hepatitis and stomach and uterine disorders.

Lemeriwias was outgoing and funny, telling stories about others, perhaps to avoid being mocked himself as a poor Dorrobo from the forest. His knowledge of plant medicines was widely appreciated, however, and his patients told me only Lemeriwias knew both the highland and lowland species of plants. He was my principal informant and helped me collect over 125 tree specimens for which he described particular properties and preparations. Lemeriwias also had an extraordinary knowledge of the habits of animals (insects, snakes, birds, and mammals); he could imitate large predators, and delighted in scaring me with a leopard's cough or lion's roar (see Figure 3).



FIGURE 3: Lemeriw digs for *Larosoro* root (*Cadaba farinosa* Forsk.)

Lemeriw's treatments were usually private and held in the house of the sick person. They consisted of preparation and dispensation of herbal soups, teas and enemas, invariably delivered with animated commentary on the nature of the particular illness and its cure. In one healing episode I observed, Lemeriw treated a patient suffering from *ng'onny* (congested blood vessels around the abdomen). While massaging the man's abdomen, Lemeriw said, "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 replies, "I drank some blood mixed with goat's milk. But it was new milk. Now my stomach hurts when I eat porridge or fat." Lemeriw says, "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 [toward the intestines]."

Lemeriw had the patient drink tea containing the bitter *kerdeedi* bark (*Acacia senegal* [L.] Willd.) and roots from the *ching'ei* tree (*Euclea divinorum*), two of the strongest purgatives known to Samburu. Lemeriw also had the man lie down and raise his rear end while he administered the same herbal tea by enema through a hollow goat's horn. This caused immediate diarrhea, which was coupled with vomiting from the tea. The ordeal was so excruciating that the patient fainted. Lemeriw lifted his head and gave him a calabash of milk to drink. He repeated this ordeal five more times.

When the patient was exhausted after the treatment, Lemeriw was ecstatic. After cleaning the body and the area soiled by the treatment, Lemeriw hugged

the man and told him, "Tomorrow you'll look like a warrior. Your blood will change and you'll be able to eat anything without trouble." Indeed the next day the man did look better, bright-eyed and active. I was amazed the man was alive.

Lenguye, the midwife specialist.—Most African communities have women skilled in child delivery who act as midwives and advisers during pregnancy and delivery. In Samburu, these women are skilled herbalists as well, knowledgeable in the preparation of medicines used to relieve menstrual pains, aid difficult pregnancies, treat venereal diseases such as gonorrhea, or abort unwanted pregnancies. Midwives also perform female circumcision (clitoridectomy) on Samburu women as part of the marriage ritual. Lenguye is a widowed Samburu woman now (1995) in her late 70s living in the town of Ngurunit in eastern Samburu District.

Lenguye described how she became a midwife:

I am originally from the mountains near Maralal, far from this hot place. When my husband and I moved out here, I was living alone, not mixing with people. I believed I could do everything myself, I didn't want anybody disturbing me. I did not fear anybody, I always had my *panga* (blade) in my hand, whenever I was grazing, whenever I was going for firewood. At that time, I was very healthy, very tough, very young.

After we had some children, we moved in with other people, with Lukumai clan. I looked at the women when they're delivering children, and I see that I am not afraid of their pain and yells. So I used my courage to do these things (to deliver their babies). I have this courage because I was used to living alone. I see I have this courage, and that's how I started midwifing.

I learned about tree medicine from my grandmother when I used to live in the mountains by Maralal. I knew about many plants, and I learned more when I moved down here. Now every one comes to me when they are sick, not just women. I do them all.

Pregnancy and childbirth are periods of great danger to both the mother and child. 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 woman will cease sexual relations with her husband. Delivery (*aisho*) is performed in the woman's house by the 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 in part to scar tissue from the female circumcision, the midwife may perform an episiotomy using a razor blade or the steel circumcision knife. Although I never witnessed a delivery, Lenkuye told me that there is a modest degree of cleanliness in childbirth including using boiled water to bathe the mother and the area she inhabits before the birth and the baby shortly after he or she is born. However, Samburu custom calls for the umbilical cord to be cut on the sole of the father's sandal, a situation that undoubtedly raises the risk of infection. Ritual also demands that the afterbirth be buried

in the calves' enclosure following a prayer and blessing, to protect the child from sorcerers or malevolence.

Four days following childbirth, a small animal (called the *morr*) is killed (a goat for a son, a sheep for a daughter) and consumed by the midwife and women attending the mother; the mother is encouraged to drink boiled blood and soup prepared with the roots of *sokoltei* (*Phytolacca dodecandra* L. Herit) to encourage the mother to vomit and "clean the stomach," ensuring the complete removal of the afterbirth.

