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Research Article

A survey of the applications and use of ethnomedicinal plants and plant products for healthcare from the *Ukambani* region in Eastern Kenya

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Abstract

The *Akamba* people of Kenya have a long history of ethnobotany, dating back to the pre-colonial era. Building on the *Akamba's* historical businesses involving the trade of various plants and plant products called '*Miti*,' literally meaning plants, the *Miti* are used in primary healthcare systems. Overall, the *Miti* lack proper documentation. Thus, the primary purpose of this paper is to record and classify the plants used by the *Akamba*. Non-alienating, dialogic, participatory action research (PAR) and participatory rural appraisal (PRA) approaches wereused to survery 25 women and men between the ages of 50 and 86 years old. Results indicated 200 useful medicinal plant species from 58 families, while their application methods for a wide range of ill-health conditions affecting humans, cattle and poultry were also documented. The recorded medicial conditions ranged from those that manifest clinically to those that are cultural, spiritual and psychological in nature. Management of many chronic and complicated ill-health conditions showed that the *Kamba* ethnomedical system may practically be comparable to that of conventional medicine, particularly following an in-depth scientific studies.

Key words: Ethnobotanical knowledge, *Akamba* people, Ethnonomedicines, Plant products, Eastern Kenya, *Ukambani* region.

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INTRODUCTION

Ethnoknowledge of health for humans, animals, plants and environment has come a long way and remains the foundation and very important resource for conventional medicine practitionersin world communities, including the *Akamba* of Eastern Kenya (Le Strange 1977). Ever since pre-historic times, practicalethnobotanical knowledge for prevention, control and management of many aspects of ill-health conditions affected livelihoods within the framework of cultural lifestyles. As livelihoods evolved in time and space towards the present, the ethnoknowledge of health also evolved to meet the ever-increasing demands in current health industry. Therefore, how traditional knowledge has assimilated into the present day healthcare systems warrants a significance for further study.. Unfortunately, recognition, use and valuable additions of traditional medicincal knowledge using plant-based medicines has received sporadic resistance worldwide, interferring with its application and use in many respects by modern societies. Ever since the arrival of missionaries and the beginning of colonialism worldwide, traditional, ethnobotanical knowledge has been politically blackmailed, majorly by christian faith, in many parts of the world and labelled it, *satanic*, *unhygienic*, *witchcraft*, *backwardness*, *cultural*, *idolism* and *devilish* without proof and substantiating the claim; thus facilitating and fueling its wholesome rejection by succeeding generations (Wanzala *et al*. 2012). For instance, in Kenya, colonial masters developed laws in the constitutionlike The Witchcraft Act, 1925, which barred citizens from the application and use of traditional medicines for their healthcare practices, but it was revoked following independence in 1963 (Sidinga *et al*. 1990). This is indeed a self-evident strategic mechanism by which a considerable amount of ethnohealth knowledge has become extinct without its documentation to provide leads to the discovery of new and useful information and/or molecules in medical industry from which humanity can benefit (WHO 1996).

Documentation, scientific evaluation and subsequent application of useful plants and plant products, animals and animal products, microorganisms and their products, soils and their products, as used in different cultural lifestyles worldwide, is an important boost of a less costly provision of primary healthcare to livelihoods. In many communities worldwide, documentation of this kind of knowledge has not been done exhaustively; therefore, remaining largely unknown and as a result, this knowledge is threatened due to limitations of people's memory and passing onto future generations with errors, purely by word of mouth (Cunningham 1993, Kokwaro 1993, WHO 1996, Wanzala *et al*. 2012). In this study, we present a comprehensive documentation of plants and plant products as used by *Akamba* people in eastern Kenya to relief ill-health conditions in humans, livestock and poultry as a way of boosting the conventionally structured primary healthcare system by the Ministry of Health, Government of Kenya. We hypothesized these ethnoproducts and ethnopractices may be systematically selected for an in-depth scientific studies to explain the underlying science and provide value addition in order to remove stigmatization associated with them when used in an unrefined and unprocessed format.

Methods

Prior to starting the project, an informed consent was sought from the individual key respondents through meetings and discussions held with village elders and the local administration, which represents the office of the president, Government of Kenya.

The Kamba Community and its Geographical Location

The Kamba community is the third largest Bantu-speaking tribe in Kenya with a population of 4.1 million people. Also calling themselves *Kamba* and/or *Wakamba*, they speak Bantu, *Kikamba* language as a mother tongue dialect and freely combine business activities, arable farming and livestock life forms for their socio-economic survival. In particular, their businesses involved trade in various parts of numerous medicinal plant products called, '*Miti*' (literally meaning plants) for use in primary healthcare systems. The community is majorly found in Makueni, Kitui and Machakos Counties in eastern Kenya, with a small proportion of the community found living in Kwale County at the southern coastal region, well integrated into the cultural, economic, social and political life of the original communities (Figure 1). The altitude of the

location of the *Akamba* people range from about 440 m asl in the east to about 2, 100 m asl in the west with increasing temperatures and decreasing moisture, from 1, 270 to 381 mm average annual rainfall from west to east (Ojany & Ogendo 1973, Owako 1971, Porter 1965). The Kamba community occupies an area covering 45, 000 square kilometers with one-fifth of Kitui County, an area covering some 6, 300 square kilometers lying within Tsavo National Park.

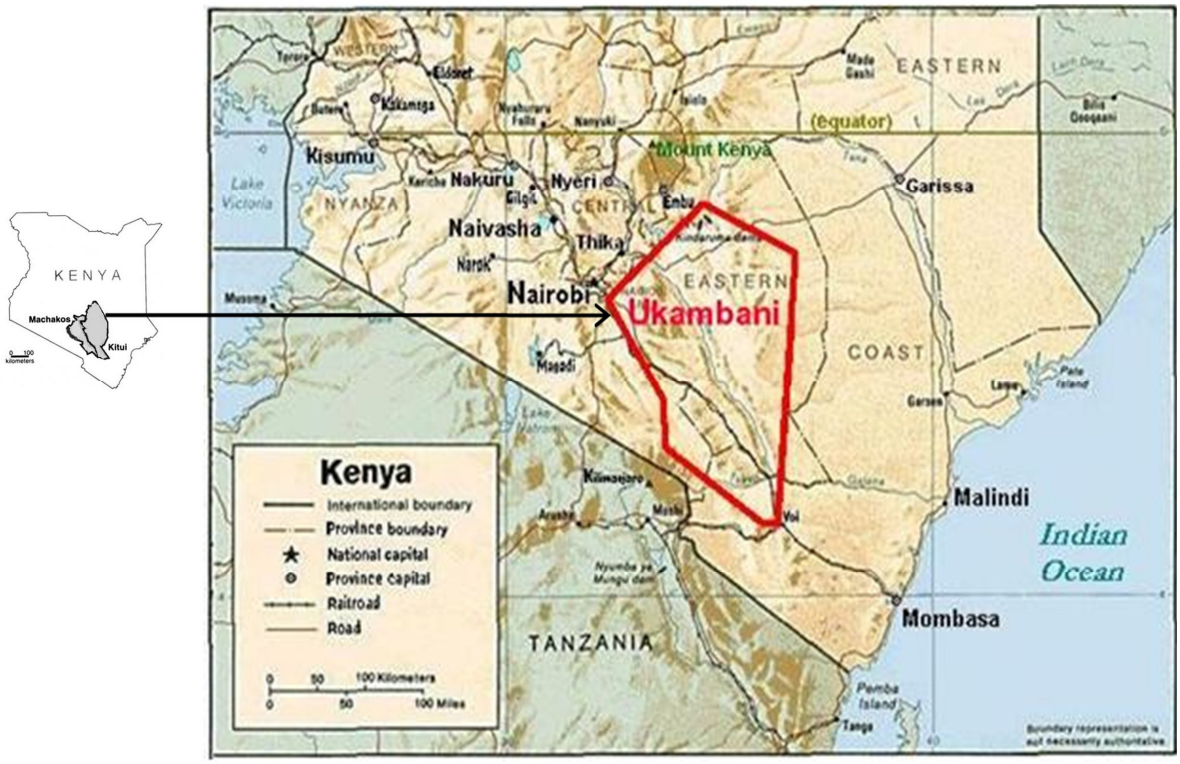

Figure 1. Map of Kenya showing the location of the study site, the *Ukambani* region. Source adapted from The World Federation, an NGO in Special Consultative Status with the Economic and Social Council (ECOSOC) of the United Nations: http://www2.world federation.org/Relief+and+Economic+Development/Articles/BMMK_ appeals_famine_relief_drought_Ukambani.htm

Vegetation of *Ukambani* Area

The dominant vegetation is commonly dry bush with trees (mainly *Acacia/ Commiphora*), and, in the higher areas, savanna with scattered trees (mainly *Acacia*) (Ominde 1968). The once forested hills, particularly their tops, have been deforested over time to pave way for arable farming (Harroy 1949, Owako 1971, Silberfein 1984), leaving patches and corridors of forest along ranges, rivers, ravines, and hilltops, as well as dry forest in large expanses of grazing land. Characteristic vegetation at the higher altitudes (above 1, 700 m asl) includes remnant evergreen forest (*Podocarpus* spp.) and bracken, mist forest, and evergreen thicket clumps in grassland. Elevations at 1, 200 - 1, 700 m asl are dominated by *Combretum* species, with particular plant associations correlated with topography and moisture. The most widespread vegetation type in *Ukambani*, and especially in Kitui, is semi-arid deciduous thicket and bushland, particularly *Acacia/Commiphora* associations in the 8001 - 200 m asl elevation range. In the dry areas below 900 m asl, *Commiphora*/*Sanseveria* thorn bush grades into semi-desert vegetation (Ojany & Ogendo 1973, Owako 1971).

The forest zone is now largely under cultivation, with shrubby secondary growth dominating non-cultivated areas. The soils characteristics of the moist *Combretum* areas are fairly productive for agriculture, but the dry *Combretum* zones have sandy soils of limited fertility. The *Acacia /Commiphora* zone includes perennial grasses valued for grazing, but even in these areas, forest and shrubland are increasingly being converted to cropland, thereby affecting resources for wild medicinal products.

Sources for Information on Ethnobotanical Knowledge of Health

The survey into ethnobotanical knowledge of health of the *Akamba* people in eastern Kenya used mainly participatory action research (PAR) and participatory rural appraisal (PRA) approaches involving 25 women and men of mixed ages, ranging between 50 and 86 years old (Wanzala *et al*., 2012). These people comprised a purposive sample of key respondents who were identified through a number of sources, including the local administration in the office of the President, the Government of Kenya (GOK), village elders and the church leaders. The key respondents were local/indigenous experts or people in the study area of *Ukambani* with profound ethnoknowledge of particular ethnoissues, ethnoinnovation or ethnotechnology of interest (in this case, ethnobotanical knowledge of health). Typically, these are people with a more profound and extensive understanding of local ethno-social and -cultural systems of livelihood than any other persons in the community (McCorkle *et al*. 1997). A purposive sample referred to a particular subset of knowledgeable people in the area of ethnobotanical knowledge of health (Oakley 1981). Intensive and extensive collaboration and interaction with these key respondents was considered to be an efficient and effective research strategy (Warry 1992, Martin 1996, Cotton 1996). A random sample would not have been appropriate for this type of socio-cultural set-up, as not everyone sampled randomly may have the required ethnoknowledge of health (McCorkle *et al*. 1997).

Field and Herbarium Sampling of Plant Specimens

After holding a personal interview with the selected key respondents, a field trip was arranged and conducted to identify and collect the listed plant specimens and/or ethnobotanical products. The plant specimens were harvested, prepared, packaged and stored while being tagged with a code number according to the herbarium rules and regulations until transported to the Herbarium of the Catholic University of Eastern Africa, Nairobi, Kenya for botanical identification using voucher specimens and according to the Hutchinson system of plant taxonomy based on the plants' probable phylogeny (Table 1). For each plant species collected from the field, a voucher specimen was prepared and doposited in the herbarium of the university with the assistance from botany technologists and the plant systematics and taxonomic lecturer, Dr. Bethwell Onyango Awuor.

Focus-group Discussions

The focus-group discussions with all stakeholders were held in the study area (Figure 1). In each focus-group discussion, a leading key respondent was selected by members to chair all the discussion sessions and provide leadership towards building consensus on conflicting issues. A focus-group discussion was an exploratory discussion designed to obtain perceptions on a specific theme from a target group in a non-threatening environment (Oakley 1981, McCorkle *et al*. 1997), in this case, ethnobotanical knowledge of health of *Ukambani*. This kind of group interaction produced data and insights that would have otherwise been less accessible (Warry 1992). The interaction between all the stakeholders formed the collaborative and non-alienating, dialogic, participatory action research (PAR) and participatory rural appraisal (PRA) approaches utilized to build a consensus and verify that the information from other interviewees was accurately recorded (Martin 1996). The group interaction also minimized the objectification of the respondents as the only source of data (Cotton 1996). One purpose of this form of collaborative research was to shift decision making based on theoretical knowledge to the community, rather than conceding this role to the conventionally trained experts (Cunningham 2001).

