ADDIS ABABA UNIVERSITY

SCHOOL OF GRADUATE STUDIES

COLLEGE OF HUMANITIES, LANGUAGES STUDIES, JOURNALISM AND COMMUNICATION

AN ETHNOBOTANICAL STUDY OF PLANTS AMONG THE SIDAAMA WITH SPECIAL REFERENCE TO MEDICINAL PLANTS

By: Henok Yizengaw

MAY, 2015

Addis Ababa

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BY

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A Thesis Presented to the School of Graduate Studies of Addis Ababa University

In Partial Fulfillment of the Requirements for the Degree of

Master of Documentary Linguistics and Culture

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ABSTRACT

The main focus of this study is to document, describe and show the relationship between medicinal plants with their vernacular names. This study attempts to display traditional medicinal plants and their links with some ethnolinguistic issues by taking the Sidaama zone as a case study which is located in the South Eastern Ethiopia. This work is carried on in the Sidaama Zone Aletawendo, Aletachuko and Shebedino districts between March 10,2014 to June 12,2014. The data were collected from 60 people (40 males and 20 females). Except some key informants, other informants were selected randomly. The data were gathered through semi structured interviews, focus group discussion and guided field observation. The ethnomedicinal use of 75 plants which are used as cure in the study area was documented. Plants were collected from both wild and home garden. But most of the medicinal plants were collected from the wild. Parts of plants like leaves, stems, barks, and roots were the most frequently used plants for medicinal purpose. Medical treatments usually can be taken via different mechanisms. In addition to this, in this study plants' names, types, structures, meanings, and their utilities other than medicinal values are also discussed. People who live in rural areas and those under privileged urban communities practice traditional medical treatments. In this particular study what the researcher attempted to show the linguistic properties of medicinal plants names among the Sidaama community. The inquiry may aid other researchers to

understand the mutually beneficial nature of the disciplines and the value of preserving the environment. Moreover, researches conducted by the triangulation of linguistic/language, culture, medicine and environmental science may help us in better understanding of the contemporary global ecological crisis.

Acknowledgement

I am indebted to all the masses who had priceless involvement in each footstep of the composition.

My very special regard go to my supervisor Dr. Zelealem Leyew for his profound scholastic advice. I appreciate his humble and genuine intellectual life.

There are also kind people who contributed a lot to make this paper real. My key informants Dr. Demeke Hailu, Tesgaye Abebe, Abebech Bekele, Husen Kaptyimer, Taye, Tagel, Okelo,Gashu, Adera, Ferew, Mahelet take the lion's share. From the study area Aletachuko, Aletawendo and Shebedino (Leku) respectively

I'm also thankful for my considerate friends: Fekade Fana, Hanisa Shikur, Eyob Zeleke, Sara Moges, Ayenalem Bekele, Mekedes Tefera, Kidist Yeshitela Girume Bekele and his wife Ethiopia Wenago I'm really obliged to acknowledge the Sidaama Zone Agriculture, Health and Hawassa Meteorology Bureau and Addis Ababa University National Herbarium staff members for their selfless assistances in providing me all the necessary data.

I forward my special thanks to all my family members, particularly Tesfaye Yizengaw, Mesert Girma, Tewabech Yizengaw, Yewebedar Yizengaw, Weyneshet Naji Mareta and Eyob Yizengaw: I owe you for your unwavering financial and moral support.

Finally, I take all the responsibilities for any error that might be detected in this study.

DEDICATION

To my beloved friends Aynalem Tesfaye and Almaz Aregaw:

Rest in peace; you are always in my heart!

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Key to Acronyms and Abbreviations

ADJ –Adjective

C –Consonant

CL – Climber

CNN–Connectives

CSA – Central Statistics Authority

CV –Consonant Vowel

CVC –Consonant Vowel Consonant

Ej -Ejective

ENTMPSA-The Ethiopian National Traditional Medicine Preparation and Study Association

F –Feminine

H – Herb

HYD001 –HYD0075- Voucher Number or codes for plant name

Impf - imperfective

Impl - implosive

IUCN – International Union for Conservation of Nature

M –Masculine

N –Noun

OSV –Object-Subject-Verb

Perf - perfective

Pf -perfect

Pl - plural

S –singular

SH – Shrub

SNNPRS –Southern Nation and Nationalities People Regional State

SOV -Subject-Object-Verb

T – Tree

UNEP – United Nation Environmental Program

Ve – Verb

V –Vowel

Vd –Voiced

Vl –voiceless

WHO – World Health Organization

CHAPTER ONE

1. INTRODUCTION

1.1. Background of the Study

The main concern of this paper is to document and describe traditional medicinal plants and the vernacular names of the plants and their linguistic properties. According to IUCN Species Survival Commission (2007) between 50,000 and 80,000 flowering plants are applied for medicine globally. Recently these medicinal plant species, as a result of ecological crises and interlinked problems such as deforestation, global warming, water and air pollution and soil erosion, are on the verge of extinction. The rise of economic significance exposes the plants for over harvesting, which can also be considered as a major factor for plant endangerment. In this paper, the researcher plans to prepare medicinal plant documentation and description. The study or this documentation endeavor will have close to essential data such as local and scientific names of the plants, their medicinal usages and places of origin or habitat.

In accordance with FAO (1997) report, more than 3.5 billion people around the world are dependent on plants for the treatment of both animal and human illnesses. Dawit (2001), similar to other people in Africa, local people in Ethiopia largely use plants to cure and vaccination. Some writers like Urgasa (2004) accept that the vast

vegetation diversity of Ethiopia may become the source of medicinal plants to treat major diseases including malaria, cancer and even HIV/AIDS. The 2002 WHO report indicated that close to 90 percent of the Ethiopian population depends on traditional medical tetement. The strong bond of local people with medicinal plants may have different causes. Far ahead the maturation of advanced medication, in Ethiopia, traditional medicines served as the major tools for treating several diseases. The uses of these medicinal plants increased across the globe in the last two decades particularly in the growing nations. Some of the causes why these countries stick with medicinal plants are: lack of well-developed medical systems, financial problems and cultural influences IUCN (2007:17). In addetion, compared to advanced medicine fair price, accessibility and easy handling have made traditional medicines preferable. The distribution of these plants across the country is determined by geographical and climatic conditions.

According to Konno (2009:128), by large the importance of medicinal plants is restricted entirely to the circle of traditional therapists. According to Zemede (2001:62), knowledge of traditional medicine in Ethiopia faced a serious sustainability problem because of the loss of medicinal plants. There is a growing tension in contemporary botanists that the present ecological crises may totally smash up medicinal plants from the planet Tesfaye (2003:10). To surmount these problems, different attempts have been contracted in the

scientific field. Among scientific endeavors aimed at protecting medicinal plants from further destruction we can find in-situ and ex-situ conservation mechanisms. These two conservation mechanisms are used to preserve medicinal plants with traditional wisdom. According to Mesfin and Sebesebe (1992), research and documentation of medicinal plants in Ethiopia is a late phenomenon. Thus, the present study will assiste this documentation endavour.

1.2. Statement of the Problem

Momentous measures have been adopted to overcome the current severe environmental destruction, but it is incomparable with that of the destruction. Medicinal plants are distributed all over the country with great concentration in south and southwestern part of the country. The woodlands of Ethiopia are the source of most medicinal plants. Among vegetation that have medical purposes, 15,000 of them are threatened with extinction worldwide Roberson (2008:3) in Ethiopia because of man and natural distractions medicinal plants are under a serious extinction risk due to a rapid population growth, which again contributes to using plants as a source of vitality. In addeetion expansion of urbanization and commercialization also contribute for the extinction of medicinal plants. A natural cause can be drought, bush fire and plant diseases (etal). This speeds up the loss of medicinal plants. According to Girma (1998), Ethiopia has a wide variety of ecological, geographicaland climate conditions that account for the wide diversity of its biological resources both in terms

of flora and fauna natural treasures. Hence, this study is initiated by the problems that are noted above.

1.3. Significance of the Study

The importance of this description attempt is just to meet the gap in ethnobotanical studies which has not caught much attention by researchers so far. It is true that economic, political and societal issues are conducted by different ethnobotanical studies produced in different Ethiopian regions. The purpose of this paper is to make a comprehensive documentation of medicinal plants. This is considerably helpful for those who work on medicinal plant gene bank and researcher who deal with ethnolinguistics issues. Some of the significances of the study are:

- Letting policy makers and those who work on environmental related tasks have a better understanding of culture, language and medicinal plants.
- Taking it as a springboard for other advanced researches.
- Helping those who want to study the nexus between human and environment particularly medicinal plants.

1.4. Objective of the study

The General objectives are the following:

- To document and describe medicinal plants among the Sidaama

The Specific objectives are the following:

- It spots plant names used for medicinal purposes
- It identifies places of origin and habitat of medicinal plants
- It discusses medical benefits of the plants and their habit

1.5. Limitations of the Study

Virtually all research projects are taken on by a number of difficulties. The troubles in this research task were financial constraints, lack of documents composed on the subject matter of ethnolinguistics and time related problems. Therefore, the study was not completed within the scheduled time frame.

1.6. Ethical Considerations

Likewise it is brought up by different students, every research involves agreement, admission and associated ethical issues. Interviews of participants were held through general protocols and procedures for interviewing and oral history. The study was undertaken by consent obtained from participants. They needed full information about the research, including the reason why they have been selected to take part. Besides this, the participants' privacy, confidentiality and anonymity had been secured. Consent forms and a covering letter were also provided

by the researcher. Similarly, the districts of Sidaama Zone, where the case study was conducted needed to give permission for access to archival materials and documents which are useful for the study.

1.7. Description of the study area

1.7.1Geographical Location

Sidaama Zone is located in the South Nations and Nationalities People Regional State (SNNPRS). The capital city, Hawasa, is located 275 kms away from Addis Ababa Ethiopian capital. Based on the 2007 census conducted by Central Statistics Authority (CSA:355), the zone has a total population of 2,954,136 among which 50.48% (1,491,248) are men and (49.52%)1,462,888 are women. It has a total area of 6,538.17 Square Kilometers. Of the above total population, 5.51% are urban dwellers while 0.18% pastoralists and the remaining 94.31% are rural inhabitants whose life is tied to agriculture. On the average, the zone has 4.99 dwellers per household and a sum of 592,539 households resulting in a population density of 451.83/km sq CSA (1994:455).

Sidaama is currently divided into 21 districts and each district has a population of about 140,673.14 dwellers. Out of these 21 districts, three districts namely Shebedino, Aletawendo and Aletachuko districts were chosen to document and describe medicinal plant names.