Unsuccessful pregnancies and miscarriages are attributed to mystical causes, although physical stress and natural illness are also held responsible for miscarriage. *Ng'ony*, the "congested blood vessels" of the abdomen described earlier, is thought to kill the child with too much accumulated blood. Hepatitis is thought to cause the unborn child to turn yellow and die, and if a mother drinks milk from an animal infected with hoof and mouth disease (*l-kulup*), it is thought she will pass the disease directly to the child. In all cases of miscarriages, the midwife will offer medicinal purgatives to the woman to clean out any residue, thought to be decaying material which must be removed.

Abortion (*airony*) is rare but will be performed on unmarried girls by older women. It is carried out away from the village in the bush. Methods include the ingestion of several strong purgatives (including a solution made from the roots of the "toothbrush" tree *sokotei* (*Salvadora persica* L.) mixed with sheep's urine and dung), accompanied by hard massaging and rope tightening about the girl's abdomen. In addition, Western pharmaceuticals such as chloroquine may be ingested in large quantities. If the abortion is successful, the girl drinks tea made with *l-terikesi* (*Acacia senegal* L. Wild.) and *siteti* (*Grewia bicolor* A. Juss), boiling the bark until it turns red, symbolic of women's reproductive powers.

Leaduma, the Laibon ritual curer.—In addition to treatments for natural illnesses, Samburu share with the Maasai beliefs in the ability of *laibon* ritual curers to treat afflictions believed to be caused by sorcery. *Laibons* (*ol-oiboni*; *il-oibonok* in Maasai), from the verb *a-ibon*, "predict" or "prophesize") are male diviners, healers, and prophets descended from certain Maasai families. In the past they took the role of war leaders during the internecine Maasai wars of the 19th century (Berntsen 1979; Fratkin 1979). *Laibons* are said to inherit a mystical ability to "see" past, present, or future events hidden to ordinary people, achieved either in dreams or by the use of divination objects known as the *nkidong* (from "container," usually a gourd or cow's horn from which the divination objects are thrown). In addition to their ability to divine, *laibons* possess the ability to manufacture mystically powerful medicines (*entasim*; *intasimi* in Maasai; *ntasim*, *ntasimi* in Samburu) that, when worn as amulets, protect individuals and their livestock from dangers of human enemies, wild animals, or supernatural attacks (see Figure 4). *Laibons* are also suspected of preparing sorcery poisons which they sell secretly to clients. As I have described their ritual behavior in detail elsewhere (Fratkin 1991b), let me describe briefly their role in maintaining health in the Samburu community.



FIGURE 4: The *laibon* Leaduma applies *ntasim* medicine to warrior's forehead.

Lekati Leaduma was a *laibon* from Lorokushu clan of Samburu who practiced among Samburu and Ariaal Rendille until his death in 1987. Leaduma treated a variety of problems including human infertility, livestock losses, and unusual illnesses. He also offered *ntasim* protective medicines to warriors at their age-set rituals and when preparing for raids. Once during my stay with him, he dreamed of a measles epidemic sweeping through the country, and he instructed the two hundred and fifty residents of the village to come to his house to receive ritual protection in the form of tying a string dipped in *ntasim* medicines about their torsos.

In one particular treatment I witnessed during a drought period (February 1976), a family asked Leaduma to treat their daughter of about ten years who had been listless, uncommunicative, and refused to eat. Previously, the herbalist Lemeriwias had proclaimed that the girl was suffering from measles. The pox had not broken out on the skin, his purgative treatments were not effective, and the girl's condition worsened.

In a public performance outside the women's house (some divinations are private, particularly those where families wish to protect secrets from neighbors), the *laibon* performed a divination by throwing "stones" consisting of seeds, marbles, and metal pieces from a gourd. This revealed that the family of the girl had been ensorcelled long ago. Initially the mother had threatened the girl both verbally and physically for not eating; now she moved a protective arm around her daughter's shoulders, as the problem was revealed to belong to all the family and not to the girl alone. Leaduma prepared a yellow *ntasim* powder which he

marked on the forehead and the tongue of each family member. Within a few days, the girl had recovered, showing both a lively disposition and a healthy appetite.

The *laibon's* curative procedure resemble those of other African traditional healers, such as the Ndembu doctor of Zambia described by Victor Turner (1967). The curative ceremony becomes a ritualized "family therapy" where tensions are revealed and blame is shifted outside the immediate group to the sorcerous acts of unnamed individuals (often thought to be jealous family or neighbors). Unlike herbal cures, the efficacy of the *ntasim* medicines is not based on observable physiological change, but on the belief in their power.