Enumeration of Documented Plants and Plant Products with their Corresponding Ill-health Conditions

An extensive list of plants and plant products used as sources of ethnobotanicals, including their scientific and vernacular names, family names and other information about their usage was prepared (Table 1). The plants were arranged according to their family names in an alphabetical order. Family taxonomic ranks and/or units are more stable than lower taxonomic levels, such as genera and species, and may facilitate identification of new species particularly during additional field surveys (Sahney & Benton 2008, Sahney *et al*. 2010). Because of the ethnic diversity amongst communities living in

the study area (*Ukambani*), more than one vernacular name may be used to refer to a particular plant species and/or any other related plant species within a given genus or family. Occasionally, two or more different plant species were found to have the same vernacular name depending on their geographical locations, uses, and associated sub-ethnic group(s).

RESULTS AND DISCUSSION

Enumeration of Documented Plants and Plant Products from the Survey Study

A total of 200 plant species (Table 1) distributed in 58 families (Table 2) were identified by the key respondents and documented as being used in *Kamba* community. The Fabaceae was represented by 25 species followed by the Asteraceae with 17 species), Euphorbiaceae with 15 species, Lamiaceae with 13 species, Malvaceae with 9 species), while the Anacardiaceae, Capparaceae, Rutaceae, Solanaceae each were represented by 6 species). The Apocynaceae and Rubiaceae were represented by 5 species), and the remaining plant families were represented by a range from 1 to 4. *Ukambani* is a harsh semi-arid and arid environment, and therefore, a plant family with the highest number of plant species (in this case, Fabaceae family) is a manifestation of how the plant species in this family are comparatively well adapted to this harsh environment compared to the rest (Table 2) (Darkoh 1989).

The key respondents gave a local name and/or names to the identified plants in *Kikamba* dialects, as well as their uses, the specific plant parts used, and how these parts are administered (Table 1). The species with more than one local *Kikamba* name and also those plant species with many local ethnohealth uses and applications could be the plant species, which were probably, initially known to the ancestors of the community and passed on through a series of generations to modern ones, hence, their common applications across the community. In some circumstances, the key respondents were not able to give the local/indigenous *Kikamba* names of 14 plant species (Table 1). The fourteen plant species without the local *Kikamba* names could probably be newly discovered species in the community, and their appropriate names have not been given to them yet. However, further studies are anticipated in the future.

The 200 plant species identified are used in the management and control of a wide range of diseases affecting humans, cattle and poultry Table 1 reveals that almost all the ill-health conditions addressed by the community are those that affect humans, and almost all the ethnobotanical folk therapeautic agents are developed with focus on securing human life (York *et al*. 2011). Categories of ill-health conditions managed by folk therapies range from parasitic , physiological, psychological, bacterial, reproductive, poisonous, viral, immunological, biochemical, fungal, protozoal, zoonotic, anaemic, oral, surgical, dermatological, diarrhoeal, antiseptic, emetic, tachycardial, sexual and dental in origin to those involving home cleansing and ritual purification for holistic wellbeing of livelihoods. These categories are indicators of a complex and advanced ethnic-based ethnomedical system for primary healthcare (Table 1) (Johns *et al*. 1990). This is indeed an indicator of a very rich ethnoknowledge of health of the *Akamba* people, which is worthconducting scientific validation on *best bets* in order to benefit livelihoods beyond the *Kamba* community (Wanzala *et al*. 2005).

In addition to plants with medicinal values, 10 species: *Pupalia lappacea, Ficus ingens, Polygala sphenoptera, Tragia brevipes, Flueggea virosa, Evolvulus alsinoides, Combretum exalatum, Vitex strickeri, Acacia mellifera, Cynodon dactylon*, had socio-cultural values, ranging from anti-witchcraft, good luck, success in businesses, promotion at place of work, good relations in the society/love affairs as well as winning court cases etc, were also documented. This further explains the complexicity and the deeply rooted interdependent relationship between the livelihood of the community and that of the plant species in the neighbourhood as the two appear to evolve along side each other in the society (Cunningham 2001). If the *Akamba* people traded plant species, their ethnobotanical lifestyle can therefore help explain why they were successful long-distance traders, acting as links between the businesses at the coastal region and persons living inland Kenya (Ambler 1988).

Table 1. An enumeration of the documented plants and plant products used for the management of ill-health conditions amongst the *Kamba* people in eastern Kenya (n = 200).

S/No.	Botanical name and herbarium voucher specimen number[]	Plant family	Local *Kikamba* name(s)	Ill-health condition(s) for which plant(s) and plant product(s) are used	Description of the application and use of plant(s) and plant product(s)
001	*Barleria eranthemoides* R. Br. Ex C. B. Clarke [CUEA/UK-MC/KT/MK/03-2012/ 019]	Acanthaceae	*Thangila, Uthangila*	Hypochondriasis (a psychosomatic condition) and splenomegaly conditions.	Whole plant is burnt in a pot or saucepan (*sufuria*), crushed into fine powder and licked 2-3 times a day for splenomegaly and hypochondriasis, a psychosomatic condition. In case of splenomegaly the powder is made and applied on to cuts made with a razor blade on the left hand side of the abdomen.
002	*Dyschoriste depressa* Nees [CUEA/UK-MC/KT/MK/03-2012/ 003]	Acanthaceae	*Mututi, Ututi*	Oral thrush and hypochondriasis (a psychosomatic condition).	Roots burnt, crushed into a fine powder and licked for oral thrush and hypochondriasis (a psychosomatic condition).
003	*Thunbergia alata* Bojer ex Sims [CUEA/UK-MC/KT/MK/03-2012/ 010]	Acanthaceae	*Kaungu*	Sore throat.	Root chewed and swallowed for sore throat.
004	*Actinopteris semiflabellata* Pic. Serm. [CUEA/UK-MC/KT/MK/06-2012/ 001]	Pteridaceae	*Mwii wa ivia*	Infertility in women, amenorrhea, menorrhagia, depressed fontanelle (dehydration) and miscarriage.	Whole plant is crushed, soaked in water and an infusion made and drunk for infertility in women, amenorrhea, menorrhagia, depressed fontanelle (dehydration) and

					miscarriage. Local dosage: 1 glass three times a day.
005	*Allium cepa* L. [CUEA/UK-MC/KT/MK/04-2012/ 004]	Amaryllidaceae	-	Tetanus or snake bite	Leaves or root tubers are pounded and sap produced is applied for tetanus or snake bite.
006	*Aloe secundiflora* Engl. [CUEA/UK-MC/KT/MK/06-2012/ 008]	Xanthorrhoeaceae	*Kiluma*	Pneumonia, abscesses, malaria, hepatomegally, diarrhea, nailbed (cellulitis), oedema and convulsions, and high fever.	Leaf sap is squeezed into a glass of water and drunk for pneumonia. The leaf is used as a poultice onto the affected part. Leaf infusion is drunk for abscesses, malaria, hepatomegally, and diiarrhea. Leaves roasted on fire and used as a poultice in case of pneumonia and nailbed (cellulitis). Leaves are also crushed, boiled and decoction drunk for oedema and convulsions/high fever. Leaves are also heated on fire and used as a poultice for oedema and convulsions. Leaf decoction is orally administered to livestock and poultry for diarrhea.
007	*Aloe turkanensis* Christian [CUEA/UK-MC/KT/MK/08-2012/ 006]	Xanthorrhoeaceae	*Kiluma*	Pneumonia and nailbed (cellulitis).	Leaves are roasted on fire and used as a poultice in case of pneumonia and nailbed (cellulitis).
008	*Achyranthes aspera* L. [CUEA/UK-MC/KT/MK/03-2011/ 009]	Amaranthaceae	*Uthekethe munini*	Splenomegaly and hypochondriasis	Stem or roots are burnt, mixed with sodium carbonate (magadi soda), crushed into powder and licked for splenomegaly. A tea

					spoonful of the powder is put in porridge, stirred and drunk for two times a day for the same condition. A razor blade is used to make slight cuts on the left hand side of the abdomen (spleen site) and the powder applied on to the cuts. Stem and leaves are burnt and the powder licked for hypochondriasis.
009	*Celosia schweinfurthiana* Schinz [CUEA/UK-MC/KT/MK/03-2011/ 007]	Amaranthaceae	*Vuya*	Vermifuge	Whole plant is crushed, soaked in water and an infusion is used as a vermifuge in human and livestock.
010	*Pupalia lappacea* (L.) Juss. [CUEA/UK-MC/KT/MK/03-2011/ 002]	Amaranthaceae	*Kiaamata, Ikwata*	Bring good luck or victory in individual life, business affairs and social relationships. It is locally used as an ingredient of "love potion."	Inflorescence bristles are used to scratch tongue 2-3 times, after which powder is made from the roots of the same plant and applied on to the scratched tongue. Application of the powder is believed to bring good luck or victory in individual's life, wining court cases, business affairs and social relationships. It is locally used as an ingredient of "love potion." Powder made from parts of other plants (e.g. *Evolvulus alsinoides* and *Vitex strickeri*) are used for the same conditions and is always applied after the scratches are made on the tongue

					using bristles of *Pupalia lappacea*. Powder made from any part of this plant is mixed with honey and the lotion applied as anti-witchcraft onto cuts made with a razor blade at body joints and the rear and fore parts of the head. Root decoction drunk for malaria.
011	*Lannea schimperi* (Hochst. Ex A. Rich.) Engl. [CUEA/UK-MC/KT/MK/03-2011/ 005]	Anacardiaceae	*Muusya, Kiusya*	Diarrhoea and amoebic dysentery and for hiccups.	Terminal leaves (buds) mixed with *Cissus aphyllantha* (root, tuber), crushed, soaked in water and concoction drunk for diarrhea and amoebic dysentery. Leaves chewed and sap swallowed for hiccup (*singultus*).
012	*Lannea schweinfurthii* (Engl.) Engl. [CUEA/UK-MC/KT/MK/03-2011/ 011]	Anacardiaceae	*Kyuasi, Muasi*	Anaemia, gonorrhea, snake bite, diarrhea and for high blood pressure.	Bark boiled and decoction drunk for anaemia and diarrhea. Terminal leaves are used as emetic in case of snake bite. They are soaked in water and the infusion drunk. The patient is expected to vomit violently to let out the venom. Bark plus that of *Plectranthus comosus* (roots) and *Solanum incanum* (roots) crushed, soaked in water and the concoction drunk for diarrhea. Bark plus that of *Sclerocarya birrea* and *Commiphora baluensis* boiled and decoction drunk 3 times a day for high blood pressure.

