



Informal Trade of Traditional Medicine Used in the Treatment of Common Diseases in Western Kenya

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Abstract

Traditional medicine trade offers a platform for showcasing invaluable medicinal plants that are used in the treatment of diseases. The documentation of these medicines represents the cultural and societal traditions and beliefs that should be conserved and protected. Scientific validation of these medicines bolsters local ethno-pharmacopoeias and conservation strategies of our traditional medicine industry. These informal traditional medicine markets structures and arrangements should be formally be protected and improved and even integrated into the primary health care. From the wider array of traditional medicine display, a representation of the largely exploited plant species and plant parts can be prioritized for conservation. Relative Frequency of Citation is an important ethnobotanical index that represents various plant uses and species relevance.

Keywords: Traditional medicine; Medicinal plants; Common diseases; Trade; Western Kenya

Abbreviations: FC: Frequency of Citation; RFC: Relative Frequency of Citation ; NAI: University of Nairobi Herbarium.

Introduction

Traditional medicine is a branch of ethno medicine that encompasses the use of natural local resources used for the treatment of various diseases afflicting the society and is culturally inclined [1,2]. The increasing interest and rise in the demand for ethno medicines is linked to the difficulty in the treatment of many diseases using modern medicine. These stubborn diseases include the HIV/AIDS, diabetes, hyper- and hypo- tensile blood disorders, cancer and fertility challenges. The trade of traditional medicine also serves to bolster the economic situation of the traditional medicine

practitioners. The practice is normally inherited from relatives over generations and is orally passed from one generation to the next through an efficacious apprenticeship method. The driving influence in the use of traditional medicine even in the urban and peri-urban areas is due to strong community traditions and beliefs [2,3].

However, there is a growing concern of the decline in the traditional indigenous knowledge and is mostly attributed to lack of interest by the younger generation and the negative perceptions attached to the traditional medicine practice [4]. Sustainability of the practice and the growth of the traditional medicine industry is linked with vast arrays of sustainable growing and harvesting practices [5]. The importance of the traditional medicine markets in the treatment of diseases cannot be underestimated [6]. This study documents the

traditional medicine sold in various medicine markets of the Western Kenya region particularly in the treatment of common diseases.

Materials and Methods

Study Area

The survey was conducted in the traditional medicine markets found in the eight counties of Western Kenya namely Uasin Gishu, Trans Nzoia, Kakamega, West Pokot, Elgeyo Marakwet, Siaya and Vihiga. The sampled medicine markets were Eldoret, Moi's Bridge, Kitale, Kakamega, Makutano, Arroy, Kaptabuk, Yala and Luanda. The GPS coordinates were collected using the Garmin instrument and used to draw the mapping locations using Q-GIS (Figure 1).

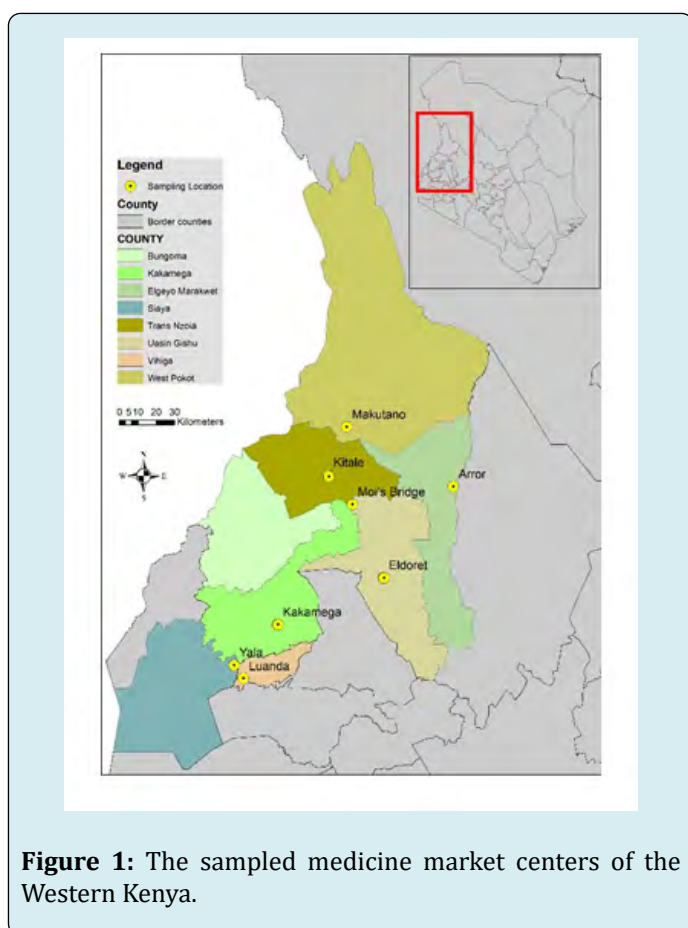


Figure 1: The sampled medicine market centers of the Western Kenya.