SUMMARY AND DISCUSSION

Samburu attribute many illnesses to spiritual or physical pollution leading to internal blockage and congestion that impedes digestion and blood circulation. Treatment of many common illnesses, including stomach aches, fevers, snakebites, and arthritis, is aimed at relieving this suspected blockage by having the patient consume purging soups and teas prepared from the roots, bark, and leaves of over 120 trees and shrubs. Many of these cures do cause vomiting and diarrhea, but others are effective in drying wounds, treating burns, and combating infection. Healing specialists, including herbalists, midwives, and bone-setters, are called upon to treat "naturalistic" infectious diseases, parasites, wounds, and fractures. Samburu also believe that certain illnesses are supernaturally caused, including problems of mental illness, infertility, or unusual accidents caused by floods, fire, or attacks by wild animals. These misfortunes are most often attributed to sorcery, and are treated by the *ntasim* medicines of *loibon* ritual diviners and healers.

There are several points that emerge in a discussion of Samburu medicine:

1) Samburu have an extensive practical knowledge of illnesses and possess a large pharmacopoeia to treat them. Samburu concepts of illness, particularly views about digestion and blood circulation, are based in large part on their familiarity with raising and butchering livestock. In addition, Samburu have a practical knowledge about the vegetal resources of their pastoral environment, including riverine, montane, and desert species of plants.

Many of the plants used in Samburu medicine have direct effects as emetics or purgatives, and many contain a variety of poisonous or irritating substances that cause vomiting or diarrhea. Samburu take these medicines to "clean" the body of impure elements, as they believe that many illnesses are caused by polluting substances that block digestion and the circulation of blood.

2) Although much of Samburu medicine is based on a practical knowledge of anatomy and plant behavior, it would be wrong to imply that Samburu healing is simply empirical or pragmatic and thus categorically distinct from religious beliefs and ritual practices. Although many of their healing techniques have visible effects, Samburu healing is predicated on the belief that many illnesses—including those brought about "by God alone" or due to the immoral actions of sorcerers—lead to internal pollution and decay, a belief that is ultimately spiritual.

3) Although Samburu traditional medicine shares features with other African societies, there are several distinctions between the beliefs and practices of Nilotic-speaking pastoralists and Bantu-speaking agriculturalists, with some borrowing

between these two large traditions. Nilotic pastoralists including Samburu do not have strong beliefs in ancestor spirits, unlike Bantu-speakers who share the *ngoma* healing tradition described by Janzen (1992). Many pastoral groups have strong beliefs in divination and prophecy, as among Nilotic Maasai (Berntsen 1979), Atuat and Nuer (Burton 1991), Samburu (Fratkin 1991b), Turkana (Lamphear 1992), and the Cushitic-speaking Boran and Somali (Dahl 1989, Lewis 1966).

Samburu believe in sorcery activities of human enemies, but this feature may be more widespread among Bantu farmers than Nilotic herders. Edgerton (1966) found that where Bantu-speaking Kamba and Hehe attributed most mental illness to sorcery, the Nilotic-speaking Pokot and Sebei very rarely did so, attributing mental disturbances to "God alone" or natural causes. Moreover, where the Bantu-speakers had elaborate treatments for insanity through ritual curing, the Nilotes rarely attempted treatment and were more likely to kill the person if he/she became violent.

Samburu and Maasai, with their unique (for Nilotes) institution of the *laibon* diviner-healers are an exception to this, perhaps because of their adoption of the prophet-diviner-sorcerer tradition from neighboring Kikuyu and Meru who are Bantu-speaking agriculturalists (Berntsen 1979). Maasai and Samburu thus represent an important fusion of Nilotic and Bantu, as well as Cushitic, healing traditions.

4) Social and economic changes influence Samburu medical beliefs and practices, particularly as Western values and medical knowledge filter into local groups via schools, commerce, and health services. Today, Samburu attribute malaria to mosquitos and measles to human contagion, but it is not certain they did so two generations ago. There also exist syncretic borrowing between the two traditions, where for example Samburu readily seek injections as more powerful than pills because the medicine goes directly into the body (and presumably the blood) where, one believes, it can effectively break apart internal congestions.

Samburu medicine is highly pluralistic. It is not unusual to simultaneously consult different types of healing specialists including herbalists, *laibons*, and Western health clinics. When vaccination teams from the African Inland Church came to the *laibon* Leaduma's settlement, he encouraged all mothers to bring their children and assisted the nurses by lining up people. However, determining the cause of an illness is essential to treating it, and several Samburu have remarked that if an illness is due to sorcery, only a *laibon's ntasim* will save that person.