1.8. Geology and Soils

According to the land and agriculture office of Sidaama zone the three dominant soil types in the area are clay soil (40%) sandy soil (10%) and loam soil (50%) respectively. The underlying parent materials in the study area are of alkali trachytes and basalts, often overlain by volcanic ash deposits from the late tertiary period volcanoes (Anonymous, 1973). The highland areas bordering the rift valley are characterized by moderately weathered dark-reddish brown soil with a clay-loam texture Lemenih (2004) as cited in Sintayehu (2011:44).

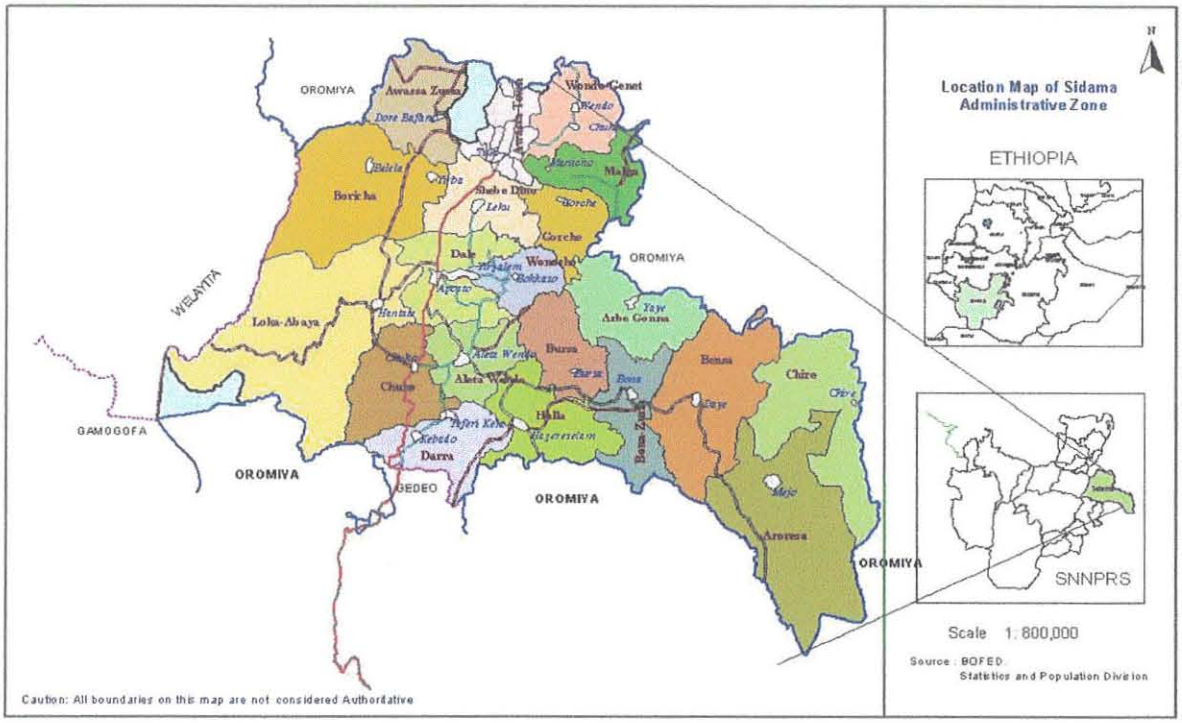


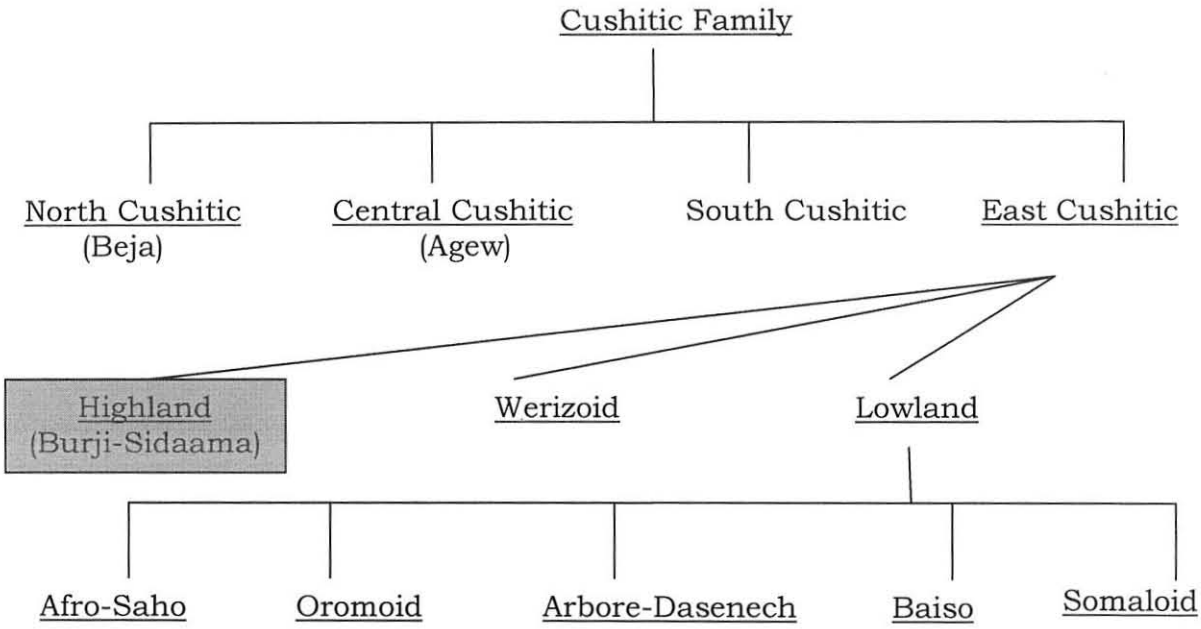
Figure 1. Location Map of the Research areas

Source: Sidaama Zone Agriculture, Bureau

1.9. The People and the Language of Sidaama

In terms of number of speakers Sidaama is among the major Ethiopian languages. It belongs to the Cushitic language family and it is closely related to Hadiyya, Kembata, Gedeo and Burji which form the Highland East Cushitic language branch. As 2007 Central Statistics Agency National Population and Housing Census reports Sidaama, has approximately 2.7 million mother-tongue speakers, and it is spoken as a first language by 94.23% of the inhabitants, 2.14% speak Amharic, and 2.07% Oromifa, the remaining 1.56% speak all other primary languages. As reported in Gutt (2003), Sidaama is one of the major languages in Ethiopia. It is spoken in vastly in Sidaama Zone, which is about 6,800 km in the south of central Ethiopia.

According to Girma (1996), Sidaama language has twenty-four consonants, but there are other consonant phonemes becoming part of Sidaama consonant phonemes like [z], [ž], [v] and [p] due to linguistic interaction to Amharic and English. The genetic position of Sidaama is as follows:



(The genetic position of Sidaamaadapted from Bender,1976:244)

1.10. Vowels and Consonants of Sidaama

According to Kawachi (2007), Sidaama has five short vowel phonemes such as, (/i/,/e/, /a/, /o/, /u/) and their long counterparts (/ii/, /ee/, /aa/, /oo/,/uu/). /i/ — /ii/ For example, sinna 'branches' — *siinna* 'coffee cups' dina 'to limp' — diina 'enemy' /e/ — /ee/ tenne 'at that time, then' — teenne 'flies' de'a 'to neglect' — dee'a 'to have diarrhea' /a/ — /aa/ *jawa*'great, old' — *jaawa*'to become thin' *gala*'to stay overnight' — *gaala*'camel' /o/ — /oo/ *hoga*'to convert a *weese*plant into *waasa*' — *hooga*'to lose' *k'ola* 'to reply' — *k'oola* 'wing' /u/ — /uu/ *kula*'to tell' — *kuula*'blackish blue' *but'a*'to become poor' — *buut'a* 'to become cautious'. All Sidaama words end in vowels.

Generally, open-class words end in /e/,/a/, or /o/ in their citation forms, and can end in /u/ or /i/ only when followed by a suffix that

consists only of or ends in one of these vowels. The sidaama language has a series of ejectives (/p'/, /t'/, /k'/, /č'/), similar to other Eastern Cushitic languages Hudson (1976) cited in Kawachi (2007:121) and like other Ethiopian languages Ferguson (1976:66-67). Even if the favored place of articulation for adjectives are the back of the mouth in many languages including a number of Cushitic languages (Greenberg, 1970: 127).Sidaama has /p'/. Unlike the ejectives, which are single segments, the glottalized sonorants (/'l/, /'m/, /'n/, /'r/, /'y/) are clusters made up of two phoneme segments consisting of a glottal stop and a sonorant Wedekind (1980: 135), Abebe (1985:65-66).

Anbessa (1994: 1094) states that there is a morphophonemic rule (specifically, the epenthesis of /i/) that applies to consonant clusters including /'m/, /'n/, and /'l/ that would not apply to them if they were single consonants instead of consonant clusters this rule does not apply to the ejectives because they are not consonant clusters, but single consonants. There is no evidence from the application of any of the morphophonemic rules to /'r/ and /'y/ that they are consonant clusters. Nevertheless, /'r/ is almost always an allomorph of the middle suffix *-d*, and /'y/ occurs only in one morpheme in this language (the first person singular pronominal possessive suffix, *-'ya*). The glottal stop is a phoneme in this language. In addition to the applicability of the above morphophonemic rule for consonant clusters to /'m/, /'n/, and /'l/, there are minimal and near-minimal pairs such as *saa* 'cow' — *sa'a* 'to pass'*lee* 'six' — *le'e*(le'-ø-e- [become.ripe-

1SG/3SG.M-CNN]) *meeda*'to shave' — *me'e* 'how many'. A language with only one implosive usually has /ɓ/, but as noted by Greenberg (1970: 128), Eastern Cushitic languages are unusual in that although they each have onlyone implosive, that implosive is /d/, rather than /b/. For example, Sidaama lacks /p/ and /v/.According to Ferguson (1976: 65), these two consonants are rarely used in Ethiopian languages and in loan words, /p/ and /v/ are usually replaced by /f/ and /b/, respectively.Example *foletika* (AMH: *polιtika,* English: 'politics'), *yunibarsite* (AMH: *yuniversite*, English: 'university')). The voiced dental fricative /z/ occurs only infrequently in loan words from Amharic (e.g., *muuze* '(AMH: *muz*) banana') Hudson (1976: 248) as cited in (Anbessa, 2000: 13). Insuch words, /z/ is often replaced by /s/ (e.g., *saitella* '(AMH: *zʌyt*) oil'), or is sometimes found in free variation with /s/ (e.g., *t'arap'eezza ~ t'arap'eessa* '(AMH: *t'ʌrʌpp'eza*) table').