Methodology

A purposive sampling method with elements of snow ball was used in the identification of the thirty (30) willing

traditional medicine traders. A somewhat liberal pretested semi-structured questionnaire was used in the oral interviews upon acquiring an oral prior informed consent, where the key respondents were asked to list common diseases affecting the clients or traditional medicine buyers, the most commonly sought traditional medicine, plant parts, vernacular plant names, and the common traded floral life-forms and plant habit traded [7]. Other mixed methodologies that were used in the medicine markets include direct observation, photography, market visits, consented sound recordings and concise note taking [8]. The study observed the ethical guidelines set by the University of Nairobi, and the data collection took place from February 2019 to September 2019.

Botanical Nomenclature

Structural morphological and floral traits of the displayed medicinal plants were observed by a panel of taxonomists based at the University of Nairobi Herbarium (NAI) and myself where the commonly cited traditional medicine was correctly identified and labelled. The following floral literatures were significantly used to prepare a verifiable botanical checklist [9-16]. In addition, certified online taxonomic content namely <https://www.tropicos.org/> and <http://www.theplantlist.org/> was also used in the determination of floral epithets. Photography, field visits and direct observations were also employed in the data collection [6].

Relative Frequency of Citation

The Frequency of Citation (FC) and the Relative Frequency of Citation (RFC) were the two ethnobotanical indices employed in the determination of the mentions or citations of the frequently sold medicinal plants used in the treatment of the common diseases. RFC is calculated as the number derived from dividing FC by the total number of respondents in the traditional medicine markets. RFC values ranges from zero (0) to one (1) where the highest value represents the useful of the traded medicinal plant species [17-19].

Results and Discussion

Socio-demographic characteristics of the traditional medicine markets

The key respondents in the portrayed salient features as tabulated below (Table 1).

Traditional Medicine Market	Number of Willing Respondents	Gender	Number of Traders that Declined the Interview	Ethnic Identity (Tribal Affiliation)
Eldoret	n=6	4 Females	1	Kalenjin (Marakwet)
		1 Male		Kalenjin (Marakwet)
		1 Female		Kalenjin (Keiyo)
Kitale	n=5	1 Male	0	Mijikenda/Swahili
		1 Male		Turkana
		3 Males		Luhya (Bukusu)
Moi's Bridge	n=1	1 Male	0	Maasai
Makutano	n=3	3 Females	6	Kalenjin (Pokot)
Aror	n=2	1 Female	0	Kalenjin (Marakwet)
		1 Male		Kalenjin (Marakwet)
Kaptabuk	n=1	1 Female	0	Kalenjin (Marakwet)
Kakamega	n=5	4 Males	2	Luhya
		1 Female		
Luanda	n=6	5 Females	13	Luhya
		1 Male		
Yala	n=1	1 Female	0	Luo/Luhya

Table 1: Socio-demographic, geographic, gender and ethnic characteristics of the Traditional Medicine. Trade in the selected markets of Western Kenya.

Female medicine traders (57%) dominated the traditional medicine markets and the male practitioners constituted the remainder 43%. It was also observed that some medical prescriptions were also gendered where some medicine for male or female sex were blended differently (Table 2). Although the medicine markets were dominated by the female traders, the market leadership was largely represented by the male traders indicating a patriarchal society.

Frequently Traded Plant Species

Trichilia emetica (0.37 RFC) of the Meliaceae plant family was recorded as the mostly sought species in the sampled traditional medicine markets with eleven (11) plant uses or market prescriptions. The second most sought medicinal plant was the exotic and yet naturalized neem tree species, *Azadirachta indica* (8 plant uses, 0.27 RFC) which apparently belongs to the frequently traded medicinal plant family Meliaceae followed by the local species, *Dregea schimperi* (0.27 RFC) which belongs to the Asclepiadaceae family. Other highly sought plant species include infamous *Carissa spinarum* (7 plant uses, 0.23 RFC), *Warburgia ugandensis* (5 plant uses, 0.17 RFC), *Zanthoxylum chalybeum* (5 plant uses, 0.17 RFC) and much valued *Prunus africana* (4 plant uses,

0.13 RFC). *Tylosema fassoglense* was conspicuously displayed for sale and the commonest tuber sold for various medical uses (Table 2). Popular twig, *Salvadora persica* (0.1 RFC) locally traded as a tooth brush was cited three (3) times as a cure for some common diseases. Common local vegetable species cited as medicinal include the Stinging nettle (*Urtica massaica*, 0.07 RFC), African Nightshade (*Solanum nigrum*, single citation or mention, 0.03 RFC) and *Basella alba* (0.03 RFC) with a single citation or mention.