013	*Lannea triphylla* (Hochst. Ex A. Rich.) Engl. [CUEA/UK-MC/KT/MK/03-2011/ 015]	Anacardiaceae	*Muthaalwa, Kithaalwa*	Cough and chest pains.	String from the bark chewed and sap swallowed for cough and chest pains.
014	*Mangifera indica* L. [CUEA/UK-MC/KT/MK/03-2011/ 012]	Anacardiaceae	*Muembe, Kiembe*	Malaria, stomachache and amoebic dysentery.	Leaves boiled and decoction drunk for malaria. An infusion of the leaves is drunk for stomachache. Leaves plus *Hydnora abyssinica* (whole plant) are crushed, soaked in water and an infusion drunk for amoebic dysentery.
015	*Rhus natalensis* Bernh. [CUEA/UK-MC/KT/MK/03-2011/ 014]	Anacardiaceae	*Mutheu, Kitheu*	Stomach problems.	Leaves crushed, soaked in water and an infusion drunk for stomach problems.
016	*Sclerocarya birrea* (A. Rich.) Hochst. [CUEA/UK-MC/KT/MK/03-2011/ 013]	Anacardiaceae	*Muua, Kiua*	Menorrhagia, high blood pressure and mumps.	Bark plus that of *Commiphora baluensis* and *Lannea schweinfurthii* are boiled and the concoction made is drunk for menorrhagia and high blood pressure. Psychosomatically, the tree is believed to treat mumps. Patient ties pieces of broken calbash or gourd ("*isengula*") onto the ears. Then dances around the tree 7 times with spells and incantations and leaves for home immediately without turning or looking backwards. Recovery is expected in 3-4 days.
017	*Uvaria scheffleri* Diels [CUEA/UK-	Annonaceae	*Mukukuma*	Cough, tuberculosis, asthma and sore	Roots are crushed, boiled and decoction made and drunk 2

	MC/KT/MK/03-2011/ 020]			throat.	times a day for cough, tuberculosis and asthma. Roots may also be dried, pounded and powder put in soup anf drunk for the same conditions. Root decoction mixed with some honey and drunk for sore throat.
018	*Acokanthera schimperi* (A. DC.) Benth. & Hook. F. [CUEA/UK-MC/KT/MK/03-2011/ 016]	Apocynaceae	*Muvai, Kivai*	Arrow poison and heals chronic wounds.	Roots boiled overnight to remove poison. They are dried in sun, burnt and ash applied onto chronic wounds. Roots are crushed, soaked in water and boiled for 3-4 hrs; evaporated and the remaining syrup applied on arrows as arrow poison.
019	*Carissa edulis* (Forssk.) Vahl [CUEA/UK-MC/KT/MK/03-2011/ 017]	Apocynaceae	*Mukawa, Kikawa* (*Bena*)	Malaria and for general body pains.	Roots boiled and decoction drunk for malaria. Root decoction also drunk in soup for general body pains. Local dosage: 1 glass a day.
020	*Calotropis procera* (Aiton) W. T. Aiton [CUEA/UK-MC/KT/MK/03-2011/ 018]	Apocynaceae	*Itulumbu*	Removes pierced splinter from the body.	Milky latex from stem is applied on to the part of body pierced by a splinter. The latex is believed to have a "pulling power", such that within 2-3 days the splinter is exposed to the skin periphery for easy removal.
021	*Edithcolea grandis* N. E. Br. [CUEA/UK-MC/KT/MK/03-2011/ 025]	Apocynaceae	*Kawala*	Ear problems, gonorrhea and oral sores in children "*diarrh*".	Stem is roasted, juice squeezed and dropped into ear. Root decoction is drunk for diarrhea. Plant is

					pounded, soaked in water and an infusion is drunk for oral sores in children "*diarrh*".
022	*Secamone punctulata* Decne. [CUEA/UK-MC/KT/MK/03-2011/ 021]	Apocynaceae	*Mulali*	Used for "*ng'ondu*" during cleansing rites.	Stems or leaves are crushed, soaked in water and an infusion is used as "*ng'ondu*" during cleansing rites.
023	*Asparagus africanus* Lam. [CUEA/UK-MC/KT/MK/08-2011/ 022]	Asparagaceae	-	Applied on boils/abscesses to accelerate bursting, gonorrhea and for menorrhagia.	Leaves mixed with those of *Oxygonum sinuatum* crushed, soaked in little water and a paste is made to be applied on boils/abscesses to accelerate bursting. Leaves dried, crushed into fine powder, put into a glass with warm water and drunk 3 times a day for diarrhea. Stem burnt in a pot, pounded and powder taken in warm water or local beer for menorrhagia. Local dosage: 2 tablespoonfuls a day.
024	*Asparagus flagellaris* (Kunth) Baker [CUEA/UK-MC/KT/MK/08-2011/ 023]	Asparagaceae	*Kauusya, uusya*	Gonorrhea and abscesses (boils).	Leaves are boiled and decoction drunk for gonorrhea. Paste made form leaves applied to abscesses (boils).
025	*Asparagus setaceus* (Kunth) Jessop [CUEA/UK-MC/KT/MK/03-2012/ 024]	Asparagaceae	*Uusya*	Gonorrhea and menorrhagia.	Leaf decoction is drunk for diarrhea. Stem is burnt and its powder stirred in warm water and drunk for menorrhagia.
026	*Kigelia africana* (Lam.) Benth. [CUEA/UK-MC/KT/MK/08-2011/ 030]	Bignoniaceae	-	Diarrhea and oral thrush.	Bark crushed, soaked in water and an infusion is drunk for diarrhea. Dry bark is

					burnt and powder licked for oral thrush.
027	*Adansonia digitata* L. [CUEA/UK-MC/KT/MK/08-2011/ 026]	Malvaceae	*Muamba, Kiamba*	Oral thrush, kidney pains and coughs.	Seeds are burnt, crushed into fine powder and licked for oral thrush and kidney pains. Same powder is applied and rubbed hard onto slight cuts made with a razor blade on the left and right hand side of the abdomen for the same condition. String from the bark is chewed and juice swallowed for cough.
028	*Heliotropium zeylanicum* Lam. [CUEA/UK-MC/KT/MK/08-2011/ 029]	Boraginaceae	-	Boils and abscesses.	Roots boiled and decoction drunk for boils and abscesses.
029	*Trichodesma zeylanicum* (Burm. F.) R. Br. [CUEA/UK-MC/KT/MK/08-2011/ 028]	Boraginaceae	*Mukuutu, Kikuutu*	Oral thrush, ringworms and pneumonia.	Leaves are burnt and powder licked for oral thrush. The powder is mixed with some oil or ghee to make an ointment that is applied onto ringworms. Roots crushed, soaked in water and an infusion is given orally to livestock with pneumonia.
030	*Commiphora africana* (A. Rich.) Engl. [CUEA/UK-MC/KT/MK/08-2011/ 027]	Burseraceae	*Ikuu, Itungu, Kitungu, Mutungu*	Toothache and gum sores.	Milky exudates from unripe fruits are applied for toothache and gum sores.
031	*Commiphora baluensis* Engl. [CUEA/UK-MC/KT/MK/08-2011/ 031]	Burseraceae	*Itula, Mutula*	Peptic ulcers, malaria, oedema, jaundice, rheumatism, arthritis, Newcastle, pneumonia and general body pains.	Bark decoction is drunk for peptic ulcers, malaria, oedema and jaundice. Patient bathes with the decoction and is covered with a blanket to inhale the vapor. Root decoction

					is drunk for rheumatism, arthritis and general body pains. Local dosage: 1cup 3 times a day. An infusion of bark put in a piece of broken pot (‘*kilio*’) and chicken allowed to drink it against diarrhea and pneumonia.
032	*Commiphora habessinica* (O. Berg) Engl. [CUEA/UK-MC/KT/MK/08-2011/ 037]	Burseraceae	*Mutangati, Kitungati*	Old wounds, ringworms and as an antiseptic.	Exudate from the bark is applied as ointment onto old wounds and ringworms. It is also known to be antiseptic.
033	*Commiphora ovalifolia* J. B. Gillett [CUEA/UK-MC/KT/MK/08-2011/ 032]	Burseraceae	*Muny’wa mazi*	Oedema, malaria and nailbed (cellulitis).	Bark mixed with roots of *Salvadora persica* is crushed, boiled and decoction drunk for oedema and malaria. Decoction is bathed with and the patient is covered with a blanket to inhale the vapor. Dry bark is pounded into fine powder; little water is added and stirred to make a paste that is applied in case of nailbed (cellulitis).
034	*Boscia angustifolia* Harv. [CUEA/UK-MC/KT/MK/08-2011/ 033]	Capparaceae	*Mululi, Kiluli*	Oral thrush, jaundice and diarrhea.	Bark is burnt and crushed into powder for oral thrush. Bark decoction is mixed with chicken soup and drunk for jaundice and diarrhea.
035	*Boscia coriacea* Pax [CUEA/UK-MC/KT/MK/08-2011/ 036]	Capparaceae	*Muema nzou, Kisivu, Musivu*	Malaria and general body pains.	Bark boiled and decoction drunk for malaria and general body pains.
036	*Cadaba iarrhea*	Capparaceae	*Muthitu*	Used on eye with	

	Forssk. [CUEA/UK-MC/KT/MK/08-2011/ 034]			conjunctivitis.	Roots crushed, soaked in water, sieved with clean cloth and an infusion dropped in eye with conjunctivitis.
037	*Capparis tomentosa* Lam. [CUEA/UK-MC/KT/MK/08-2011/ 035]	Capparaceae	*Kitanda mboo, mutanda mboo*	Oedema, emetic and purgative.	Roots are boiled and decoction taken for oedema. Root decoction or an infusion is used as emetic and purgative. **NOTE:** This plant has occultic or mystical powers so that only certain professional herbalists make use of it otherwise it can be highly poisonous.
038	*Gynandropsis gynandra* (L.) Briq. [CUEA/UK-MC/KT/MK/08-2011/ 040]	Cleomaceae	*Mwianzo*	Malaria.	Leaves are boiled and decoction drunk for malaria.
039	*Maerua decumbens* (Brongn.) DeWolf [CUEA/UK-MC/KT/MK/08-2011/ 038]	Capparaceae	*Munatha, Kinatha, Muthonoe, Kithonoe*	Gonorrhoea, diarrhea, oedemah, haematuria, general body pains and malaria.	Root decoction is drunk for oedema. Patient is covered to inhale the vapor, some also bathed with it. Root decoction is drunk for diarrhea, haematuria, general body pains and malaria. Root tuber is crushed and infusion drunk for diarrhea.
040	*Maerua kirkii* (Oliv.) F.White [CUEA/UK-MC/KT/MK/08-2011/ 039]	Capparaceae	*Muvombotwe, Kivombotwe, Ivombotwe, Mulavutwa, Kilavutwa*	Malaria, oedema, rheumatism, arthritis, general body pains and chest pains.	Root decoction is drunk for malaria, oedema, rheumatism, arthritis, and general body pains. They are mixed with those of *Salvadora persica* and then crushed, boiled and decoction is drunk for chest pains.

041	*Carica papaya* L. [CUEA/UK-MC/KT/MK/08-2011/ 045]	Caricaceae	*Muvavai, Kivavai*	Gonorrhea.	Roots of male plant are crushed, soaked in water and an infusion is drunk for gonorrhea.
042	*Maytenus putterlickoides* [CUEA/UK-MC/KT/MK/09-2011/ 041]	Celestraceae	*Muthunthi, Kithunthi*	Oedema, diarrhea and general body pains, malaria, hypertensive-like conditions, rheumatism, stomachache and pneumonia.	Root decoction is drunk for oedema and patient is covered with a blanket to inhale the vapor. Root decoction is drunk for diarrhea and general body pains, malaria, hypertensive-like conditions, rheumatism and pneumonia. Leaves are pounded, soaked in water and an infusion is drunk for stomachache.
043	*Combretum collinum* Fresen. [CUEA/UK-MC/KT/MK/09-2011/ 043]	Combretaceae	-	Stomachache.	Root infusion is drunk for stomachache.
044	*Combretum exalatum* Engl. [CUEA/UK-MC/KT/MK/09-2011/ 042]	Combretaceae	*Mukokola*	Cough, tachycardia and improves relationships at work and also luck like promotion.	Roots are burnt and crushed into powder. Licking of powder in the morning improves relationships at work and also luck like promotion. Roots chewed and sap swallowed for cough. An infusion or decoction is taken for tachycardia.
045	*Combretum molle* R. Br. Ex G. Don. [CUEA/UK-MC/KT/MK/09-2011/ 044]	Combretaceae	*Muama, Kiama*	Snakebite.	Root bark is pounded and an infusion is drunk. Dosage: Take 2 glasses 2 times a day for snakebite.
046	*Combretum schumannii* Engl. [CUEA/UK-	Combretaceae	*Mwaa wosi, Kyaa kosi*	High blood pressure, oedema,	Roots are boiled and