Sidaama words, as in many non-semitic Ethiopian languages, cannot end with a Consonant. In addition, Sidaama does not allow geminated consonants or sequences of consonants word-initially. A geminate consonant will not be followed by another constant word in the middle. Two consonants cannot be in sequence in any position except/y/ which may be followed by a geminated consonant, as in *haysso*'grass' or *hayssa*'wash', and thus a syllable may have two codas Anbessa (2000:15). With the exception of this, Sidaama in general can be considered as having only a single coda. In any context it can only have a single onset. As Sidaama words always end with a

vowel, the dominant syllable structure of this language is CV. The syllables V and VC can only occur word initially, as in a.ni 'I' and in. sa'they'. The CVC syllable only occurs word-initially or-medially, as in *nin.ke*'we' or *wo.šič.ččo*'Dog'.

Table 1. Sidaama Consonant Phonemes adopted from Kawachi (2007)

	Bilabial	Dental	Alveolar	Palatal	Velar	Glottal
Plosive Stop	b	t d			k g	'
Ejective	p'	t'ɗ			k'	
Affricate			č ǰ			
Ejective			č'			
Fricative		s z	š			h
Nasal	m	n		ň		
Tap/Flap		r				
Lateral		l				
Approximant	w			Y		

Table 2. Vowel phonemes of Sidaama adopted from Girma (1996)

	Front	Central	Back
High	i		u
Mid	*e*	*o*	
Low	*a*		

Since, the intension is to display vernacular names of medicinal plants and its association with socio cultural issues it can be linked with part

of speech or word categories. Sidaama has seven word classes such as verbs, adjectives, nouns, pronouns, prepositions, conjunctions and adverbs. There is a further word class called interjection used in discourse to convey speaker's emotion, but it is not ruled by syntax. Moreover, regarding word categorization Girma stated that. Most of these word classes can be sub-categorized into smaller classes.

CHAPTER TWO

2. CONCEPTUAL FRAMEWORK AND LITERATURE REVIEW

2.1. Conceptual Framework

Every research task needs to have a strong theoretical foundation. In order to convey a sound argument and have reliable philosophical underpinning, theories are vital elements. In this regard, the value of theories and theoreticians are unquestionable.

This thesis is a result of multi-disciplinary study of ethnobotany and ethnolinguistics. It attempts to frame the study through the ethnology, botany and linguistics. Thus, the study will be incorporated under the conceptual framework of ethnobotany and ethnolinguistics. Harshberger (1895:58) coined the term ethnobotany for the first time and defines it as "the use of plants by aboriginal (indigenous) people" Harshberger (1896:21) cited in Cotton (1996:95). Martin (1996) defined ethnobotany as the subject concerning the study of interaction between humans and plants. In addition to this, Balick and Cox (1996:24) incorporated the use of plants as food, medicine, forage for any other economic purposes. According to Cotton (1996:28), ethnobotany includes all studies that show the shared relationships between plants and traditional people.

To gain more detailed and authentic data about plants and plant utilities, ethnobotanical study requires participation of specialists from various studies, such as plant taxonomist, ecologist, anthropologist, linguist, economic botanist, pharmacologist and others.

With such interdisciplinary and multidisciplinary approaches, ethnobotany aims at assembling and documenting indigenous botanical knowledge, cultural patterns, employment and management of botanical resources and identifying the benefits of plants. ethnobotanical studies are significant in enlightening locally important plant species, especially for the discovery of drugs Martin (1995:19). The relations between plant diversity and cultural variety, as well as the insight, custom, and administration of plant resources, are centeral issues in ethnobotany research. Ethnobotany has combined diverse theories from different disciplins. This interdisciplinary exchange has become ultimately related with the studies documenting traditional botanical knoweladge. According to Cotton (1996:32), there are three major thortical approaches to the study of traditional botanical knoweladg namely: utilitarian, coginitive and ecological.The present study also stands on the theortical framework of utilitarian approach. Which strongly advocates the study of plant utilitis.

2.2. Plant Animal Relations

For a long period of time, life scientists and naturalists have done a great deal of efforts to realize the relationships among the kingdoms of animals and plants. The two outstanding scholars at the cutting edge of science: Darwin and Lamarck, forwarded extensive scholastic views towards plants and animals' interaction Lamarck (1809, 76-91). Even Darwin in his popular record of evolution entitled "The origin of species by natural selection" profoundly discussed the issue of plant-animal interaction. Nevertheless, prior to Darwin, plant and animal interaction was the focus of descriptive ecology.

Now a day, plant animal interactions remain the centerpieces of much ecology central theories, including coevolution and consumer resources theory Anderson (2012:17). Plant-animal interactions can be categorized as commensal, antagonistic and mutualistic interactions. In commensal kind of interaction, one partner is benefited while the other is unaffected. Antagonistic is another kind of interaction in which at least one partner gets damaged, In the mutualistic interaction both plant and animal partners will be benefited.

As human being belongs to the animal kingdom the interaction between animals and plants are similar to that of the animal kingdom. The interaction of plants and animals seems to be mutualistic. Plants assist humans in various ways, such as in being shelter, forage, medicine and other economic activities Balick and Cox (1996:244).

The dependency nature of humans on other organisms is quite strong even though the contribution of plant species is much more. This strong link between humans and plants started ten thousand years ago through domestication of plants Martin (1995:294). Gradually, after a long period of time; the human being develops its own indigenous knowledge of plant utilization Cotton (1996:212). According to Zemede (1999:11), plants have been used in Ethiopia as a source of traditional medicine to fight both human and animal ailments. Furthermore, researchers such as Mirgissa and Dawit asserted the deep rooted nature of traditional medicine in Ethiopia Mirgissa (1998:33) and Dawit (2001:105).

In most parts of Ethiopia traditional medicine has been practiced for centuries. In comparison to modern medicine economic and cultural factors are highly affected by herbal medicine. This inaccessibility of modern medicine and its expensiveness made herbal medicine more preferable. According to Archer (*etal*), globally the degree of human's reliance on plants has become about ninety five percent. Similarly, Abbew (1996) explained countries like Ethiopia use herbal medicine extensively.

In the modern Ethiopian state formation the contribution of traditional plant medicine and knowledge of medicinal plant management and conservation was also quite important Pankhurst (1965:96). In relation to this, 80 percent of the Ethiopian population and 90 percent of livestock in Ethiopia for both 95 percent of the

medicine prepared from plants Dawit (1986:36). Traditional wisdom in Ethiopia has been transferred from generation to generation through oral narrations. As a result, the fate of medicinal plants and knowledge of traditional medicine is at risk. Moreover the rapid growth and pressure of population and environmental degradation forced to take remedial measures as quickly as possible. If someone wants to engage in language documentation activities, he/she should consider the interdisciplinary nature of the task of the study Himmelman, (2006:74).

Compared to the multiethnic and diversified flora of Ethiopia, studies on the area of ethnobotany are insignificant or limited Sintayehu (2011:23). Thus, this study attempts to prepare a catalogue of medicinal plants in the selected district of Sidaama Zone. The researcher assumes that the study helps researchers in the area of anthropology, phytochemical, pharmacology, ethnolinguistic studies and others.

2.3. Genesis, development of ethnobotany and ethnolinguistics

The name ethnobotany by itself indicates the combination of two words ethnology and botany. Ethnology simply defines the study of ethnic groups and their life style. On the other hand botany is the study of plants in general Supawita (2005:54). Similarly, ethnolinguistics or cultural linguistics is a field of linguistics which

studies the correlation between language and culture, and the way diverse ethnic groups observe their environment. Ethnobotany is hence the amalgamation of ethnology and botany. Those characteristics make the cultural aspects of a community or a society Radford (2009:9).

Similarly, in order to find profound and reliable information, ethno-botanical studies need the participation of professionals from different disciplines, such as linguistics, ecology, pharmacology, anthropology and other professions as well. The primary goal of ethnobotany is collecting and systematically documenting traditional ethnobotanical as well as traditional medicinal knowledge. In addition to this, it serves as a good source of drugs by revealing locally important plants Martin (1995:25).

As recently discussed by scholars, ethnobotany is a multidisciplinary scientific endeavor, and linguistics are also among the disciplines that contributes to the field ethnobotany Zelealem (2011:65). The very relation of traditional people upon their environment is quite strong particularly in plants. Usually language encodes the knowledge of traditional people about their environment, manifesting themselves via plant names. According to Zelealem and some other scholars the study of plant names and their relevance to understand a particular speech community is unquestionable. The ethnobotanical knowledge of speech communities is also studied through studying local (vernacular) nomenclature in a profound manner Berlin (1992:82)

cited in Zelealem (2011:29). Zelealem added that the communal knowledge of the society towards the environment is revealed by categorizing lexical and grammatical items in a language. The role and function of linguistics in providing tools for accurate transcription of folk botanical terms is undeniable fact Martin (1995) Cotton (1996) as sited in Zelealem (2011:29-32). Ethnolinguistics is a sub discipline of linguistics comprised under the category of historical linguistics, and it is the study of the relationship between language and culture (anthropological linguistics). Thus, the present study is simply an attempt to document and describe medicinal plants in making nexus between ethno-linguistics and ethno-botany.

2.4. Challenges of traditional medicine in Ethiopia

According to Sintayehu (2011:78) Ethiopia has six thousand species of plants among which ten percent of the plants exist only in Ethiopia. Concerning plants, genetic diversity UNEP (1995:64) reported that Ethiopia is an important (hot spot) place for genetic diversity.

A number of literatures indicate that Ethiopia ranks number two among twenty five biodiversity rich areas which contain medicinal plants. The biodiversity richness of Ethiopia and its medicinal purpose had been known thousands years ago from the period of ancient civilizations, such as Romans', Greek's and Egyptians' Thulin (2004:7). Travelers and different European professionals had attempted to identify medicinal plants between1830-1930 Griaule (1930:44). Almost all Ethiopian traditional medicines are obscured as

they are prepared without adequate national wisdom. Some traditional healers even believe that if the medicine lacks its secrecy, it totally fails to work Dawit (1986). Senior scholars in the area like Dawit had tried to classify Ethiopian traditional medicine based on feature of treatment such as preventive, curative and prophylactic. In general, medicinal plants and traditional medicines are integral part of most Ethiopian culture.

Traditional medicine is a long stayed practice of Ethiopians. Traditional herbal practitioners also take the lion's share on the utilization of medicinal plants. They have also the ability to identify plants that have medicinal purposes. Most of the time, these traditional healers are not volunteers to demonstrate their traditional wisdom they have kept in a strict secret. The practice of traditional healing using traditional medicine is simply bilateral or restricted between the healers and the patients Pankhurst (1990:9). Due to the expansion of modern medicine, urbanization and industrialization, traditional medicine and medicinal plants are on verge of extinction WHO (2002:12). Researchers like Abbink (1995:45) asserted that the impact of this threat makes traditional medicines less available and obscure to the public. According to Sintayehu (2011:75) written records in this field are inadequate even though Ethiopia has had countless literary wealth and written language for over 2000 years. Sintayehu added that the sources of written records are found mainly from three major sources. The first, is what he calls the "Debterras",

or traditional Ethiopian Orthodox Church scholars who are responsible in compiling books on how to produce drugs mainly from herbals called "Etse-Debdabe" which consists information of plants with medicinal values and names of diseases Teferi and Jurgen (2003:5) as cited in Sintayehu (2011:28).