Common Diseases Treated

Most clients are treated for stomach pains and infections (9%) followed by typhoid (7%) and malaria (6%). The traditional medicine practitioners establish their disease diagnostics through a long-term assessment of folklore knowledge of leading symptoms. A wider belief that dominated the medicine markets was that most diseases emanate from the stomach. Other notable diseases that were treated at the medicine markets include ulcers (5%), Blood pressure conditions (5%) and infertility medical problems (5%). Least treated but significant diseases treated using traditional medicine includes diabetes (4%), libido (4%), brucellosis (3%), chest pains and infections (3%).

Commonly Traded Traditional Medicine in the Western Kenya

Botanical name	Plant family	Local name	Disease (<i>vernacular identity</i>)	Growth life form/ plant habit	Plant part(s) used	Tribal affiliation	Medicine market
Eldoret Medicine Market, Uasin Gishu County							
<i>Basella alba</i> L.	Basellaceae	<i>Kiraiti</i>	Burnt ash used to maintain body homeostasis. Also used to treat urethral tract infections	Climber	Twigs and Leaves	Marakwet	
<i>Chasmanthera dependens</i> Hochst.	Menispermaceae	<i>Sindarr</i> (<i>Sinaryap chebo Kamugon</i>)	Stomach pains and complications, Female infertility, Typhoid (<i>Kipey</i>), Boosts male virility, Treats erectile dysfunction	Liana	Roots	Marakwet	
<i>Cissus quadrangularis</i> L.	Vitaceae	<i>Kirorot</i>	Spinal cord pains and complications (<i>Kipnam korot</i>), Nervous problems	Climber	Root	Marakwet	
<i>Dregea schimperi</i> (Decne.)Bullock	Apocynaceae	<i>Chebelel</i>	Long term infertility, Stomach complications, Typhoid and Dysentery	Climber, Shrub	Roots	Keiyo	
<i>Pittosporum viridiflorum</i> Sims	Pittosporaceae	<i>Chemnowo</i>	Body rashes	Tree	Root	Marakwet	
<i>Podocarpus latifolius</i> (Thunb.) R.Br. ex Mirb.	Podocarpaceae	<i>Beenn</i>	Body rashes (<i>Mogonjo/Mokong'io</i>)	Tree	Barks	Marakwet	
<i>Prunus africana</i> (Hook.f.)Kalkman	Rosaceae	<i>Tendu</i>	Prostate cancer and Male virility	Tree	Barks	Marakwet	
<i>Solanum incanum</i> L.	Solanaceae	<i>Kaplobotwo</i>	Burnt ash used to maintain body homeostasis. Also treat urethral tract infections.	Shrub	Whole plant	Marakwet	
<i>Terminalia brownii</i> Fresen.	Combretaceae	<i>Koloswo</i>	Psychosis manifested in malaria, meningitis and other related diseases (<i>Kiplong'u kot</i>). Long term infertility	Tree Tree	Barks Barks	Marakwet Keiyo	
<i>Warburgia ugandensis</i> Sprague	Canellaceae	<i>Sekwoo</i>	Chest pains (<i>Kiptaget, Mogong'</i>)	Tree	Barks and Roots	Keiyo	
<i>Withania somnifera</i> (L.) Dunal	Solanaceae	<i>Kokiat</i>	Pneumonia	Shrub	Roots	Keiyo	
<i>Zanthoxylum sp.</i>	Rutaceae	<i>Kokiat</i>	Pneumonia	Tree	Seeds	Keiyo	
<i>Ziziphus mauritiana</i> Lam.	Rhamnaceae	<i>Tilomwet</i>	Stomach pains (<i>Katet</i>)	Tree	Barks	Keiyo	
Kitale & Moi's Bridge Medicine Markets, Trans Nzoia County							
<i>Azadirachta indica</i> A.Juss.	Meliaceae	<i>Mwarobaini</i>	Malaria	Tree	Barks and Leaves	Bukusu	Kitale