	MC/KT/MK/09-2011/ 048]			rheumatism and arthritis.	decoction is drunk for high blood pressure, rheumatism and arthritis. Root decoction is drunk and bathed with it for oedema.
047	*Commelina benghalensis* L. [CUEA/UK-MC/KT/MK/09-2011/ 049]	Commelinaceae	*Mukengesya*	Drunk as an emetic and juice used for earache and cleansing.	Stem crushed and an infusion is made and drunk as emetic. The slightly viscous juice is dropped into aching ear. Leaf or stem infusion is used for cleansing.
048	*Achyrothalamus marginatus* O. Hoffm. [CUEA/UK-MC/KT/MK/04-2012/ 050]	Asteraceae	*Mukununi, kamukununi*	Stomachache and malaria.	Root infusion is drunk for stomachache. Root decoction is drunk for malaria. Local dosage: 1 glass 3 times a day.
049	*Acmella caulirhiza* Delile [CUEA/UK-MC/KT/MK/04-2012/ 046]	Asteraceae	-	Oral sores (locally called "*diarrh*").	Leaves are crushed and an infusion is made and given to children with oral sores (locally called "*diarrh*").
050	*Aspilia pluriseta* Schweinf**.** [CUEA/UK-MC/KT/MK/04-2012/ 047]	Asteraceae	*Muti, wuti*	Eyes with conjunctivitis, earache, embrocation, backache, kidneyache, bilharzias, haematuria and cleansing.	Leaves are rubbed between palms and sap produced is applied drop wise into eyes with conjunctivitis or into ears in case of earache. Leaf sap astringent or haemostatic for fresh wounds or cuts. Also acts as embrocation on bruised parts. Leaf infusion or decoction is made and drunk for backache, kidney, kidneyache, bilharzias and haematuria. Leaf infusion is an ingredient for

					cleansing.
051	*Bidens pilosa* L. [CUEA/UK-MC/KT/MK/04-2012/ 051]	Asteraceae	*Munzee*	Aching ear.	Leaves pounded, an infusion is made and dropped into aching ear.
052	*Conyza sumatrensis* (Retz.) E. Walker [CUEA/UK-MC/KT/MK/04-2012/ 052]	Asteraceae	*Uluki*	Toothache.	Leaf infusion is made for toothache.
053	*Emilia discifolia* (Oliv.) C. Jeffrey [CUEA/UK-MC/KT/MK/04-2012/ 053]	Asteraceae	*Kalaa-muti*	Oral sores.	Leaves crushed and an infusion is made and given to children with oral sores.
054	*Kleinia squarrosa* Cufod. [CUEA/UK-MC/KT/MK/04-2012/ 054]	Asteraceae	*Mung'endya nthenge, ivonzoo*	Oedema, malaria, diarrhea, bilharzias, haematuria, menorrhagia, hypertensive-like conditions, rheumatism, arthritis, dysuria, backache, kidneyache, pneumonia, jaundice, dizziness, depressed fontanelle, headache and stomachache.	Stem decoction is made for peptic ulcers. This decoction is mixed with mutton and drunk for oedema, malaria, and jaundice. Stem heated and used as a poultice for oedema. Stem mixed with *Plectranthus cylindraceus* (stem/ leaves) and *Sphaeranthus gomphrenoides* (stem/leaves) boiled and diarrhea is drunk for dysuria. Stem decoction is drunk for pneumonia while an infusion is made for dizziness, depressed fontanelle, headache and stomach problems. Dry stem is pounded and powder taken in warm water for diarrhea, bilharzias, haematuria, menorrhagia,

					hypertensive-like conditions, rheumatism, arthritis, backache and kidneyache. Also given to livestock orally for pneumonia.
055	*Launaea cornuta* (Hochst. Ex Oliv. & Hiern) C. Jeffrey [CUEA/UK-MC/KT/MK/04-2012/ 055]	Asteraceae	*Uthuunga*	Malaria, stomachache, infertility in women, diarrhea, haematuria, rheumatism, arthritis, miscarriage, menorrhagia, amenorrhoea, jaundice, splenomegaly, dizziness, fever, depressed fontanelle and headache.	Leaves or stems are crushed and an infusion is drunk for malaria, stomachache, diarrhea, infertility in women, haematuria, rheumatism and arthritis. Root infusion is drunk for fever. Leaves plus roots of *Achryanthes aspera* are boiled and decoction is drunk for splenomegaly. Leaves are mixed with *Acalypha* (stem) and *Ocimum kilimandscharicum* (leaves), crushed, soaked in water and is drunk for miscarriage, menorrhagia and amenorrhoea. Decoction is drunk for jaundice, dizziness, depressed fontanelle and headache. An infusion of the whole plant is put in an open vessel from which chicken drink in case of diarrhea.
056	*Microglossa pyrifolia* (Lam.) O. Kuntze [CUEA/UK-MC/KT/MK/04-2012/ 056]	Asteraceae	*Mukutu*	Abscesses and tachycardia.	Root decoction is drunk for abscesses. Roots are burnt, powder stirred and an infusion is drunk for tachycardia.
057	*Solanecio angulatus* (Vahl)	Asteraceae	*Kitanyuka mwene*	Rheumatism and arthritis.	

	C. Jeffrey [CUEA/UK-MC/KT/MK/04-2012/ 057]				Roots are chewed and juice swallowed for cough. Root decoction is drunk for rheumatism and arthritis.
058	*Sphaeranthus bullatus* Mattf. [CUEA/UK-MC/KT/MK/04-2012/ 058]	Asteraceae	*Nzonzoia, Musonzoia*	Oedema and malaria.	Leaves are crushed and an infusion is drunk for oedema and malaria. In case of oedema, leaf paste is applied as a poultice.
059	*Sphaeranthus gomphrenoides* O. Hoffm. [CUEA/UK-MC/KT/MK/04-2012/ 059]	Asteraceae	*Nzonzoia, Musonzoia*	Malaria, oedema, dysuria and jaundice.	Leaf decoction is made for malaria, oedema and jaundice. Leaf infusion ismade for dysuria.
060	*Sphaeranthus ukambensis* Vatke & O. Hoffm. [CUEA/UK-MC/KT/MK/04-2012/ 060]	Asteraceae	*Nzonzoia, Musonzoia*	Malaria, dizziness, oedema, jaundice, depressed fontanelle, headache, rheumatism, arthritis, hypertensive-like conditions and stomachache.	Leaf and stem decoction is drunk for oedema, some bathed with it and inhaled by fumigation. Leaf and stem decoction is drunk for malaria, dizziness, jaundice, depressed fontanelle, headache, rheumatism, arthritis, hypertensive-like conditions and stomachache.
061	*Tagetes minuta* L. [CUEA/UK-MC/KT/MK/04-2012/ 061]	Asteraceae	*Muvangi*	Tetanus and wounds.	Leaf infusion drunk for tetanus and applied onto wounds.
062	*Tithonia diversifolia* (Hemsl.) A. Gray. [CUEA/UK-MC/KT/MK/04-2012/ 062]	Asteraceae	*Mulaa*	Indigestion problems.	Leaves infusion for indigestion.
063	*Tridax procumbens* L. [CUEA/UK-MC/KT/MK/04-	Asteraceae	*Mumela, Kavete*	Wounds and earache.	Leaf crushed or chewed and infusion applied or squeezed into wounds. Leaf sap

	2012/ 063]				for earache.
064	*Vernonia lasiopus* O. Hoffm. [CUEA/UK-MC/KT/MK/04-2012/ 064]	Asteraceae	-	Used for stomachache and cleansing.	Roots ash infusion drunk for stomachache. Stem used in cleansing.
065	*Evolvulus alsinoides* (L.) L. [CUEA/UK-MC/KT/MK/04-2012/ 065]	Convolvulaceae	*Uthuko, Kauthuko*	Believed to bring good fortune or victory in life and business affairs. Used as a love potion.	Psychosomatically believed to bring good fortune or victory in life and business affairs. Used as a love potion. Whole plant is dried, pounded and powder applied on scratches made on the tongue by *Pupalia lappacea* bristles. This is done with incantations, spells and lastly wishes invoking e.g. education.
066	*Ipomoea batatas* (L.) Lam. [CUEA/UK-MC/KT/MK/04-2012/ 066]	Convolvulaceae	*Ukwasi*	Diarrhea or gall sickness.	Stem and leaf decoction is used for diarrhea or gall sickness in cattle.
067	*Ipomoea kituensis* Vatke. [CUEA/UK-MC/KT/MK/04-2012/ 067]	Convolvulaceae	*Kiungu kinene*	Bilharzia, haematuria, anaemia and as aphrodiasic.	Stem decoction is drunk for diarrhea, haematuria, anaemia and as aphrodiasic.
068	*Kalanchoe densiflora* Rolfe [CUEA/UK-MC/KT/MK/04-2012/ 068]	Crassulaceae	*Ivonzoo*	Oedema and dermatitis.	Leaves are roasted and used as poultice for oedema. Leaf infusion is bathed with for dermatitis.
069	*Cucumis dipsaceus* Ehrenb. Ex Spach [CUEA/UK-MC/KT/MK/04-2012/ 069]	Cucurbitaceae	*Kikungi*	Hookworms and asthma.	Fruits are roasted and contents used in making infusion to serve as an emetic. Fruit decoction is drunk for hookworms and asthma. Treatment of asthma is done in 3 stages. At each stage the

					decoction is given 4-5 times with a one-week lapse between each time. Patient then rests for 1-2 months. In stage 2 and 3 the same is done. **NOTE:** The patient is expected to be vomiting violently each time the decoction is given. It is advisable to be near the physician.
070	*Kedrostris foetidissima* (Jacq.) Cogn. [CUEA/UK-MC/KT/MK/04-2012/ 070]	Cucurbitaceae	*Kiwii*	Headache, dizziness and depressed fontanelle.	Leaves are rubbed and the sap put dropwise into aching ear. An infusion is put into ear incase of severe headache, dizziness and depressed fontanelle.
071	*Kedrostris pseudogijef* (Gilg) C. Jeffrey. [CUEA/UK-MC/KT/MK/04-2012/ 071]	Cucurbitaceae	*Mukauwi*	Bilharzias and haematuria.	Stem is cut into small pieces, boiled and decoction is drunk for bilharzias and haematuria.
072	*Euclea divinorum* Hiern [CUEA/UK-MC/KT/MK/04-2012/ 072]	Ebenaceae	*Mukinyei, mumbaume*	Cough and chest pains.	Roots are dried, pounded and powder is taken in soup, tea or milk 3 times a day for cough and chest pains.
073	*Euclea racemosa* L. [CUEA/UK-MC/KT/MK/04-2012/ 073]	Ebenaceae	*Mukuthi*	Malaria, rheumatism, arthritis and headache.	Bark decoction is drunk twice daily for diarrhea. Root decoction is made for malaria, rheumatism and arthritis. Dried bark is pounded and powder sniffed for headache.
074	*Acalypha ciliata* Forssk. [CUEA/UK-MC/KT/MK/04-	Euphorbiaceae	*Uugunyali*	Barreness, menorrhagia, amenorrhoea and miscarriage.	Stem is crushed and an infusion is drunk for barreness,

	2012/ 074]				menorrhagia, amenorrhoea and miscarriage. Local dosage: 1 glass 3 times a day.
075	*Acalypha fruticosa* Forssk. [CUEA/UK-MC/KT/MK/04-2012/ 075]	Euphorbiaceae	-	Heart burn and relieves cattle from bloat.	String from stems is chewed for heart burn. Stick from plant is believed to relieve cattle from bloat. Tapped 7 times for recovery 4-5 hours later.
076	*Bridelia taitensis* Vatke & Pax ex Pax. [CUEA/UK-MC/KT/MK/04-2012/ 076]	Phyllanthaceae	-	Malaria, general body pains, oedema and jaundice.	Leaf decoction is made for malaria, general body pains, oedema and jaundice. Fumigation is done with the decoction. Causes terrible sweating. Supernatant of leaf decoction is used as a poultice for oedema.
077	*Croton dichogamus* Pax. [CUEA/UK-MC/KT/MK/04-2012/ 077]	Euphorbiaceae	*Mutundu, Kitundu*	Measles and tachycardia.	Sap from bark is applied to wounds. Leaf decoction is used for bathing due to measles. Bark ash is used to make an infusion that is drunk for tachycardia.
078	*Croton megalocarpus* Hutch. [CUEA/UK-MC/KT/MK/04-2012/ 078]	Euphorbiaceae	*Muthulu, Kithulu*	Oedema, convulsions, high blood pressure, tetanus, tapeworms, pneumonia, and stomachache.	Bark decoction is made for oedema, convulsions, high blood pressure, pneumonia, and stomachache. Bark decoction is used for malaria or jaundice. Dry seeds in warm water are administered to livestock for tapeworms. Leaf infusion is also used for tetanus.
079	*Euphorbia*	Euphorbiaceae	*Kyaa*	Pneumonia,	

	candelabrum Tremaut ex Kotschy. [CUEA/UK-MC/KT/MK/04-2012/ 079]			bilharzias, haematuria and aphrodisiac.	Stem decoction is drunk for pneumonia, diarrhea or haematuria. Stem decoction is also used as an aphrodisiac.
080	*Euphorbia gossypina* Pax. [CUEA/UK-MC/KT/MK/04-2012/ 080]	Euphorbiaceae	*Ndau ntheke, ndau ya kithekani*	Anaemia, diarrhea, haematuria, high blood pressure, sore throat, oral thrush, menorrhagia, gonorrhea and on warts (verrucae).	Stem decoction is bathed with for oedema. Stem decoction is used for anaemia, diarrhea, haematuria, high blood pressure and menorrhagia. Infusion of stem for diarrhea. Stem is roasted in hot ash, chewed and sap is swallowed for sore throat. Stem is burnt and ash is licked for oral thrush. Milky latex is applied on warts (verrucae).
081	*Euphorbia hirta* L. [CUEA/UK-MC/KT/MK/04-2012/ 081]	Euphorbiaceae	*Mutata, kamutata*	Children oral sores and toothache.	Milky latex is used for children oral sores. Leaf and stem are chewed and sap is held in mouth for some time for toothache. Latex may be applied on aching tooth directly also.
082	*Euphorbia matebelensis* Pax. [CUEA/UK-MC/KT/MK/04-2012/ 082]	Euphorbiaceae	-	Bilharzias, gonorrhea and galactagogue.	Roots' decoction is used for bilharzias. Root infusion for gonorrhea. Root ash is also used for galactagogue.
083	*Euphorbia scheffleri* Pax. [CUEA/UK-MC/KT/MK/04-2012/ 083]	Euphorbiaceae	*Kilembwa, Mulembwa*	Epigastric pains, oral thrush and depressed fontanelle.	Stem ash is licked for epigastric pains and oral thrush. Powder is also put in porridge and drunk for peptic ulcers and tachycardia. Powder is also drunk for