In ancient Christian dominated state of Ethiopia, a 'Debtarra/church elite' was a person who has church education, can read and write texts both in Amharic and Geez. Usually debteras writings about medicines used to seem magic or superstition. It is rare that one comes across the name of *dəbtəra* or traditional healers on *es'ədəbdabe* Teferi and Jurgen, (2003:256). The second category, according to Sintayehu, is people involved in compiling valuable data and participated in limited magnitude of undertaking some studies on traditional medical practices included primarily French, British and Italian travelers, naturalists, catholic missionaries, pharmacognosists and plant collectors who visited Ethiopia between about 1830 and 1930.

At the modern time we can find the third category, such as ecologists, taxonomists, ethno botanists, chemists and pharmacologists, who work within government ministries, research institutions and educational establishments both within and outside of Ethiopia (Abera, 2005:5) as cited in Sintayehu (2011:25).

Obviously, in most part of Ethiopia, particularly in the northern part, the knowledge is passed orally from one generation to the next by

Debterras, doctors or medicine producers Desalegn (2000). Beyond this, some of the wisdoms are expected to be lost when they are passed on because of the verbal nature of the transfer. Traditional healers also act upon this in order to maximize people's demand usually constitute an extensive and complex list of curative herbs for a particular disease, when they know that the exact cure (Abera, 2005:89). Eventually Sintayehu revealed the situation as follows "This is also done to discourage others from becoming herbal doctors if they are forced to tell the secrets. For the same reason, the plants which comprise the remedy are selected from different ecological locations such as alpine, highlands or lowlands. Thus rendering it to become difficult to exactly duplicate the ingredient. On the other hand, doctors say that the healing power of the plant loses its curative healing values if it is not kept secret. The informant is also thought to be subjected to misfortune and bad luck (Abera, 2005:21)."

Concerning the situation of traditional medicine in developing countries Sofwora (1982:12) indicated that most of the valuable information is not written or digitally recorded and the low interest of the younger generation to learn traditional medicine makes things difficult.

Based on different literatures we can summarize the major threats of traditional medicine in Ethiopia as the following ones:

- Wrong presumptions about traditional medicines
- Urbanization pressure, which includes over harvesting and others
- Unrecorded feature of traditional medicinal knowledge
- Serious environmental degradation
- Lack of interest and trust on traditional medicine
- Inability to provide reliable amounts of active phytochemical constituents from adult plant extracts with many inconsistent levels of phytochemicals
- Plant toxicity
- Medicinal physiotherapy complexity
- Questions of Safety

These are some of the major factors speculated by different researchers as a forerunner for the rapid destruction of traditional medicinal knowledge in Ethiopia Abera (2005:45).

2.5. Traditional Taxonomy and Medicinal Plants

At the very beginning, plant taxonomy can be defined as a classification or/and categorization of plants under their scientific names by putting different criteria. The generic term taxonomy is the science of naming, describing and classifying organisms and it includes all plants, animals and micro-organisms of the ecosphere. By means of morphological, behavioral, and genetic and biochemical observations, taxonomists identify, describe and arrange species into classifications including those that are new to science. Taxonomy

classifies and numbers the components of biological diversity, providing basic knowledge behind the management and implementation of the convention on biological diversity. Unfortunately, taxonomic knowledge is far from complete. In the past 250 years researches, taxonomists have named about 1.78 million species of animals, plants and micro-organisms. Yet the total number of species is unknown and probably between 5 and 30 million.

Some writers like Lakoff defined taxonomy in association with cognitive model of a particular kind Lakoff (1987:25) cited in Zelealem (2011).

Zelalem (2011:159) depicted how language is a common means of human beings to explain their common experiences. At the very age of plant taxonomy, Linnaean classification is widely known, and it tries to classify plant species based on scientific group. Plant taxonomy incorporates the general biological information of plant species. This generic information includes colors, physical materials, and kinsmen. There is also folk taxonomy, which refers to a traditional plant classification by local people based on culture, norm and belief of a society. In folk plants taxonomy, plant names may add further knowledge on the conservation endeavors of endangered medicinal plants. Likewise, many ethnic groups in Africa and across the world, classification and identification of medicinal plants or other kinds of plants are based on plant morphology such as leaves, stems, barks, fruit and flowers and the growth property of the plant Zelealem,

(2011:74). Taxonomists also apply critical observations to identify plants by taste and odor. Traditional or folk taxonomy of plants, systematic investigation mechanism of folk botanical knowledge is applied. Harold Conklin from horticultural people of the Philippines in 1954 was the first person to identify more than 1,800 plant species' terms with their lexical domain (Zelealem,2011:58).

In general, we can define a folk taxonomy of plants as cultural based classification of plant species by local people. Eventually, because of its age-old experience and strong cultural and social foundations, it is suspected that the modern scientific taxonomy of plants might emanate from the traditional taxonomy of indigenous people.

2.6. Protection of Medicinal Plants

As discussed in previous sections, many people in Africa, including Ethiopians rely on medicinal plants for their health care. According to Pankhurst (1990) this traditional use of medicinal plants could not be disregarded. In the 18th and 19th century Ethiopia, even before the books were translated and wrote in Arab and Geez, that contains lists of medicinal plants and guides for the preparation of drugs, the place of medicinal plants were found in most Geez literary accounts. Some of the practice of traditional medicine in Ethiopia consists of the use of herbs, cupping, bleeding, cauterization, steam bath, spiritual healing, holy water, bone setting and minor surgical procedures. Most of the knowledge about traditional medicinal plants is orally transmitted, although a few are available in writing records Wilson

and World (1979) cited in Pankhurst (1990:14). Unfortunately, this valuable knowledge of traditional medicines has been transferred verbally from traditional healers to posterity. Different data indicate that about 80 percent of the Ethiopian people are dependent on traditional medicines; since from the period of antiquity till this time, medicinal plants have been an important source of drugs used for both human and livestock illnesses WHO (1998:21). Although, most of Ethiopian plant species are destroyed due to ecological catastrophe, medicinal plant species are among species critically affected by ecological crisis Desalegn (2000:115). So far; in contrary to meaningful contribution of plants to human health care system scientific endeavor to preserve medicinal plants are too little.

There are different scientific mechanisms to protect endangered medicinal plant species from further destruction Cunningham (1996:19). The most common and effective scientific methods regularly employed to conserve medicinal plants are in-situ and ex-situ conservation mechanisms. Both methods can be implemented in different places of conservation. The in-situ conservation is a way used to conserve plants in their natural habitat. Some botanists like Zemede have stated that such kinds of conservation might have its own importance for traditional medicinal plants that have difficulties of domestication Zemede (2001:147). The ex-situ conservation mechanism is a kind of protection of medicinal plants out of their natural habitat usually by genebanks reserved in botanical gardens

and somewhere which is safe for the plant. There are also traditional conservation mechanisms that can be applied by promoting the existing local ecological knowledge of some indigenous institutions Becker and Leon (2000:76).

2.7. Vernacular Name of Medicinal Plants

Ethnolinguistic is an extension of cultural,linguistic which incorporates or tries to analyze one particular speech community in association with culture norm and the belief of a society. As it is already discussed so far, names are also one of the manifestations for some ethnolinguistics issues. Studies demonstrate that, particularly in developing and indigenous people like Ethiopia, names have a multiple use, purposes, and meanings, which are strongly associated with a wide range of socio-cultural factors Sapir (1924). Such elements include familial and social affinity ties and status, events and circumstances, societal values and expectations, occupations, social and cultural history, socio political alliances, and spiritual beliefs. As Carol (2008) stated the situation in Africa as follows. "Naming in the central, eastern, and southern regions of Africa is closely linked to culture. African names have several functions. They may identify one with an occupation or implementation used in this occupation, and establish one as an associate (or relation) of a group of persons involved in an occupation. They may infer one as an inhabitant (or the descendant of an inhabitant) of a locality. Names may identify one with phenomena that are prevalent in one's area of

habitation. Names may also depict the past and present modes of production and living in an area. African names often reflect negative or positive opinions about the name givers towards the child or other people (usually kin, neighbors, or friends). The child's name can commemorate significant events or circumstances at the time of birth." As Carol's statement, African names portray modes of production, opinion or significant events.

This may also work not only in personal names, but almost in all proper names including plant names. For instance, in Geez chronicle we can find a place called "Mideraesteahadu" which means a place or a country with only one tree or stick. However, as it is mentioned by Carol names had been affected by some particular situations like that of socio cultural factors. The massive population movement of the Oromo people here can be a good example. This particular event or the population movement caused the change of the place name from "mədrəes'ahadu" of Geez to the present Oromo land of "mukatokic"" loosely translated as a land of one stick. The letter which is the Oromo name vividly indicates that how society give names for a certain object based on their own culture and belief system Getachw, (1996). Concerning language preference of the Sidaama people for proper name Mulusew (2006:25) concluded it as follows "The choice of a certain language for a proper name in a multilingual society depends on individual interests and motivations of the speakers. The shift from Sidaama names to Amharic and religious names seems to display an

increasing preference of the people in the Sidama zone towards the use of Amharic."In order to visualize how names shifts quickly from Sidaama to others (Mulusew,2006) demonstrated the numerical data in that 80.7% of the proper names are of Sidaama origin, in the grandfathers' generation, but only 9.25% are of Amharic origin. Proper names of other languages or religious names count 3.8% and 6.7%, respectively. Therefore, it is crystal clear that in the grandparents' generation Sidaama was the predominant language for proper names. In the fathers' generation, the number of Sidaama names was reduced to 62.7%.Consequently the number of Amharic names increased to 19.56%. A considerable increase can also be observed in religious names. Their number is almost double as high as it was in the grandparents' generation. The use of proper names in other languages than Amharic or Sidaama is almost equal to the grandparents' generation. The comparison of grandfathers' and fathers' generations shows an increase in the choice of Amharic and religious names but a decrease in Sidaama names. Thus, a shift to Amharic and religious names took place in the fathers' generation. The distribution of names in the fathers' and students' generation shows an enforced shift towards Amharic and to a less extent towards religious names. The number of Amharic names in the students' generation was enlarged to 54.6%. Sidaama names, in contrast, are reduced to 21.1%. Religious names and names in other languages increased to 6% or 0.4%, respectively, compared with the fathers' generation. Thus, the distribution of proper names in these three generations shows a

language shift from Sidamegna to Amharic and religious names. The shift towards Amharic is enforced in the students' generations as compared to the generation of their fathers'. Whereas an increase of only 10% in Amharic and 7% in religious names can be observed in the fathers' generation, the comparison of fathers' and students' generation witnesses an increase of 35.08% in Amharic names and of 6.02 % in religious names."As a result of this, rapid language shift of proper names from Sidaama to Amharic and other religion oriented names makes the urgency of documenting vernacular names of medicinal plants unquestionable.