<i>Bridelia micrantha</i> (Hochst.) Baill.	Phyllanthaceae	<i>Kumlonda ng'ombe (Nanda Ng'ombe)</i>	Brucellosis	Tree	Leaves	Bukusu	Kitale
			Gonorrhoea	Tree	Barks	Bukusu	Kitale
<i>Carissa spinarum</i> L.	Apocynaceae	<i>Mtanda Mboo</i>	Arthritis	Shrub	Roots	Mijikenda	Kitale
<i>Senna didymobotrya</i> (Fresen.) H.S. Irwin & Barneby	Fabaceae	-	Brucellosis, Malaria	Shrub	Barks	Maasai	Moi's Bridge
<i>Clerodendrum myricoides</i> (Hochst.) R.Br. ex Vatke	Lamiaceae	<i>Misilia Ngokho</i>	Blood Pressure conditions	Shrubs	Leaves	Bukusu	Kitale
<i>Combretum molle</i> R.Br. ex G.Don	Combretaceae	<i>Kumukimila</i>	Ulcers	Tree	Leaves	Bukusu	Kitale
<i>Cyphostemma cyphopetalum</i> (Fresen.) Desc. ex Wild & R.B. Drumm	Vitaceae	<i>Erodo</i>	Ulcers	Climber	Roots	Turkana	Kitale
<i>Erythrina abyssinica</i> Lam. ex DC.	Fabaceae	<i>Kumurembe</i>	Gonorrhoea	Tree	Roots	Bukusu	Kitale
<i>Euclea divinorum</i> Hiern	Ebenaceae	<i>Kumchanjasi</i>	Diabetes	Tree	Leaves	Bukusu	Kitale
<i>Manihot esculenta</i> Crantz			Euphorbiaceae	Cassava	Diabetes	Shrub	Whole plant
<i>Moringa oleifera</i> Lam.	Moringaceae	Moringa	Brucellosis	Tree	Whole plant	Bukusu	Kitale
<i>Prunus africana</i> (Hook.f.) Kalkman	Rosaceae	Red stink wood	Blood Pressure conditions	Tree	Barks	Bukusu	Kitale
			Brucellosis	Tree	Barks	Mijikenda	Kitale
<i>Salvadora persica</i> L.	Salvadoraceae	<i>Esokon</i>	Oral and Teeth hygiene	Shrub	Twigs	Turkana	Kitale
<i>Zanthoxylum asiaticum</i> (L.) Appelhans, Groppo & J.Wen.	Rutaceae	-	Malaria	Climber	Roots, Fruits	Bukusu	Kitale
<i>Tragia brevipes</i> Pax	Euphorbiaceae	<i>Ilaila</i>	Diabetes	Climber	Leaves	Bukusu	Kitale
<i>Trichilia emetica</i> Vahl	Meliaceae	<i>Mnyama</i>	Male sex power, Kidney problems (Induasi)	Tree	Leaves	Bukusu	Kitale
<i>Warburgia ugandensis</i> Sprague	Canellaceae	<i>Lisikhu</i>	Blood Pressure conditions	Tree	Twigs and Leaves	Bukusu	Kitale
<i>Vitex doniana</i> Sweet	Lamiaceae	<i>Kumufutu</i>	Ulcers	Tree	Twigs, Flowers	Bukusu	Kitale
<i>Zanthoxylum chalybeum</i> Engl.	Rutaceae	<i>Mjafari</i>	Brucellosis	Tree	Seeds	Mijikenda	Kitale
		<i>Mishuki/</i>	Cough and Colds	Tree	Seeds	Maasai	Moi's Bridge
		<i>Oloisuki</i>					
<i>Ziziphus mauritiana</i> Lam.	Rhamnaceae	<i>Mkunazi</i>	Arthritis	Tree	Barks	Mijikenda	Kitale