					depressed fontanelle.
084	*Euphorbia tirucalli* L. [CUEA/UK-MC/KT/MK/04-2012/ 084]	Euphorbiaceae	*Ndau*	Asthma, warts (verrucae), toothache, oral thrush and chicken pneumonia.	Leaf decoction is drunk 3 teasonfulls per day for asthma. Milky exudates from stem are applied onto warts (verrucae) or toothache. Stem sap is also drunk for oral thrush. Roots infusion is also used for chicken pneumonia.
085	*Flueggea virosa* (Roxb. Ex Willd.) Royle [CUEA/UK-MC/KT/MK/04-2012/ 085]	Euphorbiaceae	*Mukuluu*	Anaemia, diarrhea, dysentery, anti-witchcraft for bewitched persons and to livestock for intestinal worms.	Root decoction is drunk for anaemia. Root ash or powder infusion is made for diarrhea while root powder is used for dysentery. Used as anti-witchcraft for bewitched persons. Root infusion is given to livestock for intestinal worms (deworming).
086	*Manihot esculenta* Crantz. [CUEA/UK-MC/KT/MK/04-2012/ 086]	Euphorbiaceae	*Muanga, Kianga*	Earache.	Leaf infusion or sap is dropped into ears for earache.
087	*Ricinus communis* L. [CUEA/UK-MC/KT/MK/04-2012/ 087]	Euphorbiaceae	*Mwaiki, kyaiki*	Gonorrhea, burns, stomachache and cattle with Johnes disease.	Roots plus those of male, *Carica papaya* and *Launaea cornuta* (leaves) is crushed, soaked in water and an infusion is drunk for diarrhea. Stem and leaf ash is applied onto burns. Leaf infusion is made for stomachache. Seeds plus leaves of *Ipomoea batatas* are crushed and the decoction given to cattle with Johnes disease.
088	*Synadenium compactum* N. E. Br. [CUEA/UK-	Euphorbiaceae	*Kyatha*	Diarrhea, wounds, earache and cattle with Johnes disease.	Stems are burnt and powder put in porridge and drunk. Ash is applied on old

	MC/KT/MK/04-2012/ 088]				wounds. Leaves are roasted and sap squeezed out gently and applied dropwise into ears with earache. Leaves plus roots of *Entada leptostachya* make decotion that is given orally to cattle with Johnes disease. Local dosage: 300ml for calves and 1liter for adult cattle 2 times per week.
089	*Tragia brevipes* Pax. [CUEA/UK-MC/KT/MK/04-2012/ 089]	Euphorbiaceae	*Kinyeelia, kinyelelia*	Headache and believed to be anti-witchcraft bringing success in business.	Root powder applied onto cuts make with razor blade and rubbed hard with fingers to treat head ache. Powder application at all joints of body believed to be anti-witchcraft bringing success in business.
090	*Aristida keniensis* Henr. [CUEA/UK-MC/KT/MK/04-2012/ 090]	Poaceae	*Lamuyu*	Hypochondriasis and splenomegaly.	Whole plant is burnt and ash licked for hypochondriasis (epigastric pains) and splenomegaly. In splenomegaly the ash is applied on abdomen side cuts.
091	*Cynodon dactylon* (L.) Pers. [CUEA/UK-MC/KT/MK/04-2012/ 091]	Poaceae	*Ikoka*	Cleansing homes.	Stolons are crushed in water and an infusion is used for cleansing homes.
092	*Eleusine coracana* (L.) Gaertn. [CUEA/UK-MC/KT/MK/04-2012/ 092]	Poaceae	*Wimbi*	Ringworms and onto the mouth and hooves of cattle with foot and mouth disease.	Seed flour (powder) is made into a paste that is applied onto ringworms. Mixed in 1: 1 ratio with ash and applied onto the mouth and hooves of cattle with foot and mouth disease.
093	*Sorghum bicolor* (L.) Moench [CUEA/UK-MC/KT/MK/04-	Poaceae	*Muvya*	Foot and mouth disease and to cattle with liver fluke infestation.	Flour is made from grains mixed with that of *Eleusine coracana* and wood ash, then

	2012/ 093]				applied onto gums between hooves of cattle with foot and mouth disease. Mixture is stirred in water and given orally to cattle with liver fluke infestation.
094	*Hydnora abyssinica* A. Braun [CUEA/UK-MC/KT/MK/05-2012/ 094]	Hydnoraceae	*Kimela, ndonga*	Throat, oral thrush, diarrhea, amoebic dysentery and stomachache.	Whole plant powder is licked for sore throat and oral thrush. Powder infusion is drunk for diarrhea, amoebic dysentery and stomachache.
095	*Ajuga remota* Wall. Ex Benth. [CUEA/UK-MC/KT/MK/05-2012/ 095]	Lamiaceae	-	Malaria.	Leaf or stem infusion drunk for malaria. Leaf sap malaria.
096	*Becium obovatum* (E. Mey. Ex Benth.) N. E. Br. [CUEA/UK-MC/KT/MK/05-2012/ 096]	Lamiaceae	*Mutaa munene*	Headache and wounds.	Leaf infusion is drunk for headache. Leaf sap is applied to wounds.
097	*Plectranthus scandens* (Gürke) R. H.Willemse [CUEA/UK-MC/KT/MK/05-2012/ 097]	Lamiaceae	*Mutetema*	Malaria.	Stem infusion is drunk for malaria.
098	*Erythrochlamys spectabilis* Gürke [CUEA/UK-MC/KT/MK/05-2012/ 098]	Lamiaceae	*Muumba*	Convulsions.	Leaf infusion is used for convulsions. An infusion is bathed with after oral intake.
099	*Fuerstia africana* T. C. E. Fries [CUEA/UK-MC/KT/MK/05-2012/ 099]	Lamiaceae	*Kalaku*	Menorrhagia, ringworms, peptic ulcers, diarrhea, rheumatism, oral thrush, malaria, oedema, abscesses, diarrhea, high blood pressure	Leaves ointment is used for ringworms. An infusion or decoction is drunk for menorrhagia, peptic ulcers, diarrhea, rheumatism and arthritis. Leaf sap is used for oral thrush. Leaf infusion is made

				and arthritis and to livestock with diarrhea.	for malaria. Leaf infusion is also used for high blood pressure. Leaf decoction is drunk for oedema, abscesses and diarrhea. Is also given to livestock with diarrhea.
100	*Hoslundia iarrhea* Vahl [CUEA/UK-MC/KT/MK/05-2012/ 100]	Lamiaceae	*Musovi, kisovi*	Malaria, jaundice, kidneyache, backache, rheumatism, arthritis, oedema, diarrhea, menorrhagia, hypertensive-like conditions, heamaturia and to livestock for pneumonia.	Leaf decoction is made for malaria and jaundice. Leaf infusion is drunk for kidneyache, backache, rheumatism, arthritis, oedema, diarrhea, menorrhagia, hypertensive-like conditions and heamaturia. Leaf decoction is also administered orally to livestock for pneumonia.
101	*Hyptis pectinata* **(**L.) Poit. [CUEA/UK-MC/KT/MK/05-2012/ 101]	Lamiaceae	*Mungaimu*	Malaria and children oral sores.	Leaf decoction is drunk for malaria and children oral sores.
102	*Ocimum gratissimum* L. [CUEA/UK-MC/KT/MK/05-2012/ 102]	Lamiaceae	*Mukandu*	Malaria, dizziness, depressed fontanelle, severe headache, infant's stomachache ("*kiumati*") and measles.	Leaf decoction is drunk for malaria, dizziness, and depressed fontanelle. Leaf infusion is applied on head for severe headache and also given to infants for stomachache ("*kiumati*"). Leaf sap is also used for blocked nose. Leaf infusion is used for bathing due to measles.
103	*Ocimum kilimandscharicum* Baker ex Gürke [CUEA/UK-MC/KT/MK/05-2012/ 103]	Lamiaceae	*Mutaa*	Malaria, chest pains, peptic ulcers, dizziness, depressed fontanelles, headache, stomachache,	Leaves plus those of *Clerodendrum eriophyllum* are boiled and decoction is drunk for malaria. Leaf decoction is drunk for chest pains,

				menorrhagia, barrenness, amenorrhoea, placental abruptions and for cleansing.	peptic ulcers, dizziness, depressed fontanelles and headache. Leaf infusion or decoction drunk for stomachache. Leaf plus *Acalypha ciliate* and *Launaea cornuta* (stem or leaves) are soaked and an infusion made is drunk for menorrhagia, barrenness, amenorrhoea and placental abruptions. Sieved leaf infusion is applied dropwise into ears for earache or for severe headache. Whole plant is used for mosquito repellent. Whole plant infusion is used for cleansing homes.
104	*Plectranthus barbatus* Andrews [CUEA/UK-MC/KT/MK/05-2012/ 104]	Lamiaceae	*Muvou*	Stomachache, peptic ulcers, diarrhea, ringworms, anaemia, amoebic dysentery, hiccups,	Leaf or root infusion is made for stomachache and hiccups. Stem or leaf decoction or an infusion is drunk for peptic ulcers and diarrhea. Stem or root decoction for anaemia. Root infusion for amoebic dysentery. Root ointment applied to ringworms.
105	*Plectranthus comosus* Sims [CUEA/UK-MC/KT/MK/05-2012/ 105]	Lamiaceae	*Mwoya*	Malaria, stomachache or diarrhea, peptic ulcers.	Root decoction is used for malaria. Root infusion is drunk for stomachache or diarrhea. Stem decoction is used for peptic ulcers.
106	*Plectranthus cylindraceus*	Lamiaceae	*Kio kinini*	Oedema, hypertensive-like	

	Hochst. Ex. Benth. [CUEA/UK-MC/KT/MK/05-2012/ 106]			conditions, jaundice, malaria, convulsions, high fever, peptic ulcers, rheumatism, arthritis, haematuria, earache, severe headache, stomachache, flatulence, dysuria, diarrhea, menorrhagia, abscesses, kidney and backache problems.	Stem decoction is drunk 2 times a day for oedema, hypertensive-like conditions, jaundice, malaria and convulsions, high fever. Stem/leaf decoction is drunk for peptic ulcers, rheumatism, arthritis, haematuria. Leaf sap or infusion is dropped into ears for earache and for severe headache. Stem or root infusion is used for stomachache, flatulence and dysuria. Stem and leaves plus *Zanha africana* and *Ximenia americana* root decoction is drunk for diarrhea, menorrhagia and abscesses. Dried leaves and stem powder is applied to abdomen and back by cutting slightly using razorblade and rubbing the material for the cases of kidney problems and backache.
107	*Bauhinia taitensis* Taub. [CUEA/UK-MC/KT/MK/05-2012/ 107]	Fabaceae	*Mulima, Mwisa*	Cleansing homes.	Root infusion (*ng'ondu*) is used for cleansing homes.
108	*Cassia iarrhea* Oliv. [CUEA/UK-MC/KT/MK/05-2012/ 108]	Fabaceae	*Mwelandathe, mwathandate*	Malaria, oedema, rheumatism, arthritis, high fever, body pains and chest pains.	Bark decoction is used for malaria, oedema, rheumatism, arthritis, high fever and body pains. Bark powder is put in

					porridge for chest pains.
109	*Delonix elata* (L.) Gamble [CUEA/UK-MC/KT/MK/05-2012/ 109]	Fabaceae	*Muange, kiange*	Wounds and peptic ulcers.	Bark ash is applied to wounds. Bark infusion is drunk for peptic ulcers.
110	*Senna didymobotrya* (Fresen.) H. S. Irwin & Barneby [CUEA/UK-MC/KT/MK/05-2012/ 110]	Fabaceae	*Muthaa, ithaa*	Scabies.	Leaf infusion is made for scabies.
111	*Senna occidentalis* (L.) Link [CUEA/UK-MC/KT/MK/05-2012/ 111]	Fabaceae	*Muselesele, muvutavuti*	Oedema, hypertensives like conditions, severe headache, dizziness and depressed fontanelle.	Leaf decoction is used for oedema. Leaf plus those of *Plectranthus cylindraceus* and *Clerodendrum eriophyllum* are boiled and concoction is drunk for hypertensive-like conditions, severe headache, dizziness and depressed fontanelle.
112	*Senna singueana* (Delile) Lock [CUEA/UK-MC/KT/MK/05-2012/ 112]	Fabaceae	*Mukengenta, Mukengeka*	Backache, kidneyache, peptic ulcers, rheumatism, arthritis, oedema, haematuria, jaundice, menorrhagia, chest pains, malaria, gonnorhoea, snakebite, hypertensive-like conditions, emetic, earache, measles and livestock pneumonia.	Leaf powder is applied onto abdomen and back cuts are made for backache and kidney problems. Leaf decoction is used for peptic ulcers, rheumatism, arthritis, oedema, haematuria, jaundice, menorrhagia, malaria and hypertensive-like conditions. Root infusion is used for chest pains. Root decoction is used for gonnorhoea and