2.8. Legal status of traditional medicinal practices in Ethiopia

As I have already discussed so far, traditional medicinal practice in Ethiopia comprises medicinal preparations from plant, animal, and mineral substances. Cultural medical practices and remedies are recorded in oral tradition and in ancient religious texts. Traditional medicine is mainly practiced by traditional medicine practitioners even though it is for certain common health problems in particular. It is also practiced at home by the elderly and by parents.

The Ethiopian Traditional Healers Association was organized to assess the credentials of practitioners where no regulations exist. The Ethiopian National Traditional Medicine Preparation and Study Association (ENTMPSA) was the only national association of traditional medical practitioners but judicially dissolved years before.

But, its position was assessed by examining decision passed and letters sent by the association at the time it was operational. According to Mekonnen (1991:25) over 80% of the Ethiopian populations rely on traditional medicine. This represents the majority of the rural population and sectors of the urban population where there is little or no access to allopathic health care.

In 1986, more than 6000 practitioners of traditional medicine were registered with the Ethiopian Ministry of Health Serto Ader newspaper (*1978*) under the proclamation 100 of 1948, Penal Code 512/1957, and Civil Code 8/1987 all state conditions for the practice of traditional medicine and the significance of the development and utilization of traditional medicines. The 1974 revolution and change of government in Ethiopia was a stepping stone for national attention to the promotion and development of traditional medicine, predominantly after the adoption of the Primary Health Care Strategy in 1978. In 1979, the Office for the Coordination of Traditional Medicine (Ministry of Health, *1991, 1984/1985*), which is now a full-fledged department directly under the Vice-Minister of Health, was established to organize, train, and register traditional medicine practitioners, and to identify, describe, and register those traditional medicines with actual or potential efficacy. The Ministry of Health also incorporated traditional medicine into the National Ten-Year Perspective Plan 1984–1994, which called for the organization, training, and supervised use of traditional medicine.

The Health Policy and the Drug Policy of 1993 both emphasize the need to develop the beneficial aspects of traditional medicine through research and through its use of the official health delivery services. Proclamation 1999 was issued based on the National Drug Policy. In Article 6, Sub-Article 8 of the Proclamation, it is stated that the Drug Administration and Control Authority shall prepare standards of safety, effectiveness, and quality of traditional medicines and shall evaluate laboratory and clinical studies in order to ensure that these standards are met.

CHAPTER THREE

3. RESEARCH METHODOLOGY

3.1. Research Design

This study had been undertaken in different stages and designs. The first stage was the attempt to identify plants used for medicinal purposes among the Sidaama speech community. The second phase focused on discussing traditional botanical knowledge and ethnolinguistic issues towards medicinal plants of Sidaama.

3.2. Research Instruments

Observation, focus group discussion and semi structured interview had been used as the main instruments of the research.

To collect data on medicinal plants, a semi structured interview with clear and precise questions had been used. In order to record the plant's vernacular name and some other ethnolinguistic issues digital tape-recorder was used. In some areas of Sidaama i.e. in selected districts, video recording of the forests and the people was carried out. The audio recorded data will make the task of plants' names transcription quite simple. In addition to this, it is also possible to interpret other visual activities based on the video recorded.

3.3. Data Collection

Two types of data were conducted: semi-structured interview and tape recording. The main data gathering was preceded by critical observation and serious note taking.

3.4. The Research Assistants (Informants)

The data gathering had been done with the support of four assistants. Two of the assistants were senior development workers and agriculture and forest experts. The other two key informants were elders and traditional scholars on Sidaama language and culture. The information was gathered from 60 people 40 males and 20 females except some key informants. The informants were selected randomly from study areas such as Aletachuko,Aletawendo and Shbedino.

3.5. Plant Specimen Collection and Identification

Having done the critical observation with a professional aid of research assistants, plant specimen collection and identification were done both in the field, and at the National Herbarium of Addis Ababa University.

3.6. Data Analysis

Interview

The data from the interview was entered into a computer via the appropriate software to fetch the results of the study. This will be discussed in subsequent sections.

The data were analyzed through descriptive statistical mechanisms to understand local people's attitudes towards medicinal plants and traditional healers. These data, to some extent, enable us to consider the status of medicinal plants. It may also provoke other policy makers and interested groups to get engaged on the little realized features of medicinal plants.

3.7. Focus Group Discussion

Audio-video data are the major source of data for the study that enable us to examine ethnolinguistic aspects of medicinal plants. During focus group discussion, people mentioned vernacular names of the plants and some important points. The researcher recorded the discussion based on the will and consent of the informants. Unless the researcher had had the will and consent of the people, there would have been serious opposition from local healers Boom, (1990) cited in Zelealem (2011:12). Besides this, the data will enable us to know the degree of endangerment of medicinal plants. The audio data were also transcribed for the sake of ethnolinguistic data development. The data which comprises discourse on medicinal plants from field were analyzed in qualitative approach Sinclair and Coulthard (1992:82).

Finally the data gathering of the plants was finalized as those botanists indicated by numbering, pressuring and drying followed by serious identification task. The identification had been conducted with the close support of botanists from the Wendogenet College of Forestry and rechecked and approved by the Addis Ababa University National Herbarium.

CHAPTER FOUR

4. DATA PRESENTATION

The Sidaama people, particularly elders and erudite members of the society, traditional scholars and healers have their own knowledge about their environments. They have profound cultural knowledge on how to sort the soils, vegetation and land of their environment. The people of the study area, based on topographic arrangements classify their land into five types; Suwadobato (plain land), rogge (rocky land), tullo (highland), ilalla (mountain) and laga (river).Based on plant concentration and diversity the Sidaama people classify vegetation into five major classes; dubbo (forest), horitʃʃ'u uulla (home garden), tʃaffa (marshy),hawaddilelo and k'alloo. Traditional scholars classify soils based on soil character, fertility, color and its benefits into seven categories; koliobuʃʃa, dumo (red soil), kotitʃabuša, doru buʃʃa (clay soil), tʃ'affu buʃʃa (marsh soil), hollimmiitʃʃu buʃʃa(termite soil) and karsso buʃʃa. The Sidaama people classify agricultural lands into three;ʃak'ado baatto (fertile soil), galo button (fallow land) and tʃaffu button (a kind of marshland).Based on plant concentration and variety the Sidaama people classify plants into five groups namely;

dubbo: It is a dense forest land and of trees, shrubs, herbs, climbers and grasses.

horitʃʃ'u uulla: Various assortments of shrubs and grass communities.

tʃaffa: Plants growing in marshy or water logged areas.

hawaddi lelo: A land with poor vegetation cover and with some types of herbs and grasses appearing only during the rainy season.

kalo: meadow

4.1. Medicinal Plant Names

Naming or designating plants exhibits different directions and reasons. The two major ways of bestowing plant names have direct and indirect method (metaphor, metonymy). This part of the paper tries to present issues related to literary and common names of medicinal plants in Sidaama.

Human understanding of the world basically involves identifying and putting subjects in certain class which reflects the connection between the features of the objects and the realities.

The endeavor to make a link between objects or phenomenon features has manifested through nomenclature. According to Nataliya (2012), "names of objects and their phenomenon are associated with different forms and different stages of the human cognitive process. The cognitive activity is related to the appearance of objective knowledge about the world. The result of this cognitive process is the classification which should reflect and distribute the natural connection of significant features to that of phenomenon processes, etc." In general the human activities are represented in the system of designating or naming which can be direct or indirect, primary or

secondary, non segmented and partitioned and literal or figurative Nataliya (2012). Let us see medicinal plant names in Sidaama.

Table3. Sidaama medicinal plant names

Voucher number	**Phonemic representation**	**Botanical name**
Hyd001	Sikata	*Calpumia aurea* (Ait.) Benth
Hyd002	pappaajja	*Carica papaya* L
Hyd003	tʃ'aate	*Catha edulis* (Vahl.) Forssk. ex Endl.
Hyd004	Loome	*Citrus limon* (L.) Burm.F.
Hyd005	Burtukaane	*Citrus sinensis* (L.) osb.
Hyd006	laalunt'e	*Cominplina benghalensis* L
Hyd007	waadditʃʃo	*Cordia africana Lam*
Hyd008	bindʒe	*Clutia abyssinica* Jaub. And spach
Hyd009	baakʾula	*Cucurbita pepo* L.
Hyd0010	bindʒille	*Datura stramonium* L.
Hyd0011	Mimi	*Delonix regia* (Boj.ex Hook.) Raf.
Hyd0012	ʃittote barzaafe	*Eucalyptus citriodora* Hook.
Hyd0013	tʃ'arre	*Euphorbia ampliphylla Pox.*
Hyd0014	ʃuraamo tʃ'arre	*Euphorbia tlrucalli* L.
Hyd0015	Hagaala	*Flacourtiaindica*(Burm.f.)merr.
Hyd0016	odakko	*Ficus sur* Forssk
Hyd0017	hantʃ'uluulle	*Kalanchoe petitiana* A. Rich
Hyd0018	amessa	*Lactuca inermis* Forssk
Hyd0019	surup'a	*Lagenaria siceraria* (Molina) Standi

Hyd0020	edʒersa	*Olea europea* subsp. *Cuspidat a* (Wall.ex G. Don) Cif.
Hyd0021	t'addo	*Rhamnus prinoides* L'Herit
Hyd0022	olontʃo	*Rhus glutinosa* A. Rich
Hyd0023	gora	*Rubus apetalus* Poir.
Hyd0024	hamaʃʃu hak'a	*Senna occidentalis* (L.) Link
Hyd0025	borboɗo	*Solanum incanum* L.
Hyd0026	t'u?naajje	*Solarium nigrum* L.
Hyd0027	reedʒe	*Vemonia auriculifera* Hiern
Hyd0028	noole	*Achyranthes aspera* L.
Hyd0029	dimbitʃo	*Antiaris toxicaria* Lesch.
Hyd0030	gidditʃʃo	*Ehretia cymosa* Thonn.
Hyd0031	t'et'e	*Hypoestes forskaolii* (Vahl) R.Br.
Hyd0032	hengedditʃʃo	*Millettia ferruginea* (Hochst.) Bak.
Hyd0033	waadʒo tuma	*Allium sativum* L.
Hyd0034	basu baak'ula	*Cucumis prophetarum* L.
Hyd0035	goddiitʃʃo	*Ekebergia capensis* Sparrnx
Hyd0036	hoontʃo	*Juniperus procera* Hochst. ex. Engl
Hyd0037	gowatʃʃo	*Maesa lanceolata* Forssk
Hyd0038	tontoona	*Plectranthus igniarius*(Schweinf.) Agrew
Hyd0039	araddo	*Nicotiana tabacum* L.
Hyd0040	garbitʃʃo	*Primus africana* (Hook.f.) Kalkm.
Hyd 0041	haraangdʒitʃʃo	*Phytolacca dodecandra* L'Herit
Hyd0042	kʼombojtʃʃo	*Ricinus communis* L.