Makutano Medicine Market, West Pokot County							
<i>Aloe spp.</i>	Asphodelaceae	<i>Tolkos</i>	Typhoid	Herb	Roots	Pokot	
<i>Carissa spinarum</i> L.	Apocynaceae	<i>Legetetwo</i>	Stomach pains and complications (<i>Kata</i>)	Shrub	Roots	Pokot	
<i>Dovyalis abyssinica</i> (A.Rich.) Warb.	Salicaceae	<i>Mindirilwo</i>	Sexually transmitted diseases with evidence of pus	Tree	Roots	Pokot	
<i>Euphorbia sp.</i>	Euphorbiaceae	<i>Chepketo</i>	Dizziness feeling and state of mental confusion (<i>Kizunguzungu</i>)	Herb	Twigs and Leaves	Pokot	
<i>Maerua decumbens</i> (Brongn.) DeWolf	Capparaceae	<i>Chepliswo</i>	Diabetes	Shrub	Tuber	Pokot	
<i>Zanthoxylum chalybeum</i> Engl.	Rutaceae	<i>Songowo</i>	Fever, Body weakness, Malaria, Colds and coughs	Tree	Seeds	Pokot	
Aror & Kaptabuk Medicine markets, Elgeyo Marakwet County							
<i>Azadirachta indica</i> A. Juss.	Meliaceae	<i>Mwarobaini</i>	HIV/AIDS Management	Tree	Burnt ash	Marakwet	Aror
			Body rashes with fluid release (<i>Mogonjo</i>), Skin (fungal) infection	Tree	Leaves	Marakwet	Aror
			Cancer (throat, prostate, breast)	Tree	Leaves	Marakwet	Aror
		<i>Kabungui</i>	Amoebiasis	Tree	Leaves	Marakwet	Aror
			Spinal cord problems/ Nervous system (<i>Kipnam korot</i>)	Tree	Leaves	Marakwet	Aror
			Infertility	Tree	Barks, Twigs and Leaves	Marakwet	Aror
<i>Cadaba farinosa</i> Forssk.	Capparaceae	<i>Pirwo</i>	Blending medicine for all TM administered to the male gender, Seeds also pocketed to confuse the enemy	Shrub	Roots and Seeds	Marakwet	Aror
<i>Caesalpinia decapetala</i> (Roth) Alston	Fabaceae	<i>Manangwa</i>	Stomachache (<i>Kata</i>)	Climber	Roots	Marakwet	Kaptabuk
<i>Capparis tomentosa</i> Lam.	Capparaceae	<i>Kiporei nyo pirr</i>	Boosts male virity	Shrub	Roots	Marakwet	Aror
			Female fertility and Conception	Shrub	Roots	Marakwet	Aror
			Amoebiasis	Shrub	Roots	Marakwet	Aror
<i>Carissa spinarum</i> L.	Apocynaceae	<i>Legetetwo</i>	Typhoid	Shrub	Roots	Marakwet	Kaptabuk
<i>Senna occidentalis</i> (L.) Link	Fabaceae	<i>Kipsakaram</i>	Severe stomachache and complications (<i>Katab ng'otobcho</i>)	Herb	Roots	Marakwet	Aror
<i>Chasmanthera dependens</i> Hochst.	Menispermaceae	<i>Sindarr</i>	Blending medicine for all drugs administered to the female gender	Liana	Roots	Marakwet	Aror
<i>Cissus quadrangularis</i> L.	Vitaceae	<i>Kirorot</i>	Squeezed liquid from twigs and leaves used against scorpion bites	Climber	Twigs and Leaves	Marakwet	Aror
<i>Cissus rotundifolia</i> Lam.	Vitaceae	<i>Babasta</i>	Massaging painful areas of the body	Climber	Leaves	Marakwet	Aror

<i>Clerodendrum myricoides</i> (Hochst.) R.Br. ex Vatke	Lamiaceae	<i>Chebobot</i>	Ulcers	Shrub	Roots	Marakwet	Error
			Body rashes with fluid release (<i>Mogonjo</i>), Skin (fungal) infection	Shrub	Leaves	Marakwet	Error
<i>Cucumis aculeatus</i> Cogn.	Cucurbitaceae	-	Diabetes	Climber	Twigs, Leaves and Fruits	Marakwet	Error
<i>Cucumis dipsaceus</i> Ehrenb. ex Spach	Cucurbitaceae	-	Diabetes	Climber	Fruits	Marakwet	Error
<i>Cyperus rotundus</i> L.	Cyperaceae	<i>Moigut</i>	Spinal cord problems/ Nervous system (<i>Kipnam korot</i>)	Herb	Root swellings/	Marakwet	Error
					Root nodes		
<i>Cyphostemma serpens</i> (Hochst ex A.Rich.) Desc.	Vitaceae	<i>Namgura</i>	Lymph node swellings (<i>Ng'uriel</i>)	Climber	Leaves	Marakwet	Error
<i>Dregea schimperi</i> (Decne.) Bullock	Apocynaceae	<i>Chebelel</i>	Severe stomachache and complications (<i>Katab ng'otobcho</i>)	Climber	Roots	Marakwet	Error
			HIV/AIDS Management	Climber	Burnt ash	Marakwet	Error
			Spinal cord problems/ Nervous system (<i>Kipnam korot</i>)	Climber	Roots	Marakwet	Error
			Typhoid	Climber	Roots	Marakwet	Kaptabuk
			Infertility	Climber	Roots	Marakwet	Error
			Stomachache (<i>Kata</i>)	Climber	Roots	Marakwet	Kaptabuk
<i>Erythrina abyssinica</i> Lam. ex DC.	Fabaceae	<i>Kongorwo/</i>	Stomach pains and infection, Body rashes	Tree	Roots	Marakwet	Kaptabuk
		<i>Korkorwo</i>					
<i>Grewia trichocarpa</i> Hochst. ex A.Rich.	Malvaceae	<i>Sitet</i>	Squeezed liquid from the twigs and leaves applied on eyes against snake poison spray	Shrub	Twigs and Leaves	Marakwet	Error
<i>Cleome gynandra</i> L.	Cleomaceae	<i>Sakia</i>	Colic in babies	Herb	Roots	Marakwet	Kaptabuk
<i>Harrisonia abyssinica</i> Oliv.	Rutaceae	<i>Krelwo/ Kapkrelwo</i> (Locally dubbed the Marakwet 'Chloroquine')	Amoebiasis	Tree	Roots	Marakwet	Error
			Malaria	Shrub	Roots	Marakwet	Error
<i>Lannea schweinfurthii</i> (Engl.) Engl.	Anacardiaceae	<i>Moino/Muino</i>	Typhoid, Stomachache	Tree	Barks	Marakwet	Error
<i>Leonotis nepetifolia</i> (L.) R.Br.	Lamiaceae	<i>Kipsererey</i>	Severe stomachache and complications (<i>Katab ng'otobcho</i>)	Shrub	Roots	Marakwet	Error
			Ulcers	Shrub	Roots	Marakwet	Error
<i>Maerua decumbens</i> (Brongn.) DeWolf	Capparaceae	<i>Luswo/ Chepliswo</i>	Diabetes	Shrub	Tubers	Marakwet	Error
			Infertility	Shrub	Rootstocks	Marakwet	Error