					snakebite. Dry powder is applied onto snakebite. Stem ash or its infusion is used as an emetic. Terminal leaves sap is applied for earache. Leaf decoction is bathed with it for measles. Leaf/root decoction is used on livestock pneumonia.
113	*Tamarindus indica* L. [CUEA/UK-MC/KT/MK/05-2012/ 113]	Fabaceae	*Muthumula, kithumula, kikwasu, mukwasu*	Measles, oedema, malaria, jaundice and oral thrush	Leaf decoction for measles, oedema, malaria, jaundice. Fruits' sap is used for oral thrush.
114	*Acacia brevispica* Harms [CUEA/UK-MC/KT/MK/05-2012/ 114]	Fabaceae	*Mukuswi, kikuswi*	Old wounds, ringworms, heartburn, oedema.	Leaf powder is applied on old wounds. Leaf ointment is rubbed on ringworms. String from bark sap is used for heartburn. Leaf decoction is used for oedema. Local dosage: 1 cup 3times a day for 3 days.
115	*Acacia mellifera* (Vahl) Benth. [CUEA/UK-MC/KT/MK/05-2012/ 115]	Fabaceae	*Muthiia, kithiia*	Cough, chest pains, diarrhea, malaria and for good luck in employment.	Bark decoction is used for cough and chest pains. Bark decoction is drunk for anaemia. Bark infusion is used for diarrhea and malaria. Bark or leaves are dried, crushed into powder and licked. Licking brings good luck in employment e.g. promotion.
116	*Acacia iarrhe* (L.) Willd. [CUEA/UK-MC/KT/MK/05-2012/ 116]	Fabaceae	*Mung'ole, King'ole*	Oedema.	Bark infusion is drunk for oedema.
117	*Acacia nilotica* (L.) Willd. Ex	Fabaceae	*Musemei, kisemei*	Cough and chest pains.	

	Delile [CUEA/UK-MC/KT/MK/05-2012/ 117]				Bark may be boiled and decoction is drunk or plant is chewed with magadi soda for cough and chest pains.
118	*Acacia tortilis* (Forssk.) Hayne [CUEA/UK-MC/KT/MK/05-2012/ 118]	Fabaceae	*Muaa, mulaa, kilaa*	Coughs, colds, oral thrush and sore throat.	Bark with few grains of magadi soda is chewed and juice swallowed for coughs, colds and oral thrush. Root decoction is mixed with honey and used as a remedy for sore throat.
119	*Acacia xanthophloea* Benth. [CUEA/UK-MC/KT/MK/05-2012/ 119]	Fabaceae	*Musewa, mulela*	Oedema.	Bark decoction is drunk for oedema.
120	*Albizia amara* (Roxb.) Boivin [CUEA/UK-MC/KT/MK/05-2012/ 120]	Fabaceae	*Muundua, kiundua*	Malaria.	Leaf decoction is drunk for malaria.
121	*Albizia anthelmintica* Brongn. [CUEA/UK-MC/KT/MK/05-2012/ 121]	Fabaceae	*Mwowa, kyowa*	Wounds, oral thrush, anti-helminthic, oedema and to livestock for deworming, decoction for diarrhea.	Bark is burnt to charcoal and its powder applied onto old wounds. Ash is licked for oral thrush. Bark decoction mixed with soup is anti-helminthic. Mixed with mutton soup and intestines is drunk for oedema. Bark infusion is orally given to livestock for intestinal worms for deworming while a decoction is used for diarrhea. **NOTE:** Care should be taken not to overdose since it may cause purgation of the bowels in humans.

122	*Dichrostachys cinerea* (L.) Wight & Arn. [CUEA/UK-MC/KT/MK/05-2012/ 122]	Fabaceae	*Munoa mathoka*	Oral thrush, cough stomachache and chest pains.	Bark is chewed and juice swallowed for oral thrush and cough. Root decoction is used for stomachache while root infusion is used for chest pains.
123	*Entada leptostachya* Harms [CUEA/UK-MC/KT/MK/05-2012/ 123]	Fabaceae	*Mwaitha*	Eye problems, chest ache, boils, abscesses, menorrhagia, oedema and for cattle diarrhea and sap for cattle blindness.	Stem sap is applied onto snakebite sites. Stem sap is applied gently to hurt eyes. Root decoction is drunk for boils and abscesses. Root infusion/root powder in porridge is drunk for menorrhagia and oedema. Root poultice is used for oedema. Root decoction is used for cattle diarrhea and sap is applied to cattle for blindness problems.
124	*Cajanus cajan* (L.) Huth [CUEA/UK-MC/KT/MK/05-2012/ 124]	Fabaceae	*Musuu, Nzuu*	Heartburn, burns and old wounds.	Bark string sap is swallowed for heartburn. Stem ash is used for burns and old wounds.
125	*Dolichos sericeus* E. Mey. [CUEA/UK-MC/KT/MK/05-2012/ 125]	Fabaceae	*Kutu kumwe, kakutu*	Stomachache.	Root sap is swallowed for stomachache. Root infusion is also used for stomachache.
126	*Erythrina abyssinica* Lam. [CUEA/UK-MC/KT/MK/05-2012/ 126]	Fabaceae	*Muvuti, Kivuti*	Heamaturia, oedema, amoebic dysentery, menorrhagia, syphilis, abscesses, old wounds, mumps and for livestock pneumonia.	Bark decoction is used for heamaturia, oedema, amoebic dysentery, menorrhagia and syphilis. Root decoction for abscesses. Root powder applied on old wounds. Psychosomatically known to treat mumps. The patient

					ties pieces of broken calabashes or gourd (*isengula*) at the base of the tree trunk and then goes away immediately without looking backwards. Healing is expected in 3-4days. Bark decoction is a remedy for livestock pneumonia.
127	*Indigofera lupatana* Baker F. [CUEA/UK-MC/KT/MK/05-2012/ 127]	Fabaceae	*Muthika*	Stomachache, oedema and malaria.	Root infusion is used for stomachache and malaria while a root decoction is drunk for oedema.
128	*Indigofera spicata* Forssk. [CUEA/UK-MC/KT/MK/05-2012/ 128]	Fabaceae	*Musuusuu*	Cough.	Root infusion/sap is used for cough.
129	*Ormocarpum kirkii* S. Moore [CUEA/UK-MC/KT/MK/05-2012/ 129]	Fabaceae	*Muthingii, kithingii*	Malaria, ringworms and oedema.	Leaf mixed with those of *Acacia brevispica* is crushed into powder and ointment lotion is made and rubbed on ringworms. Dry leaf powder paste is rubbed on head in cases of severe headache. Leaf decoction is used for malaria and oedema.
130	*Stylosanthes fruticosa* (Retz.) Alston [CUEA/UK-MC/KT/MK/05-2012/ 130]	Fabaceae	*Kamulaa*	Malaria.	Leaf infusion is drunk for malaria.
131	*Vigna unguiculata* (L.) Walp. [CUEA/UK-MC/KT/MK/05-2012/ 131]	Fabaceae	*Nthooko, ithooko*	Boils.	Dry seeds with magadi soda grains are used to make paste to accelerate bursting of boils.
132	*Strychnos*	Loganiaceae	*Muteta*	Oedema,	

	henningsii Gilg [CUEA/UK-MC/KT/MK/05-2012/ 132]			malaria, body pains, chest pains, rheumatism, arthritis, hypertensive-like conditions, stomachache, pneumonia, menorrhagia, asthma, diarrhea and tuberculosis (TB).	Leaf decoction with sheeps' soup of intestinal origin is used for oedema, malaria, general body pains, chest pains, rheumatism, arthritis, hypertensive-like conditions, stomachache and pneumonia. Leaf powder is used in porridge for coughs. Leaf plus *Euphorbia matebelensis*, (roots), *Erythrina abyssinica* (bark) are used to make a decoction that relief menorrhagia, asthma, diarrhea and tuberculosis (TB). Leaf/stem decoction is also used for livestock pneumonia.
133	*Strychnos madagascariensis* Poir. [CUEA/UK-MC/KT/MK/05-2012/ 133]	Loganiaceae	*Mumee, kimee*	Asthma and tuberculosis.	Root decoction is used for asthma and tuberculosis.
134	*Emelianthe panganensis** (Engl.) Danser [CUEA/UK-MC/KT/MK/05-2012/ 134]	Loranthaceae	*Kyeva*	Gonorrhoea, syphilis, haematuria and menorrhagia.	Stem decoction is used for gonorrhoea, syphilis, haematuria and menorrhagia.
135	*Sida ovata* Forssk. [CUEA/UK-MC/KT/MK/05-2012/ 135]	Malvaceae	*Uvyaiyo, uthundu*	Hypochondriasis and menorrhagia.	Stem/leaf ash is licked for hypochondriasis. Stem plus *Asparagus flagellaris* infusion is used for menorrhagia.
136	*Azadirachta indica* A. Juss. [CUEA/UK-MC/KT/MK/05-2012/ 136]	Meliaceae	*Muluvaini*	Malaria and severe headache.	Leaf decoction is used for malaria and severe headache.
137	*Melia volkensii*	Meliaceae	*Mukau, kikau*	Oedema, body	Bark decoction is

	Gürke [CUEA/UK-MC/KT/MK/05-2012/ 137]			pains, malaria, stomachache and for liver complications.	drunk for oedema, body pains, malaria, and stomachache. Bark decoction is used for Johnes disease in goats. **NOTE:** Use of this particular plant species has been declining due to its association with liver complications (toxicity).
138	*Turraea robusta* Gürke [CUEA/UK-MC/KT/MK/05-2012/ 138]	Meliaceae	*Mutunene, kitunene*	Measles.	Leaf decoction is used for measles.
139	*Ficus ingens* (Miq.) Miq. [CUEA/UK-MC/KT/MK/05-2012/ 139]	Moraceae	-	Bring good luck or victory in individual life, business affairs and social relationships. It is locally used as an ingredient of "love potion."	Inflorescence bristles are used to scratch tongue 2-3 times, after which powder is made from the roots of the same plant and applied on to the scratched tongue. Application of the powder is believed to bring good luck or victory in individual's life, business affairs and social relationships. It is locally used as an ingredient of "love potion." Powder made from parts of other plants (e.g. *Evolvulus alsinoides* and *Vitex strickeri*) are used for the same conditions and is always applied after the scratches are made on the tongue using bristles of *Pupalia lappacea*. Powder made from any part of this plant is mixed with honey and the lotion applied

					as anti-witchcraft onto cuts made with a razor blade at body joints and the rear and fore parts of the head. Root decoction drunk for malaria.
140	*Ficus sur* Forssk. [CUEA/UK-MC/KT/MK/05-2012/ 140]	Moraceae	*Mukuyu, kikuyu*	Oedema, toothache and stomachache.	Bark decoction is used for oedema and stomachache. Bark Latex is used for toothache.
141	*Ficus thonningii* Blume [CUEA/UK-MC/KT/MK/05-2012/ 141]	Moraceae	*Muumo, Kiumo*	Oedema, eye problems and is ritually considered significant.	Bark decoction is drunk for oedema. Milky bark latex is applied to ailing eyes. The tree is ritually considered significant. Found in sacred groves ONLY. **NOTE:** Only those culturally permitted to access these groves use this plant species.
142	*Musa paradisiacal* L. [CUEA/UK-MC/KT/MK/05-2012/ 142]	Musaceae	*Iiu*	Tachycardia	Drooping male spike is burnt and licked for tachycardia. **NOTE:** Culturally, this plant species may apply Doctrine of signatures as its male spike resembles human heart.
143	*Embelia schimperi* Vatke [CUEA/UK-MC/KT/MK/05-2012/ 143]	Primulaceae	*Mukalati, Kikalati*	Oedema and tapeworms.	Leaf decoction is drunk for oedema. Fruit infusion is administered to livestock and humans for deworming, particularly the tapeworms.
144	*Eucalyptus botryoides* Sm. [CUEA/UK-MC/KT/MK/05-2012/ 144]	Myrtaceae	*Musanduku*	Smallpox.	Leaf infusion is used for smallpox.
145	*Psidium guajava* L.	Myrtaceae	*Muvela, Kivela*	Diarrhoea, stomachache and	Leaf infusion is drunk