Hyd0043	sunkurta	*Ruta chalepensis L.*
Hyd0044	hetʃʃo	*Vernonia amygdlina Del.*
Hyd0045	mat'aat'eessa	*Gallnsoga quadriradiata Ruiz andpavon.*
Hyd0046	sikɨtʃo	*Justlcla schimperiana (Hochest.exA.Needs)T.anders*
Hyd0047	kire	*Momordica boivinii* Bail
Hyd0048	harangama	*Toddolia asiatica* (L.) Lam.
Hyd0049	buna	*Coffea arabica* L.
Hyd0050	argiisa	*Aloe* sp.
Hyd0051	wadʒo uta	*Argemone hiexicana* L.
Hyd0052	t'ewerrakko	*Bersama abyssinica* Fresen.
Hyd0053	inare	*Artemisia afra*
Hyd 0054	dumanoho	*Syzygium guineense*
Hyd0055	kɨonkɨo	*Embelia schimperi*
Hyd0056	kokkoso	*Drynaria volkensii*
Hyd0057	ʃiʃu	*Remex crispus*
Hyd0058	bojje	*Dioscorea alata*
Hyd0059	kɨundo	*Schinus molle*
Hyd0060	mattʃʃ'ate t'agitʃʃo	*Ocimum urticifolium* L.
Hyd0061	nugusa	*Foeniculum volgare*
Hyd0062	soitʃʃo	*Hagenia abyssinica*
Hyd0063	koote	*Ajuga integrifolia*
Hyd0064	dʒaandʒiweelo	Zingiber officinale
Hyd0065	fintʃ'ami	*Pentas lanceolata*
Hyd0066	unknown	*Remex crispus*
Hyd0067	dook'ima	*Syzygium guineense*
Hyd0068	bett'o	*Heterothe ca canescens*

Hyd0069	wesse	*Ensete ventricosum*
Hyd0070	worarriitʃʃo	*Hibiscus crassinervius* Hochst.ex.A.Rich.
Hyd0071	muz	*Musa acuminate*
Hyd0072	dagutʃʃo	*Podocarpus falcatus (Thunb.)Mirb.*
Hyd0073	redʒitʃʃo	*Discopodium*
Hyd0074	burditʃʃo	Leucas Martincensis
Hyd0075	masintʃʃo	*Croton macrostachyus*

4.2. Types of Naming

According to Thalia (1990:55) definition, designation indicates both the process of creating, fixing and distributing the names among different fragments of the reality Teliya (1990) cited in Nataliya (2012:12). There are two major types of designations on lexical unit formation. They are primary and secondary designations. In the case of primary designation, the content of a name directly corresponds to the object. In the case of secondary designation, it is indirectly done by reconsidering the value of the already existing language unit. In this paper, I have tried to make word building onomasiological and cognitive analysis of medicinal plants name in Sidaama to demonstrate important information about the plants which is encrypted in its name.

There are also some important questions such as how medicinal plants are named? Why do some plants have many names and others only one? The designation of medicinal plants can be considered as

extraordinary activity. Usually more names are given to medicinal plants which is highly concentrated and utilized or recurrently used as medicinal plants, such kinds of plants have more names than others. When we see the practice of giving names for medicinal plants, a person at the very beginning tries to classify plants in general class of plants, then he/ she identifies them with recognized plants by his/her personal experience. The names of medicinal plants can be perceived as an essential source for basic information such as the location of the plants, the general features, period of blossoms and diseases treated etc.

Onomasiological analysis helps to know more about the information on the semantics of the language unit.

Since, the object of the present paper is about medicinal plants it is believed that a lexical base in its name can be the plant or its part. Eventually this leads us to a broad category of medicinal plant designations called direct and indirect designation. In addition to this the researcher in this part of the paper tried to show plant properties buried in their names.

When we come to direct designation, it is a way of naming medicinal plants in order to extricate it from another sort of plants. In this case plant name can be represented in the derivative by corresponding suffix. Moreover, we can consider how features of a direct designation change into the indirect designation by means of metaphor and metonymy.

4.3. The Structure of Plant Names

According to Zelealem (2011) based on derivational property, plant names can be divided into two groups such as simple and compound. Simple names are simple in their structure because of the single morpheme they consist. Let us see some examples of simple plant names in Sidaama.

Table4.Examples of simple names in Sidaama

Vernacular name	Botanical name
noole	*Achyranthes aspera* L.
araddo	*Nicotiana tabacum* L
kire	*Momordica boivinii* Bail
argiisa	*Aloe* sp
dook'ima	*Syzygium guineense*

As Pakia (2006) cited in zelealem (2011) such kinds of simple names are perceived as old names and they are also simple in their structure.

4.4. Compound Names

Zelealem (2011) added that compound names are secondary lexemes and relatively complex in their structure unlike to simple names, compound names take two or more elements (words). The combination might be a noun and noun or adjective and noun or noun and some other word class. In this case the noun is the common denominator for all.

Table 5. Sidama plant names with N+N pattern

Noun 1	Noun 2	N+n	Botanical name
ʃitote (perfume)	Barzaf (treefrom oversee)	ʃitote-barzaf (hyd0012)	*Euphorbia ampliphylla Pox.*
ʃuree (Human brain)	care (stony ground)	ʃuramo-ʃt'are (hyd0014)	*Euphorbia tlrucalli* L
hamasa(snakes)	hak'a (wood, tree)	hamaʃa-haqa (hyd0024)	*Senna occidentalis* (L.) Link
wadʒo (white)	tuma (onion)	wadʒo tuma(hyd0033)	*Allium sativum* L.
basu(cat)plural form	bak'alla (cheek)	basu bak'alla (hyd0034)	*Cucumis prophetarum* L.
wadʒo (white)	uta (thorn)plural form	wadʒo uta (hyd0051)	*Argemone hiexicana* L.
mattʃʃ'ate (name of disease)	t'agitʃʃo (medicine)	mattʃʃ'ate t'agitʃʃo (hyd60)	*Ocimum urticifolium* L.

Although, there are chances to find noun plus adjective and noun plus some other kinds of word class pattern of Sidaama compound plant names. But in the present study because of the limited plant name list we could not see that.

4.5. Opaque and Transparent Plant Names

Based on the semantic information on them plant names in general can be categorized in to opaque and transparent. The former one simply refers to names which has no meaning of its name and helps only to identify plants. The later or transparent plant names, unlike to opaque plant names encoded meaning and crucial information on its

name. In Sidama there are opaque plant names given to the plant only for identification. On the other word the etymology of the plant is obscured or forgotten by the Sidama people.

Table 6. Examples of opaque medicinal plant names from the Sidama language

Vernacular names	Botanical names
olontʃʃo	*Rhus glutinosa □. Rich*
surup'a	*Lagenaria siceraria (Molina) Standi.*
tʃ'arre	*Euphorbia ampliphylla Pox*
reedʒe	*Vemonia auriculifera Hiern*

As (Turner, 1974, cited in Zelealem, 2011) such kinds of semantically opaque and morphologically simple plant names are believed as oldest types of names. Contrasting to opaque plants name transparent plants name estimated less old.

4.6. Transparent plant Names

In the study of plant nomenclature one of the interesting issues is dealing with transparent names of plants. In the case of transparent plant names the names allow to transfer cultural information through their names. Furthermore, it is observable that human's information and concept processing are manifested via plants name Messer (1978) as cited in Zelealem (2011:78). A studying plant name, particularly medicinal plant names, is quite vital to understand the society. In

Sidama, it is obvious to find semantically transparent compound and simple plant names as illustrated in table7.

Table7. Semantically transparent Sidaama simple names

Local name	Botanical name	Original meaning
olontʃʃo	*Rhus glutinosa* A. Rich	Red bark tree
t'addo	*RhamnusprinoidesL'Herit.*	Assembly or meeting
gora	*Rubus apetalus poir*	To die or to go out on the road and take some rest
amessa	*Lactuca inermis Forssk*	Milk

Table 8. Semantically transparent compound plant names in Sidama

Local name	Literal meaning	Botanical name
ʃittote – barzaafe	A tree having a perfume smell	*Euphorbia ampliphylla Pox*
hamaʃʃu - hak'a	Snake or jealous	*Senna occidentalis* (L.) Link
ʃuraamo - tʃ'arre	Human brain and stony ground	*Euphorbia tlrucalli* L
wadʒo – uta	White thorn	*Argemone hiexicana* L.
mattʃʃ'ate - t'agitʃʃo	Medicine of mattʃʃ'ate	*Ocimum urticifolium* L

In general the onomasiological features of medicinal plants emanates from the following group.

- Features of outlook
- Temporal locative
- Evaluative
- Emotive –expressive
- Features warning about dangerous properties
- Features of alienable and inalienable possession

Here in this part I'm not going to describe all the features because of the scope of the paper, only on some medicinal plant name features with practical examples.

In Sidaama language we can find a medicinal plant name which particularly signifies the color of the plant with other features such as size, form and structure. In semantic category color is one of the meaningful features of a plant.

We can take the following plants as an example

- 'wadʒo uta'(*Argemone hiexicanaL.*) in Sidama means white uta tree
- 'olontʃʃo' (*Rhus glutinosa A. Rich*) in Sidaama language means read bark tree

These are some of the examples to show how medicinal plant's name in Sidama language carries features of outlook.

In some cases medicinal plant names are also driven out from their structure like hoontʃo (*Juniperusprocera Hochst ex. Engl.*) which in Sidaama means "waterfall", because the entire plant and movements of the leaves seems like a waterfall. t'addo (*Rhamnus prinoides L'Herit.*) is also another good example of medicinal plant to realize how plant structure affects its naming. 't'addo' in Sidama language means "assembly or meeting"

On the other hand, we can find medicinal plant names that express something which is considered as bad or evil in the society. For example, hamaʃʃu hak'a (*Senna occidentalis (L.)Link*) in Sidama means "snake or jealous" it is quite difficult to know the exact rational or cultural background as to why it is named as it is, but we can speculate the plant structure might be one of the reasons. There is also naming of medicinal plants in relation to the plant property. For example amessa (*Lactuca enormous forces.*) in Sidaama language referring to "milk" this might be related to the white important liquid of the plant used for medicinal purpose. gora (*Rubus apetalus poir*) is also a name for another important medicinal plant, meaning "to die or to go out on the road and take some rest", sunado hajiso (*Artemisia abyssinica* Sch.Bip. ex A. Rich.) plant having a nice smell also can be an instance for the peculiar features like aroma that reflects the naming of medicinal plants in Sidaama. The literal meaning of the name might tell us the plant uses beyond its medicinal purposes and serves as a shelter or place for rest. In general medicinal plant names

emanate from direct and indirect designations. There is also a major classification of plant names called literary and common medicinal plant names. Literary names are formed by direct designation. Common names, unlike literary names are formed by direct and indirect designations. Almost all common names of medicinal plants have metaphoric background.