<i>Maesa lanceolata</i> Forssk.	Primulaceae	<i>Ribotyo</i>	Stomachache (<i>Kata</i>),	Tree	Barks	Marakwet	Kaptabuk
			Typhoid				
<i>Momordica sp.</i> Schumach.	Cucurbitaceae	<i>Cheseria</i>	Oral thrush (<i>Kibarus kot</i>)	Climber	Leaves	Marakwet	Kaptabuk
<i>Momordica friesiorum</i> (Harms) C. Jeffrey	Cucurbitaceae	<i>Chepking'uny</i>	Malaria	Climber	Tuberous rootstocks	Marakwet	Arror
<i>Nuxia congesta</i> R.Br. ex Fresen.	Stilbaceae	<i>Chorwo</i>	Chest pains and complications	Tree	Barks	Marakwet	Kaptabuk
<i>Ocimum basilicum</i> L.	Lamiaceae	-	Teeth problems	Herb	Twigs and Leaves	Marakwet	Arror
<i>Phytolacca dodecandra</i> L'Her.	Phytolaccaceae	<i>Kipsogoti</i>	Body rashes with fluid release (<i>Mogonjo</i>), Skin (fungal) infection	Shrub	Leaves	Marakwet	Arror
<i>Podocarpus latifolius</i> (Thunb.) R.Br. ex Mirb	Podocarpaceae	<i>Beenn</i>	Skin rashes and allergic reactions (<i>Mokonjo</i>)	Tree	Barks	Marakwet	Kaptabuk
<i>Ricinus communis</i> L.	Euphorbiaceae	<i>Manwo</i>	Cancer (throat, prostate, breast)	Shrub	Oil	Marakwet	Arror
			Cleansing the stomach/ Stomach wash (<i>Ng'wono</i>)	Shrub	Oil	Marakwet	Arror
<i>Salvadora persica</i> L.	Salvadoraceae	<i>Checha</i>	Boosts male virility	Shrub	Roots	Marakwet	Arror
			Blending medicine	Shrub	Roots	Marakwet	Arror
<i>Solanum incanum</i> L.	Solanaceae	<i>Kaplobotwo</i>	Liver infections and complications	Herb	Whole plant	Marakwet	Arror
<i>Solanum nigrum</i> L.	Solanaceae	<i>Kisoyo</i>	Colic in babies	Herb	Roots	Marakwet	Kaptabuk
<i>Tabernaemontana stapfiana</i> Britten	Apocynaceae	<i>Karbeswo</i>	Chest pains and complications	Tree	Barks	Marakwet	Kaptabuk
<i>Terminalia brownii</i> Fresen.	Combretaceae	<i>Koloswo</i>	Urethral tract infections, Treats an alarming yellow urine problem	Tree	Barks	Marakwet	Arror
<i>Tragia brevipes</i> Pax	Euphorbiaceae	<i>Kimelei</i>	Spinal cord problems/ Nervous system (<i>Kipnam korot</i>)	Climber	Leaves	Marakwet	Arror
<i>Uvaria scheffleri</i> Diels	Annonaceae	<i>Murguywo</i>	Severe stomachache and complications (<i>Katab ng'otobcho</i>)	Liana	Roots	Marakwet	Arror
			Female infertility and Conception	Liana	Roots	Marakwet	Arror
<i>Vachellia seyal</i> (Delile) P.J.H. Hurter	Fabaceae	<i>Relna</i>	Typhoid	Tree	Barks	Marakwet	Arror
			Amoebiasis	Tree	Roots	Marakwet	Arror
<i>Ximenia americana</i> L.	Olacaceae	<i>Kinyotwo</i>	Squeezed liquid from the twigs and leaves used against livestock eye infections	Shrub	Twigs and leaves	Marakwet	Arror
<i>Zanthoxylum chalybeum</i> Engl.	Rutaceae	<i>Songowo</i>	Typhoid	Tree	Seeds	Marakwet	Arror