	[CUEA/UK-MC/KT/MK/05-2012/ 145]			amoebic dysentery.	for diarrhea, stomachache and amoebic dysentery.
146	*Ximenia americana* L. [CUEA/UK-MC/KT/MK/06-2012/ 146]	Ximeniaceae	*Mutula, Kitula*	Gonorrhoea, haematuria, rheumatoid arthritis, oedema, jaundice, menorrhagia, abscesses, syphilis, diarrhea, amoebic dysentery, measles and pneumonia.	Root decoction is drunk for diarrhea, haematuria, rheumatoid arthritis, oedema, jaundice, menorrhagia, abscesses and syphilis. Root infusion is used for diarrhea and amoebic dysentery. Leaf decoction is bathed with for measles. Root decoction is used as a remedy for pneumonia.
147	*Opilia amentacea* Roxb. [CUEA/UK-MC/KT/MK/06-2012/ 147]	Opiliaceae	*Mutonga*	Snake bite and sore throat.	Roots are burnt and ash applied onto snakebite sites. Root ash is used for oral thrush and sore throat.
148	*Adenia gummifera* (Harv.) Harms [CUEA/UK-MC/KT/MK/06-2012/ 148]	Passifloraceae	*Musoka*	Menorrhagia, gonorrhea, severe headache, peptic ulcers, diarrhea, round worms and stomachache.	Stem or leaf decoction is drunk for menorrhagia and peptic ulcers. Root decoction is used for diarrhea and severe headache. Whole plant infusion is used for diarrhea and round worms. Stems and *Kleinia squarrosa* stem infusion is used for stomachache.
149	*Pedalium murex* L. [CUEA/UK-MC/KT/MK/06-2012/ 149]	Pedaliaceae	*Ikongo ya nzou*	Stomachache and amoebic dysentery.	Leaf infusion or sap is used for stomachache. Leaf infusion is used for amoebic dysentery.
150	*Sesamum*	Pedaliaceae	*Luta*	Ears' and eyes'	

	calycinum Welw. [CUEA/UK-MC/KT/MK/06-2012/ 150]			problems, peptic ulcers and diarrhea.	Sieved leaf infusion is applied into ears and eyes while problematic. Leaf infusion is drunk for peptic ulcers and diarrhea.
151	*Plumbago zeylanica* L. [CUEA/UK-MC/KT/MK/06-2012/ 151]	Plumbaginaceae	*Wala, Mung'atha, Mukela ivai*	Gonorrhoea, oedema, boils or abscesses, chestache, cough and malaria	Root ash is licked for oral thrush and hypochondriasis while root ash is used for burns. Root infusion in beer is used for boils or abscesses.
152	*Polygala sphenoptera* Fresen. [CUEA/UK-MC/KT/MK/07-2012/ 152]	Polygalaceae	*Mukenia*	Conjunctivitis and good for victory/luck/ love affairs.	Leaf sap is used for colds, cough. Sieved infusion is used for conjunctivitis. Whole plant is dried and powder applied on scratches made on tongue by *Pupalia lappacea*. Also rubbed between the palms accompanied by incantation. Good for victory. Love potion.
153	*Securidaca longipedunculata* Fresen. [CUEA/UK-MC/KT/MK/07-2012/ 153]	Polygalaceae	*Muuka*	Chest pains, cough, malaria, general body pains, oedema, asthma, stomachache, rheumatoid arthritis and on cattle wounds.	Root decoction is drunk for chest pains, cough, malaria and oedema. Root decoction is made for **insanity**. This may only suppress the condition. Root infusion is drunk for general body pains. The plant species is mixed with those of *Zanha africana* and *Z. chalybeum* to make an infusion that is drunk for asthma, stomachache, rheumatoid arthritis. Bark powder is applied on cattle wounds.

154	*Oxygonum sinuatum* (Hochst. & Steud. Ex Meisn.) Dammer. [CUEA/UK-MC/KT/MK/06-2012/ 154]	Polygonaceae	*Song'e*	Severe headache, depressed fontanelle, absecess, boils, diarrhea, syphilis, dizziness, menorrhagia, boils and nail bed (cellulitis and whitlow), bilharzias, earache and applied to remove splinters.	Whole plant decoction is used for absecess and boils, diarrhea, syphilis, and dizziness. Whole plant with *Ricinus communis* roots and *Carica papaya* male are boiled and decoction is drunk for menorrhagia, and diarrhea. Leaf and fruit paste maceration is applied to boils and nailbed (cellulitis and whitlow). Leaf decoction is drunk for severe headache and depressed fontanelle. Leaf decoction (while cold) is dropped into ears for earache. Dry mature fruits are pounded and powder is applied to remove splinters.
155	*Rumex abyssinicus* Jacq. [CUEA/UK-MC/KT/MK/06-2012/ 155]	Polygonaceae	*Kyuvi*	Malaria, gonorrhea and deworming.	Root infusion or decoction is drunk for malaria and diarrhea. Root infusion is used for worms.
156	*Rumex usambarensis* (Dammer) Dammer [CUEA/UK-MC/KT/MK/06-2012/ 156]	Polygonaceae	*Kinyonywe*	Malaria.	Leaf plus those of *Agave sisalana* infusion is used for malaria.
157	*Portulaca oleracea* L. [CUEA/UK-MC/KT/MK/06-2012/ 157]	Portulacaceae	*Kinyikwi*	Amoebic dysentery, diarrhea, stomachache and gonorrhoea	Whole plant decoction is used for amoebic dysentery and diarrhea. Stem sap is administered for stomachache. An

					infusion is made and used for diarrhea.
158	*Portulaca quadrifida* L. [CUEA/UK-MC/KT/MK/06-2012/ 158]	Portulacaceae	*Kinyikwi*	Haematuria, diarrhea, stomachache and gonorrhoea	Stem and leaf decoction is drunk for diarrhea, haematuria. Whole plant infusion is drunk for diarrhea. Stem or leaf sap is used for stomachache.
159	*Talinum portulacifolium* (Forssk.) Asch. Ex Schweinf. [CUEA/UK-MC/KT/MK/06-2012/ 159]	Talinacaceae	*Ndata kivumbu*	Cleansing homes.	Root infusion is used for cleansing individuals – ritual impurity.
160	*Rubus apetalus* Poir. [CUEA/UK-MC/KT/MK/06-2012/ 160]	Rosaceae	*Kitae kya kithekani*	Stomachache.	Root infusion is used for stomachache in children.
161	*Hymenodictyon parvifolium* Oliv. [CUEA/UK-MC/KT/MK/06-2012/ 161]	Rubiaceae	*Mulinditi*	Conjunctivitis, oedema, diarrhea, amoebic dysentery, worms, stomachache, rheumatoid arthritis and for cleansing.	Leaf sap is applied for eye conjunctivitis. Root infusion is used to bathe for oedema. Root infusion is made for diarrhea, amoebic dysentery, worms, stomachache. Root decoction is used for rheumatoid arthritis. Root infusion is used for ritual impurity.
162	*Pentas lanceolata* (Forssk.) Deflers [CUEA/UK-MC/KT/MK/06-2012/ 162]	Rubiaceae	*Muti mukuu, mumemeti*	Back and kidney aching.	Root decoction is used for back and kidney aching.
163	*Psychotria kirkii* Hiern. [CUEA/UK-MC/KT/MK/06-2012/ 163]	Rubiaceae	*Muthumba*	Scabies.	Leaf decoction is used for bathing body with scabies. Hot paste of leaves smeared on body for same condition.

164	*Tapiphyllum schumannianum* Robyns [CUEA/UK-MC/KT/MK/06-2012/ 164]	Rubiaceae	*Mutootoo, kitootoo, muvu, kivu*	Oedema, rheumatoid arthritis and for ritual impurity.	Stem decoction is used for oedema, rheumatoid arthritis. Leaf infusion is used for ritual impurity.
165	*Vangueria madagascariensis* J. F. Gmelin [CUEA/UK-MC/KT/MK/06-2012/ 165]	Rubiaceae	*Mukomoa, kikomoa*	Malaria, oedema and measles.	Leaf decoction is drunk for malaria, oedema and measles.
166	*Citrus limon* (L.) Osbeck [CUEA/UK-MC/KT/MK/06-2012/ 166]	Rutaceae	-	Plastic teeth and ringworms.	Dry leaves with magadi soda are applied onto gums for plastic teeth. Leaf decoction is also applied onto ringworms.
167	*Fagaropsis hildebrandtii* (Engl.) Milne-Redh. [CUEA/UK-MC/KT/MK/06-2012/ 167]	Rutaceae	*Muvindavinda*	Body pains, rheumatoid arthritis, haematuria, diarrhea, menorrhagia, malaria, asthma, coughs, abscesses and for lung tuberculosis (TB). Liverfluke and pneumonia in livestock.	Root decoction is drunk for body pains, rheumatoid arthritis, haematuria, diarrhea, menorrhagia and malaria. Root decoction is drunk with soup for lung tuberculosis (TB). Dried roots are used in porridge for asthma, coughs and abscesses. Root decoction is also used in livestock for liverfluke and pneumonia.
168	*Teclea simplicifolia* (Engl.) I. Verd. [CUEA/UK-MC/KT/MK/06-2012/ 168]	Rutaceae	*Mutuiu, kituiu*	General body pains, chest complaints and lung tuberculosis (TB).	Root decoction is used for general body pains. Root powder infusion is used for chest complaints and tuberculosis (TB).
169	*Zanthoxylum*	Rutaceae	*Mukenea,*	Menorrhagia,	

	chalybeum Engl. [CUEA/UK-MC/KT/MK/06-2012/ 169]		*kikenea*	malaria, oedema, rheumatoid arthritis, body pins, colds, coughs, jaundice depressed, fontanelle, amoebic dysentery, chest pains, convulsions, cough, peptic ulcers, headache and hypertensive-like conditions	Root and trunk decoction is used for menorrhagia, malaria, oedema, rheumatoid arthritis, body pins, colds, coughs, jaundice depressed fontanelle, and hypertensive-like conditions. Leaf decoction is used for peptic ulcers and headache. Root infusion is administered for amoebic dysentery. Root powder is used for chest pains and cough. Leaves as tonic in tea. Leaf infusion is used for bathing the patient suffering from convulsions/sezuiers – like conditions.
170	Zanthoxylum usambarense (Engl.) Kokwaro. [CUEA/UK-MC/KT/MK/06-2012/ 170]	Rutaceae	*Muvuu, kivuu, Mulasi*	Colds, coughs, also tonic, chest ache, rheumatoid arthritis and general body pains.	Bark decoction is used for colds, coughs and also tonic. Bark powder is administered for chest ache, while bark decoction is used for rheumatoid arthritis' body pains.
171	*Salvadora persica* L. [CUEA/UK-MC/KT/MK/06-2012/ 171]	Salvadoraceae	*Mukayau, kikayau*	Oedem, peptic ulcers, pneumonia, body pains, cough, malaria, chest problems and internal abscesses.	Root decoction is administered for oedem, peptic ulcers, pneumonia, body pains, cough, malaria, chest problems and internal abscesses.
172	*Osyridicarpos*	Santalaceae	*Mwonia*	Chest pains.	

	schimperianus (Hochst. Ex A. Rich.) A. DC. [CUEA/UK-MC/KT/MK/06-2012/ 172]				Root infusion is administered for chest pains.
173	*Pappea capensis* Eckl. & Zeyh. [CUEA/UK-MC/KT/MK/06-2012/ 173]	Sapindaceae	*Muva, kiva*	Gonorrhea.	Bark decoction is used for gonorrhea.
174	*Zanha africana* Exell [CUEA/UK-MC/KT/MK/06-2012/ 174]	Sapindaceae	*Mukolekya, kikolekya*	Tuberculosis (TB), asthma, chestache, body pains, menorrhagia, haematuria, hypertensive-like condition, stomachache, diarrhea, rheumatoid arthritis, oedema, malaria, abscesses, constipation and peptic ulcers.	Root decoction is used for tuberculosis (TB), asthma, chestache, body pains. Root or bark infusion for menorrhagia, haematuria, hypertensive-like condition and stomachache. Root decoction is drunk for diarrhea, rheumatoid arthritis, oedema, malaria, abscesses while a decoction is used for constipation. Root or bark infusion is administered for peptic ulcers.
175	*Harrisonia abyssinica* Oliv. [CUEA/UK-MC/KT/MK/06-2012/ 175]	Rutaceae	*Mukiliulu*	Oedema, rheumatoid arthritis, heyprtensive-like conditions, stomachache and pneumonia.	Root decoction is used for oedema, rheumatoid arthritis, heyprtensive-like conditions, stomachache and pneumonia.
176	*Capsicum annuum* L. [CUEA/UK-MC/KT/MK/06-	Solanaceae	*Ndulu*	Constipation, whitlow and splenomegaly.	Fruits are used for constipation while fruit maceration is