Western health care workers periodically complain about the widespread use of herbal medicines among Africans, showing particular concern about dehydration and possibly mortality resulting from the strong purgatives. Clinicians complain that herbal dosages are not regulated, and that people suffering from serious medical problems who first attempt herbal cures delay coming to the clinics until it is too late to save them. Certainly the description of Lemeriwias' treatment for *ng'ony* blood congestion could be interpreted this way.

However, because local healers are the first line of treatment for many rural people, Western health care providers would do well to work more closely with them. This is happening to some degree in northern Kenya where health personnel distribute sterilized razors to male circumcisers and to midwives in attempts to combat the spread of AIDS. Hopefully, this paper will be of use to health care

providers in rural Africa who are attempting to integrate African and Western medical knowledge.

ACKNOWLEDGEMENTS

Data about Samburu healing was collected during fieldwork in Marsabit and Samburu Districts, northern Kenya in 1974-1976, 1985, 1990, and 1992. Spelling of Maa words is based on Mol (1978), and of Samburu plants on Heine *et al.* (1988). I am grateful to the Office of the President, Republic of Kenya and to the Institute of African Studies, University of Nairobi for their assistance with the research. I extend my appreciation to Samburu healers Lekati Leaduma, Lemeriwias Masala, and the midwife Lenguye; to John G. Galaty, Bernd Heine, H. Jurgen Schwartz, and Paul Spencer for sharing their plant identifications from Maasai and Samburu; and to medical practitioners Martha A. Nathan M.D., David Wiseman M.D., Joan Harris R.N., and Frances and Jane Omare for discussions about Samburu and Rendille health problems.

A version of this paper was presented at the 17th Annual Meeting of the Society for Ethnobiology in Victoria, British Columbia, on March 18, 1994. Thanks to John G. Galaty, Timothy Johns, Corinne Kratz, Martha A. Nathan, Deborah Pearsall, Nancy Turner, and the anonymous reviewers at the *Journal of Ethnobiology* for their comments about the manuscript, to Donald Joralemon, Phoebe Ann Porter, and Christiana Metral for the abstract translations, and to Heidi Bakken, Jennifer Love, and Diane Snyder for their assistance in its preparation. Funding for the research was provided by the University of London (1974), the Smithsonian Institution (1975), the National Geographic Society (1985), the Social Science Research Council (1985), the Mellon Foundation (1990, 1992), and the Pennsylvania State University (1990).

LITERATURE CITED

- ARHEM, KAJ. 1989. Why trees are medicine: Aspects of Maasai cosmology. Pp. 75-84 in *Culture, Experience, and Pluralism: Essays on African Ideas of Illness and Healing*. A. Jacobson-Widding and David Westerlund (editors). Uppsala Studies in Cultural Anthropology 13. Almqvist and Wiksell International, Stockholm.
- BERNTSEN, JOHN. 1979. Pastoralism, Raiding, and Prophets: Masailand in the 19th Century. Unpublished Ph.D. Dissertation, University of Wisconsin.
- BURTON, JOHN W. 1991. Nilotic cosmology and the divination of Atuot Philosoohpy. Pp. 41-52 in *African Divination Systems*. P.M. Peek (editor). Indiana University Press, Bloomington.
- DAHL, GUDRUN. 1989. Possession as Cure: The Ayaana cult among the Waso Boran. Pp. 151-165 in *Culture, Experience, and Pluralism: Essays on African Ideas of Illness and Healing*. A. Jacobson-Widding and David Westerlund (editors). Uppsala Studies in Cultural Anthropology 13. Almqvist and Wiksell International, Stockholm.
- EDGERTON, R. B. 1966. Conceptions of Psychosis in Four East African Societies. *American Anthropologist* 68:408-425.
- FOSTER, G. M. 1976. Disease etiologies in non-Western medical systems. *American Anthropologist* 78:773-782.
- FRATKIN, ELLIOT 1975. Herbal Medicine and Concepts of Disease in Samburu. Institute of African Studies, Seminar Paper No. 65. University of Nairobi.
- FRATKIN, ELLIOT 1979. A comparison of the role of prophets in Samburu and Maasai warfare. Pp. 54-65 in *Warfare among East African Herders*. K. Fukui and D. Turton (editors). Senri Museum of Ethnology, Osaka.
- FRATKIN, ELLIOT 1986. Stability and resilience in East African pastoralism: The Ariaal and Rendille of northern Kenya. *Human Ecology* 14:269-286.
- FRATKIN, ELLIOT 1991a. *Surviving Drought and Development: Ariaal Pastoralists of Kenya*. Westview Press,