If we try to understand medicinal plants on the bases of onmasiological perspective, we can find the reflections of onmasiological features. Indirect designation represents in phytonymic lexicon, by metaphors and metonymies. According to Thalia (1998) metaphor is one of the most productive means of secondary designation in the creation of the linguistic world view. Usually metonymy works of the association between two concepts.

4.7. Plant name formation

When people of different culture come into contact due to commerce, war, settlement or other reasons varied-cultures come into contact, they have many things to share and these results in the process of language borrowing and an extensive increase in vocabulary. An increase in vocabulary is at the same time accompanied by an increase meaning. Gumperz (1968: 223) also allege the following with regard to borrowing:

When two or more speech communities maintain a protracted contract within a broad field of communication there are crosscurrents of diffusion. Borrowing of lexical items from other

languages occurs directly or indirectly. Let us see direct borrowing in Sidaama.

Plant names are borrowed from foreign and local languages (Oromifa and Amharic) and are incorporated into the plant names of Sidaama.

Direct borrowing results in the form of loan words, which are subject to the phonological system of the borrowing language. Emphasizes this fact as follows:

When words are borrowed from one language from another, they are subjected to the phonological rules of the language that borrows. Indirect borrowing usually occurs through coinage where only the meaning, or the sense of the foreign term is taken, and not the word itself. On the other hand, indirect borrowing is found where a foreign or a new concept is taken over, and not the word itself. In most cases such a concept is associated with an indigenous word. This type of borrowing usually leads to the formation of polysemous words. The word which previously referred to a known concept in Sidaama has its meaning extended also, to the new concept which has a closer affinity with the known concept. These coined words only came into existence after the Sidaama language speakers were introduced to these new concepts.

The following are some examples of loan lexical items adopted through direct borrowing, and their coined counterparts.

Loan word: edʒersa 'strong' (from Oromo edʒersa)

Coined word: odakko (formed by the addition of suffix *(kko)* from Oromo *Oda)*

Loan word: burtukaane (from Amharic burtukan)

As linguistic morphology borrowing, loan translation, compounding and semantic extension is the well-known methods of word formation process (Zelealem, 2011). These strategies of word formation, particularly borrowing and loan are common in Sidaama. Let us see some examples of borrowed plant's name in table 9.

Sidaama	**Amharic**	**Oromo**	**Foreign-language**	**Botanical name**
ʃittotebeharzf	ʃittotbeharzf			*Eucalyptuscitriodora* Hook.
argiisa		hargisa		*Aloe sp*
buna	Bunna	bunna		*Coffea arbica L.*
mimi	Mimi			*Delonix regia (boj.ex Hook.) Raf*
lomme	lomi		Lemon	*Citrus limon(L.)burn.F*
pappaajja	Papaja		Papaya	*Carica papaya L*
burtukaane	burtukan			*Citrus sinensis*
t'addo		t'addo		*Rhamnus prinoides* L'Herit.
odakko		oda		*Ficus sur* Forssk.

edʒersa		edʒersa		*Oleaeuropea* subsp. *Cuspidat a* (Wall. ex G. Don) Cif.
gora		gora		*Rubusapetalus* Poir.

4.8. Plant Utility

Among collected plant medicinal plant species in the study area, almost all of them have other essential purposes other than medicinal values. Some of the plants are edible, some of the plants are used for firewood and construction and some other plant species are used as a stimulant. Table.10 briefly summarized the utility of plant other than medicinal values.

Table.10 Plant utility other than medicinal values

Botanical name	**Vernacular name**	**Utility**	**Parts of plant**
sikata	*Calpumia aurea* (Ait.) Benth	Firewood	Whole plant
pappaajja	*Carica papaya* L	Edible, cash income	Fruit
tʃ'aate	*Catha edulis* (Vahl.) Forssk. ex Endl.	Cash income, stimulant, fire wood	Leaf
loome	*Citrus limon* (L.) Burm.F.	Edible, cash income	Fruit
burtukaane	*Citrus sinensis* (L.) osb.	Edible, cash income	Fruit
waadditʃʃo	*Cordia africana Lam*	Cash income, firewood, construction	Whole plant
baakʾula	*Cucurbita pepo* L.	Cash income	Fruit
mimi	*Delonix regia* (Boj.ex Hook.) Raf.	Shedding and fire wood	Whole plant

ʃittote behrzaf	*Eucalyptus citriodora* Hook.	Firewood, cash income, shedding, construction	Whole plant
tʃ'arre	*Euphorbia ampliphylla Pox.*	Construction	Bark
ʃuraamo tʃ'arre	*Euphorbia tlrucalli* L.	Firewood	Whole
hagaala	*Flacourtiaindica*(Burm.f.)merr.	Firewood	Whole plant
odakko	*Ficus sur* Forssk.	Edible, cash income, fire wood	Whole plant
edʒersa	*Olea europea* subsp. *Cuspidat a* (Wall. ex G. Don) Cif.	Construction, fire wood	Whole plant
t'addo	*Rhamnus prinoides* L'Herit.	Cash income	Leaf
olontʃo	*Rhus glutinosa* A. Rich	Shedding, fire wood	Whole plant
gora	*Rubus apetalus* Poir.	Edible	Fruit
hamaʃʃu hak'a	*Solarium nigrum* L.	Edible	Root
reedʒe	*Vemonia auriculifera* Hiern	Firewood	Whole plant
giditʃʃo	*Ehretia cymosa* Thonn.	Cash income, fire wood	Whole plant
hengeditʃʃo	*Millettia ferruginea* (Hochst.) Ba	Firewood, construction, shading	Whole plant
waadʒo tuma	*Allium sativum* L.	Edible	Root
basu baak'ula	*Cucumis prophetarum* L.	Edible	Root
hoontʃo	*Juniperus procera* Hochst. ex. En	Firewood, construction	Whole plant
gowatʃʃo	*Maesa lanceolata* Forssk.	Firewood	Whole plant
araddo	*Nicotiana tabacum* L.		

garbitʃʃo	*Primus africana* (Hook.f.) Kalkm	Construction, shedding, fire wood	Whole plant
sunkurta	*Ruta chalepensis L.*	Edible	
hetʃʃo	*Vernonia amygdlina Del.*	Firewood	Whole plant
sikɨtʃo	*Justlcla schimperiana (Hochest. exA. Needs) T. anders*	Edible	Fruit
harangama	*Toddolia asiatica* (L.) Lam.	Edible	Leaf
buna	*Coffea arabica* L.	Cash income, stimulant fire wood	Whole plant
wadʒo uta	*Argemone hiexicana* L.	Edible, cash income	Leaf, Bark
ʃiʃu	*Remex crispus*	Edible	Root

4.9. Endangered Medicinal Plants

Humans and natural factors are the major threats to plant species in general and to medicinal plants in particular in the study area. As suggested by most informants in the area, the human made threats including;

- Unsystematic agricultural land expansion
- Overgrazing
- Use of plants for construction

In addition to the natural factors such as extended dry time and termite problems are cited to be the major threats for the reduction of medicinal plants. The researcher in this study has tried to identify some endangered medicinal plant as reported by the local informants.

Table.11 Endangered medicinal plants

Vernacular name	**Botanical name**
Sikata	*Calpumia aurea (Ait)Benth.*
bindʒe	*Clutia abyssinica Jaub. And spach.*
bindʒille	*Datura stramonum L.*
Amessa	*Lactuca inermis Forssk.*
surup'a	*Lagenaria siceraria (Molina) standi*
t'u?naajje	*Solarium nigrum L.*
Araddo	*Nicotiana tabacum L.*
sikɨtʃo	*Justlcla schimperiana (Hochst.ex A.Needs) T.Anders*
Kire	*Momordica boivinii Baill*
Bojina	*Dioscorea alata*
kʾonkʾo	*Embelia schimperi*
Bojje	*Dioscorea aleta*
Nugusa	*Foeniculum Volgare*
burditʃʃo	*Hetero the ca canescens*

4.10. Distribution of Medicinal Plants

Seventy five plant species distributed into different genera and different families were documented as having medicinal value in the study area. About 70 (93.3%) of the medicinal plants were collected from the wild and 5 (6.6%) from home gardens of shebdino,

Aletachuko and Aletawendo. The leading family was Fabaceae, followed by Lamiaceae, Asteraceae, Cucurbitaceae, Euphorbiaceae and Solanaceae. The family Fabaceae contributes a higher number of plant species than others in the study area used for medicine. The ethnobotanical investigations have found that family Fabaceae contributes a highest number of plant species. Of these 75 plant species almost all were used as human medicines, some plants are used as livestock medicines only and some other plant species were used for treating both human and livestock diseases.

Regarding the type diversity 25 plant species (33.3%) were trees, 23 (30.66%) were shrubs, 13 (17.33%) were herbs, 14 (18.6%) were climbers. Shrubs were the most harvested forms as a source of medicines. They were relatively common in the study area compared to medicinal herbs, trees and climber species.