	2012/ 176]				used for whitlow. Fruit powderis administered for splenomegaly.
177	*Datura stramonium* L. [CUEA/UK-MC/KT/MK/06-2012/ 177]	Solanaceae	*Muvongolo*	Asthma.	Leaves are dried and smoked for asthma.
178	*Lycopersicon esculentum* Mill. [CUEA/UK-MC/KT/MK/06-2012/ 178]	Solanaceae	*Kinyaanya, munyaanya*	Whitlows.	Fruit maceration is used for whitlows.
179	*Nicotiana tabacum* L. [CUEA/UK-MC/KT/MK/06-2012/ 179]	Solanaceae	*Mbaki, kumbatu*	Sniffing to clear nostrils due to colds.	Leaf powder is snuff for clearing nostril blockage due to colds.
180	*Solanum incanum* L. [CUEA/UK-MC/KT/MK/07-2012/ 180]	Solanaceae	*Mukondu, kikondu*	Stomachache, diarrhea, amoebic dysentery and whitlow.	Root sap or infusion is drunk for stomachache, diarrhea, amoebic dysentery. Fruit sap is applied for whitlow.
181	*Solanum renschii* Vatke [CUEA/UK-MC/KT/MK/07-2012/ 181]	Solanaceae	*Mutongatongu, kitongatongu*	Boils, stomachache, hypochondriasis and ritual impurity.	Root infusion is used for boils and stomachache. Root ash is applied for hypochondriasis while root ash is administered for ritual impurity.
182	*Melhania velutina* Forssk. [CUEA/UK-MC/KT/MK/07-2012/ 182]	Malvaceae	*Kamutootoo*	Earache.	Leaf sieved infusion is dropped into the ears for earache.
183	*Triumfetta rhomboidea* Jacq. [CUEA/UK-MC/KT/MK/07-2012/ 183]	Malvaceae	*Muinda nguue*	Snakebite and constipation.	Root infusion is drunk or applied for snakebite condition while the root sap is administered for constipation.

184	*Waltheria indica* L. [CUEA/UK-MC/KT/MK/07-2012/ 184]	Malvaceae	*Mulelema*	Diarrhea.	Leaf infusion is used for diarrhea.
185	*Grewia bicolor* Juss. [CUEA/UK-MC/KT/MK/07-2012/ 185]	Malvaceae	*Mulawa, kilawa, ulawa, ilawa*	Dermatitis.	Leaf or stem bark infusion is administered for dermatitis.
186	*Grewia tembensis* Fresen. [CUEA/UK-MC/KT/MK/07-2012/ 186]	Malvaceae	*Mutuva, kituva*	Heartburn and hypochondriasis.	Bark sap is used for heartburn while root ash is applied for hypochondriasis.
187	*Grewia villosa* Willd. [CUEA/UK-MC/KT/MK/07-2012/ 187]	Malvaceae	*Muvu, kivu*	Diarrhoea, amoebic dysentery and stomachache.	Root infusion is used for diarrhea, amoebic dysentery and stomachache.
188	*Steganotaenia araliacea* Hochst. [CUEA/UK-MC/KT/MK/07-2012/ 188]	Apiaceae	*Muvuavui, kivuavui*	General body pains, oedema, rheumatoid arthritis, peptic ulcers, hypertensive-like conditions, haematuria, headache, diarrhea, malaria and snake bites.	Bark decotion is used for general body pains, oedema, rheumatoid arthritis, peptic ulcers. Leaf decoction is applied for hypertensive-like conditions, haematuria, and headache. Bark infusion is administered for headache and diarrhea and malaria while root ash is applied onto sites of snake bites.
189	*Xerophyta spekei* Baker [CUEA/UK-MC/KT/MK/07-2012/ 189]	Velloziaceae	*Muandui, kiandui*	Burns.	Stem ash is used for treating burns on human body.
190	*Clerodendrum eriophyllum* Gürke	Lamiaceae	*Muumba*	Oedema, malaria,	Leaf decoction is used

	[CUEA/UK-MC/KT/MK/07-2012/ 190]			rheumatoid arthritis, body pains and diarrhea.	for oedema, malaria, rheumatoid arthritis, body pains while leaf infusion is used for diarrhea.
191	*Clerodendrum myricoides* (Hochst.) R. Br. Ex Vatke [CUEA/UK-MC/KT/MK/07-2012/ 191]	Lamiaceae	*Muvweia*	Internal abscesses, coughs and root chewed to avoid burning sensation in mouth.	Root infusion with native/indigenous beer, *karubu* is drunk for internal abscesses. Root sap is used for coughs. **NOTE:** Only little amount of the root of this plant species is chewed to avoid burning sensation in mouth.
192	*Lantana camara* L. [CUEA/UK-MC/KT/MK/07-2012/ 192]	Verbenaceae	*Mutavisi, kitavisi, musimolo, kisimolo, mukolotwe, kikolotwe*	Oedema, malaria and diarrhea.	Leaf decoction is used for oedema and malaria while a root infusion is administered for diarrhea.
193	*Lantana rhodesiensis* Moldenke [CUEA/UK-MC/KT/MK/07-2012/ 193]	Verbenaceae	*Muvisavisi, kivisavisi*	Hypochondriasis, malaria, gonorrhea, syphilis, bilharzias, haematuria, menorrhagia and on ritual impurity.	Leaf ash is licked for hypochondriasis, Leaf decoction is used for malaria, gonorrhoeam, syphilis, bilharzias, haematuria and menorrhagia while leaf infusion is used for ritual impurity.
194	*Lippia javanica* (Burm f.) Spreng. [CUEA/UK-MC/KT/MK/07-2012/ 194]	Verbenaceae	*Kyulu*	Deworming and colds.	Leaf infusion is used for deworming and colds.
195	*Premna resinosa* (Hochst.) Schauer [CUEA/UK-MC/KT/MK/07-2012/ 195]	Lamiaceae	*Mukomoa, kikomoa*	Malaria and diarrhea.	Leaf decoction is used for malaria while leaf infusion is used for diarrhea.

196	*Verbena officinalis* L. [CUEA/UK-MC/KT/MK/07-2012/ 196]	Verbenaceae	*Mukenia*	Oral sores.	Root infusion is used for oral sores.
197	*Vitex strickeri* Vatke and Hildebrandt [CUEA/UK-MC/KT/MK/07-2012/ 197]	Lamiaceae	-	Gonorrhoea.	Root infusion is used for gonorrhoea.
198	*Cissus aphyllantha* Gilg & M. Brandt. [CUEA/UK-MC/KT/MK/07-2012/ 198]	Vitaceae	*Muvelengwa, kivelengwa*	Diarrhoea and amoebic dysentery.	Root infusion is used for diarrhea and amoebic dysentery.
199	*Cissus* quadrangularis L. [CUEA/UK-MC/KT/MK/07-2012/ 199]	Vitaceae	*Uswe*	Gall illness in cattle.	Stem infusion is used on cattle with gall illness.
200	*Cyphostemma cyphopetalum* (Fresen.) Desc. Ex Wild & R. B. Drumm. [CUEA/UK-MC/KT/MK/07-2012/ 200]	Vitaceae	*Kiungu kinini*	Injured eyes and dermatitis.	Sap from stem is used for injured eyes. Leaf infusion and ointment are used for dermatitis.

Key: Albeit their use in the community, the nomenclature information could not be accessed (13 plant species were not known in *Kikamba* language and only 1 plant species* could not be clearly identified by its scientific name in the herbarium by the time of submission of this manuscript for publication).

Note: 1. Plant taxonomy of the identified and collected plant specimens was conducted according to the Tropicos System, which follows the 2009 Angiosperm Phylogeny Group III (APG III) classification at the Missouri Botanical Garden as retrieved on Sunday, 30th November, 2014 from http://www.tropicos.org/Name/2740190, and confirmed with the Royal Botanic Gardens, Kew (K), as retrieved on Friday, 5th November, 2014 from, http://apps.kew.org/wcsp/namedetail.do;jsessionid=7EB01E13A1218070736ECBBA939E6480?name_id= 158479.

2. The prescribed medicinal plant species for various ill-health conditions should not be used as described in this manuscript as in-depth scientific work has not been conducted to either disapprove and/or approve their traditional applications and uses. Therefore, kindly note that you apply and use these ethnoremedies at your own risk!

Table 2. An enumeration of the documented plant families amongst the Kamba people in eastern Kenya (n = 58).

S/No.	Plant family	Number of plant species	Percent of the total plant species (%)
1	Acanthaceae	3	1.5
2	Amaranthaceae	3	1.5
3	Amaryllidaceae	1	0.5
4	Anacardiaceae	6	3.0
5	Annonaceae	1	0.5
6	Apiaceae	1	0.5
7	Apocynaceae	5	2.5
8	Asparagaceae	3	1.5
9	Asteraceae	17	8.5
10	Bignoniaceae	1	0.5
11	Boraginaceae	2	1.0
12	Burseraceae	4	2.0
13	Capparaceae	6	3.0
14	Caricaceae	1	0.5
15	Celestraceae	1	0.5
16	Cleomaceae	1	0.5
17	Combretaceae	4	2.0
18	Commelinaceae	1	0.5
19	Convolvulaceae	3	1.5
20	Crassulaceae	1	0.5
21	Cucurbitaceae	3	1.5
22	Ebenaceae	2	1.0
23	Euphorbiaceae	15	7.5
24	Fabaceae	25	12.5
25	Hydnoraceae	1	0.5
26	Lamiaceae	16	8.0
27	Loganiaceae	2	1.0
28	Loranthaceae	1	0.5
29	Malvaceae	7	3.5
30	Meliaceae	3	1.5
31	Moraceae	3	1.5
32	Musaceae	1	0.5
33	Myrsinaceae	1	0.5
34	Myrtaceae	2	1.0
35	Opiliaceae	1	0.5
36	Passifloraceae	1	0.5
37	Pedaliaceae	2	1.0
38	Phyllanthaceae	1	0.5
39	Plumbaginaceae	1	0.5
40	Poaceae	4	2.0
41	Polygalaceae	2	1.0
42	Polygonaceae	3	1.5
43	Portulacaceae	2	1.0
44	Primulaceae	1	0.5

45	Pteridaceae	1	0.5
46	Rosaceae	1	0.5
47	Rubiaceae	5	2.5
48	Rutaceae	6	3.0
49	Salvadoraceae	1	0.5
50	Santalaceae	1	0.5
51	Sapindaceae	2	1.0
52	Solanaceae	6	3.0
53	Talinacaceae	1	0.5
54	Velloziaceae	1	0.5
55	Verbenaceae	4	2.0
56	Vitaceae	3	1.5
57	Xanthorrhoeaceae	2	1.0
58	Ximeniaceae	1	0.5
Total		**200**	**100.0**

CONCLUSION

That the *Akamba* people of *Ukambani* in eastern Kenya have a rich ethnohealth knowledge based on their accumulative experiences in time and space. The *Akamba* people continue to identify medically useful plants in their environment. The survey revealed that there exists a strong relationship between plants and people's health. The *Akamba* people had practically identified plants and plant products used in the management of a considerable number of ill-health conditions ranging from those that are parasitic (e.g. malaria, bilharzias, tapeworm and hookworm), physiological, psychological, bacterial, reproductive, poisonous, viral, immunological, biochemical, fungal, protozoal, zoonotic, anaemic, oral, surgical, dermatological, diarrhoeal, antiseptic, emetic, tachycardial, sexual and dental in origin to those involving home cleansing and ritual purification for holistic wellbeing of livelihoods. The successful management of such chronic and complicated health conditions at a local level was a clear indication that the *AKamba* ethnomedical system was developed, and to some extend may confidently supplement and complement conventional medicine following an in-depth scientific studies of the ethnoproducts used. The studies may innovatively develop new effective and sustainable drugs as well as useful medical information for improving livelihoods.

In addition, 10 plant species (*Pupalia lappacea, Ficus ingens, Polygala sphenoptera, Tragia brevipes, Flueggea virosa, Evolvulus alsinoides, Combretum exalatum, Vitex strickeri, Acacia mellifera, and Cynodon dactylon*) associated with important socio-cultural values, ranging from anti-witchcraft, good luck, success in businesses, promotion at the place of work, good relations in the society/love affairs to winning court cases, were also documented. All these are holistically part and percel of socio-cultual human life in the society and central to the evolution of livelihoods in entirety. This further indicates the significance of plants and plant products and how human life in *Ukambani* region is repletely dependent on plants and plant products, beyond foodstuff and medicines for sustainable management of livelihoods on a daily basis.

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