Kakamega Medicine Market, Kakamega County						
<i>Ajuga integrifolia</i> Buch. Ham ex D.Don	Lamiaceae	<i>Embuli yo mutakha</i>	Typhoid, Pneumonia, Stomachache	Herb	Roots	Luhya
<i>Aloe spp.</i>	Asphodelaceae	<i>Shubiri/ Subri</i>	Typhoid	Herb	Roots	Luhya
			Syphilis	Herb	Barks	Luhya
		<i>Shikakha</i>	Boosts appetite	Herb	Leaves	Luhya
<i>Bridelia micrantha</i> (Hochst.) Baill.	Phyllanthaceae	<i>Shikangania</i>	Ulcers	Tree	Barks	Luhya
<i>Curcubita sp.</i>	Cucurbitaceae	<i>Livombolo</i>	Blood Pressure conditions	Climber	Leaves	Luhya
<i>Ekebergia capensis</i> Sparrm.	Meliaceae	<i>Tido</i>	Syphilis	Tree	Barks	Luhya
<i>Erythrina abyssinica</i> Lam. ex DC.	Fabaceae	<i>Mtembe</i>	Fibroids	Tree	Roots	Luhya
			Gonorrhoea, Body rashes	Tree	Barks	Luhya
			Blood Pressure conditions	Tree	Barks	Luhya
<i>Kigelia africana</i> (Lam.) Benth.	Bignoniaceae	<i>Yago</i>	Syphilis	Tree	Seeds	Luhya
<i>Microglossa pyriformis</i> (Lam.) Kuntze	Asteraceae	<i>Ingoi</i>	Boosts male virility	Woody herb/	Leaves	Luhya
				Scrambler		
<i>Mondia whitei</i> (Hook.f.) Skeels	Apocynaceae	<i>Mkhombero</i>	Boosts male virility	Climber	Roots	Luhya
<i>Moringa oleifera</i> Lam.	Moringaceae	<i>Moringa</i>	Blood Pressure conditions	Tree	Leaves	Luhya
<i>Prunus africana</i> (Hook.f.) Kalkman	Rosaceae	<i>Mwiritisa</i>	Prostate cancer	Tree	Barks	Luhya
<i>Trichilia emetica</i> Vahl	Meliaceae	<i>Mnyama</i>	Gonorrhoea	Tree	Barks	Luhya
			Gonorrhoea	Tree	Bark and roots	Luhya
			Gonorrhoea	Tree	Bark	Luhya
			Fibroids	Tree	Bark	Luhya
			Ulcers	Tree	Barks	Luhya
			HIV/AIDS management	Herb	Tubers	Luhya
<i>Warburgia ugandensis</i> Sprague	Canellaceae	<i>Abaki</i>	Gonorrhoea	Tree	Barks	Luhya
<i>Urtica massaica</i> Mildbr.	Urticaceae	<i>Stinging nettle</i>	Blood Pressure conditions	Herb	Leaves	Luhya
			Boosts male virility	Herb	Leaves	English
<i>Zanthoxylum chalybeum</i> Engl.	Rutaceae	<i>Sukhuma/</i>	Fibroids	Shrub	Barks	Luhya
		<i>Isukhuma</i>				