- Boulder, Colorado.
- FRATKIN, ELLIOT 1991b. The loibon as Sorcerer: A Samburu loibon among the Ariaal Rendille, 1973-1987. *Africa* 61:318-333.
- FRATKIN, ELLIOT and E. A. ROTH 1990. Drought and economic differentiation among Ariaal pastoralists of Kenya. *Human Ecology* 18:385-402.
- FRATKIN, ELLIOT and K. SMITH 1994. The Organization of Pastoral Production. Pp. 91-112 in *African Pastoralist Systems: An Integrated Approach*. Elliot Fratkin, K. Galvin, and E. A. Roth (editors). Lynne Rienner Publishers, Boulder, Colorado.
- FRATKIN, ELLIOT and K. SMITH 1995. Women's Changing Economic Roles with Pastoral Sedentarization: Varying Strategies in Four Rendille Communities. *Human Ecology* 23:433-454.
- GALATY, JOHN G. 1979. Pollution and pastoral antipraxis: The issue of Maasai inequality. *American Ethnologist* 6:803-816.
- GALATY, JOHN G. 1982. Being "Maasai"; Being "People-of-the-Cattle": Ethnic shifters in East Africa. *American Ethnologist* 9:1-20.
- GALVIN, K. A., D. L. COPPOCK, and P. W. LESLIE. 1994. Diet, Nutrition, and the Pastoral Strategy. Pp. in *African Pastoralist Systems: An Integrated Approach*. Elliot Fratkin, K. Galvin, and E. A. Roth (editors). Lynne Rienner Publishers, Boulder, Colorado.
- HEINE, B., I. HEINE, and CHRISTA KONIG. 1988. Plant Concepts and Plant Use. Part V: Plants of the Samburu (Kenya). Verlag Breitenbach Publishers, Saarbrücken.
- HOLLIS, A. C. 1905. *The Masai: Their Language and Folklore*. Clarendon Press, Oxford.
- HURSKAINEN, ARVI. 1989. The epidemiological aspect of spirit possession among the Maasai of Tanzania. Pp. 139-150 in *Culture, Experience, and Pluralism: Essays on African Ideas of Illness and Healing*. A. Jacobson-Widding and David Westerland (editors). Uppsala Studies in Cultural Anthropology 13. Almqvist and Wiksell International, Stockholm.
- JANZEN, J. M. 1992. Ngoma: Discourses of Healing in Central and Southern Africa. University of California Press, Berkeley.
- KRATZ, CORINNE. 1980. Are the Okiek really Maasai? or Kipsigis? or Kikuyu? *Cahiers d'Etudes Africaines* 79:355-368.
- LEWIS, I. M. 1966. Spirit possession and deprivation cults. *Man* 1:307-329.
- MERKER, M. 1910. *Die Masai*, 2nd edition. Dietrich Reimer, Berlin.
- MOL, F. 1978. *Maa: A Dictionary of the Maasai Language and Folklore English-Maasai*. Marketing and Publishing, Nairobi.
- NATHAN, M. A., E. FRATKIN, and E. A. Roth. 1996. Sedentism and child health among Rendille pastoralists of northern Kenya. *Social Science and Medicine*. In Press.
- SOBANIA, N. 1988. Pastoralist migration and colonial policy: A case study from northern Kenya. Pp. in *The Ecology of Survival: Case Studies from N. E. African History*. D. Johnson and D. Anderson (editors). Crook Greene, London, and Westview Press, Boulder, Colorado.
- SPEAR, T. and R. WALLER (editors). 1993. *Being Maasai*. James Curry, London.
- SPENCER, P. 1959. Samburu notions of health and disease and their relationship to inner cleanliness. Paper delivered to the Symposium on Attitudes to Health and Disease, East African Institute of Social Research, Makerere University, Kampala Uganda.
- SPENCER, P. 1965. *The Samburu: A Study of Gerontocracy in a Nomadic Tribe*. University of California Press, Berkeley.
- SPENCER, P. 1973. *Nomads in Alliance*. Oxford University Press, London.
- SPENCER, P. 1988. *The Maasai of Matapato*. Indiana University Press, Bloomington.
- SPENCER, P. 1991. The Loonkidongi prophets and the Maasai: Protection racket or incipient state? *Africa* 61:334-342.
- TAYLOR, C. C. 1992. Milk, Honey, and Money: Changing Concepts in Rwandan Healing. Smithsonian Institution Press, Washington D.C.
- THOMSON, JOSEPH. 1885. *Through Masailand*. Frank Cass, London. Reprinted 1968.
- TURNER, VICTOR W. 1967. *The Forest of Symbols: Aspects of Ndembu Ritual*.