Luanda Medicine Market, Vihiga County						
<i>Ajuga integrifolia</i> Buch. Ham ex D. Don	Lamiaceae	-	Malaria	Herb	Whole plant	Luhya
<i>Azadirachta indica</i> A. Juss.	Meliaceae	<i>Mwarobaini</i>	Malaria	Tree	Leaves	Luhya
<i>Carissa spinarum</i> L.	Apocynaceae	<i>Ochuoga/ Uchuoka</i>	Gonorrhoea	Shrub	Roots	Luhya
		<i>Siwah</i>	Body rashes	Shrub	Roots	Luhya
		<i>Ochuoga</i>	Stomachache	Shrub	Roots	Luhya
<i>Cucumis aculeatus</i> Cogn.	Cucurbitaceae	-	Diabetes	Herb, Climber	Leaves	Luhya
<i>Hypoestes</i> sp.	Acanthaceae	<i>Manyasi</i>	'Sprinkler' of decoction to eliminate curses (<i>Chira</i>)	Herb	Whole plant	Luhya
<i>Kigelia africana</i> (Lam.) Benth.	Bignoniaceae	<i>Lirabe/ Murabe</i>	Hernia	Tree	Fruits	Luhya
<i>Leucas grandis</i> Vatke	Lamiaceae	-	Colds, coughs and malaria	Shrub	Leaves	Luo
<i>Trichilia emetica</i> Vahl	Meliaceae	<i>Mnyama</i>	Body rashes (<i>Induasi ye Inyama</i>)	Tree	Roots	Luhya
			Bone diseases	Tree	Bark and Roots	Luhya
<i>Tylosema fassoglense</i> (Kotschy ex Schweinf.) Torre & Hillc.	Fabaceae	<i>Imbasa</i>	Back pains	Herb	Swollen rootstocks	Luhya
<i>Vernonia amygdalina</i> Delile	Asteraceae	<i>Omululuzwe/ Omululusya</i>	Ulcers	Shrub	Leaves	Luhya
<i>Warburgia ugandensis</i> Sprague	Canellaceae	<i>Abaki</i>	Bone diseases	Tree	Roots	Luhya
<i>Zanthoxylum chalybeum</i> Engl.	Rutaceae	<i>Isukhuma</i>	Bone diseases	Tree	Roots	Luhya

Yala Medicine Market, Siaya County							
<i>Carissa spinarum</i> L.	Apocynaceae	<i>Ochuoga</i>	Headache	Shrub	Barks	Luo	
			Hernia, Stimulate urine production, Corrects difficulties in defecation	Shrub	Roots	Luo	
<i>Dicliptera laxata</i> C.B. Clarke	Acanthaceae	<i>Manyasi</i>	Removes a curse (<i>Chira</i>), HIV/AIDS management	Herb	Leaves	Luo	
<i>Ekebergia capensis</i> Sparrm.	Meliaceae	<i>Tido</i>	Ulcers	Tree	Barks	Luo	
<i>Rubia cordifolia</i> L.	Rubiaceae	-	Removes a curse (<i>Chira</i>), HIV/AIDS management	Climber	Leaves	Luo	
<i>Sonchus</i> sp.	Asteraceae	<i>Achak</i>	Stomachache	Herb	Roots and Leaves	Luo	
<i>Zanthoxylum asiaticum</i> (L.) Appelhans, Groppo & J.Wen.	Rutaceae	<i>Ajua</i>	Hernia, Stimulate urine production, Corrects defecation challenges	Climber	Twigs and Leaves	Luo	
<i>Trichilia emetica</i> Vahl	Meliaceae	<i>Mnyama</i>	Headache	Tree	Barks	Luo	
			Body itching sensation and pain	Tree	Roots	Luo	
<i>Tylosema fassoglense</i> (Kotschy ex Schweinf.) Torre & Hillc.	Fabaceae	<i>Imbasa</i>	Body itching sensation and pain	Climber	Swollen rootstocks	Luo	
			Ulcers	Climber	Swollen rootstocks	Luo	
<i>Warburgia ugandensis</i> Sprague	Canellaceae	<i>Abaki</i>	Chest complications	Tree	Barks	Luo	
<i>Zanthoxylum gillettii</i> (De Wild.) P.G. Waterman	Rutaceae	<i>Shikhuma</i>	Stomach pain and complications	Tree	Bark	Luo	

Table 2: Traditional medicine commonly traded in the surveyed markets of Western Kenya.

The traditional medicine markets represented a complex and diverse array of cultures as shown by different plant uses and floristic compositions [20]. It has been documented that most traditional medicine were used in the treatment of largely gut system disorders that include stomach infections, chest infections and typhoid. These diseases have also expressed high ethnobotanical index (Relative Frequency of Citation, Consensus factors) values [21,22]. Documentation of this traditional medicine bolsters local ethno-pharmacopoeia and presents an opportunity for new drug discoveries upon scientific validation. Documentation of this ethnomedicine knowledge enhances the local ethno-pharmacopoeia and the general ethno-taxonomy. It also offers great opportunity for focused conservation strategies [23]. *Carissa spinarum* has also been reported to be among the frequently traded medicine in the Northern Kenya medicine markets of Marsabit and Moyale [24].

Summary and Conclusion

Traditional medicine trade represents deep seated and cumulative traditional medicine knowledge significant in the treatment of various diseases and carries with it deep cultural and ethnic relevance. This traditional medicine industry can be integrated into the primary health care. Documentation of this invaluable traditional medicine helps in the conservation of the most frequently traded medicinal plants and provides a sustainability platform. The traditional medicine markets, albeit informal, should be properly and effectively organized for the growth of the traditional medicine industry.

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