Out of the seventy five medicinal plants collected in three sites, the highest number was recorded in Aleta chuko shebdino and the least in Aleta wendo

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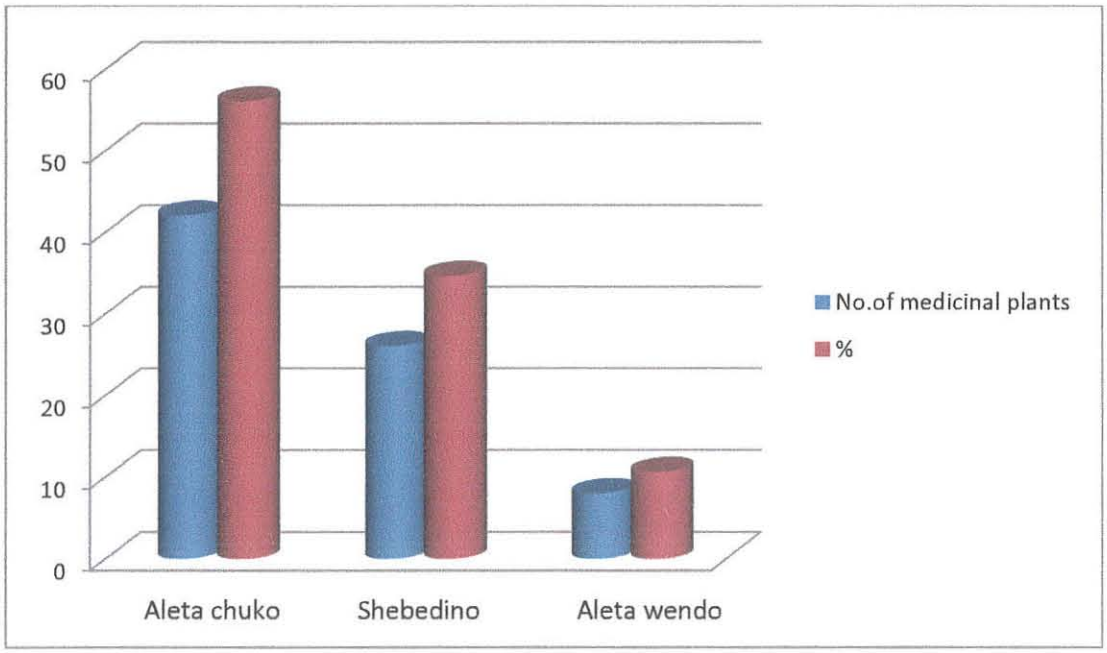

Figure 2. Number and percentage of medicinal plants in each study site

As the table indicates large numbers of medicinal plants are recorded in the Aleta chuko study area, despite the very fast degradation of natural vegetation due to population pressure and deforestation. On the other hand, the least number of plants recorded in Aleta wendo.

4.11. Parts of Plants Used for Medicine

In this study, different parts of the plants were reported to be used for medicines. The leaves and the roots were the most commonly used plant parts in the preparation of remedies that accounts for 41.3% of the 31 species and 20% of the 15 species of the total medicinal plants, respectively. Analysis of the data showed that leaf is the most sought plant part in the preparation of remedies.

Table 13: Plant Parts used in preparation of remedies

Part used	Number of species	%
Leaf	31	41.3
Root	15	20
Stem	10	13
Bark	8	10.6
Seed	3	4
Latex	2	2.6
Fruit	2	2.6
Whole plant	1	1.3
Flower	3	4

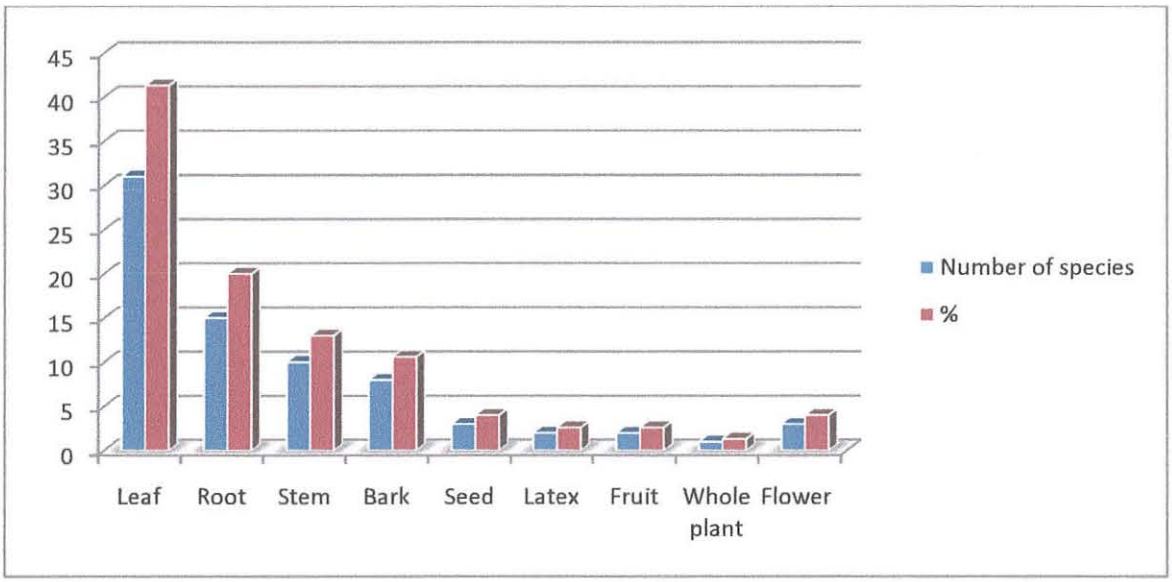

Figure 3. Plant Parts used in preparation of remedies

4.12. Natural Environment Conservation and Protection in Sidaama

The Sidaama people strongly believe that all the natural environments are created by magano (God). Because of high respect of their land, they always pray special prayer (batogu) for their land. When the Sidaama bargain and promise each other, they usually call the name of the land and soil (buʃʃuafoe).

The societal perception about land, mountain, and river as well as about their entire environment reflects through their oral narratives. For example (maganoega, garamegga, altedawari; atotedawarigoletullotedawari; gidawolawotedawari, ʃoraʃortayi). The Sidaamapeople have their own wisdom, system and indigenous knowledge preserve their own environment. Trees are not removed without adequate reason and the consent or will of the elders. If

someone wants to cut a tree for crucial reason he/she should plant another in the place after having the permission of the elders (Ayana).

The Sidaama people properly understand the values of plants as a shelter, land conservation and ecology. They accept trees as a life. They believe it should be transferred to the posterities. For this reason, even old men/women don't give up planting trees. Almost in the entire Sidaama traditional houses and doorsteps, it is culturally obligated to plant trees, in home gardens of each farmer and also it is expected to have edible plants and shelter trees.

In the strong belief of the Sidaama people only old and bent branches of the trees are used for daily consumptions. Due to the ancient tradition of the people, assembly in the shadow of trees and consulting each other is common.

The Sidaama people understand the importance of soil and its value to improve productivity. As a result of this, to preserve the fertility of the soil they put dung of cattle's and home by-products and prepare compost (harašha) for their farmland. In order to preserve the fertility of the soil they also practice traditional systematic division of farm land called (gaʃhʃheloosa). Wild animals are also highly protected by the society to live in their natural environment. However, there is an old tradition of hunting of wild animals, but extensive hunting is prohibited in the society. The traditional Sidaama people have also a profound knowledge of medicinal plant species of its local names. Some of traditional medicinal plants are named based on its peculiar features, in association with some cultural information as discussed in the above.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

The Sidaama zone is rich in plant diversity as well as density. The overall plant species identified and collected were seventy five which were collected from home gardens and the wild. Some species were recorded in both areas, which all are medicinal plants.

The main dangers of medicinal plants come from unsystematic agricultural land expansion. Traditional medicine preparation mostly involves single plant. The mode of administration is mainly internal in which oral administration is the common route.

As indicated by informants and the Sidaama Zone Health Bureau, Pneumonia (balamo), Malaria (shekere), Diarrhea, infections of the skin and subcutaneous tissue (gogudhiba) and acute upper respiratory infections were the major ailements of humans. Moreover, the equivalent problems for the livestock's were Black leg disease (aba gorba), Anthrax (aba senga), Bovine pasterallosin, Ovinepasterallosin, Trypanosomosin, internal parasite like liver Flvkehelminths, external parasite like mangeites, lice, ticks and rabies (woshudhiba).

Even though the area has a good potential for medicinal plants, the marketability and demand of the local people for traditional medicines are low. Modern ways of life, cultural dislocations and unregulated private and government business work in the area have played a

pivotal role in changing the attitude of the younger generation to ignore the use of traditional knowledge.

Humans and natural factors are the major threats to plant species generally and to medicinal plants particularly in the study area. As suggested by most informants in the area, the human made threats, including unsystematic agricultural land expansion, over grazing and use of plants for construction, in addition to the natural factors such as extended dry time and termite problems are cited to be the major threats for the reduction of medicinal plants. The people of Sidaama have valuable knowledge about medicinal plants. So, anyone can identify medicinal plants simply without any difficulty. The Sidaama people render a useful service as a means of reference. Further research and endeavors should be made to collect and preserve information on local names. After the information loaded in the plant names is lost, it is quite difficult to find many mysterious truths regarding the plants and their names.

The following few recommendations were forwarded based on the results of the study:

- All possible attempts should be made to protect and use largely traditional medicines and traditional medicinal plants in the study area.
- A strong legal protection should be made for traditional medicine practitioners and indigenous knowledge. This could be one of the

ways through which traditional medical practitioners could exercise their knowledge in a better way.

- By keen involvement of advanced laboratory and professionals, effective medicinal plants ought to be identified and promoted and for their surplus production and cultivation. This is a task to be accomplished through genuine collaboration between local administrators and healers.
- Launching conservation action strategies have to be conducted to ensure the sustainability of versatile and extensively used medicinal plants due to most medicinal plants obtained from the wild.
- Vernacular names of medicinal plants and cultural knowledge of the plants should be documented and need further study by active involvement of linguists, anthropologists and sociologists.

Promoting traditional ecological knowledge through different mechanisms ought to be carried out in order to preserve medicinal plants as well as other useful plants.

REFERENCE

Abbiew,O.k (1996). Misuses and abuses in self Medication with medicinal plants. The case of Erythrophem in Ghana, in: Masen, L.J.G., Burger, X. M. and Rooy, J. M., (eds.). *Biodiversity of African plants*.Kluwer Academic publisher, Netherlands. Pp.700-720.

Abbink, J. (1995). Medicinal and Ritual plants of southwest Ethiopia.An Account of recent research *indigenous knowledge and development monitor*.Web source.

Abebe Gebre-Tsadik. (1986). Sidama Verbal phonology.(Unpublished MA thesis). Addis Ababa: Addis Ababa University.

Abera Geyid, Dawit Abate, Asfaw Debela Zewdneh Mekonnen, Frehiwot Abera, Frehiwot Teka Tesfaye Kebede, Kelbessa Urga, Kidist Yirsaw, Tekle Bizo, Bisrat Hailemariam and Mulugeta Guta (2005), Screening of some medicinal plants of Ethiopia for their antimicrobial properties and chemical properties. *Journal of Ethnopharmacology* **97:**421-27.

Anbessa Teferra. (2000). A grammar of Sidaama. PhD dissertation: Hebrew university of Jerusalem.

Anderson. T. M. (2012). Plant-animal interactions.Berkshire encyclopedia, Vol. 5.Ecosystem management and sustainability.web source.

Andrew Redford., Martin Atkinson., David Britain., Herald Clahsen and Andrew spencer. (2009). Linguistics An Introduction, (2nd ed.). Cambridge University Press.

Anonymous.(1923). *Geological map of Ethiopia and Somalia.* Consiglio Nazionale Delhe Recerche, Italy.

Archer, S.D. Schimel and E. A. Holland. (1995). Mechanisms of Shurbland expansion: land use, climate or Co2 climate change 29, 91-99. Web source.

Balick, M. J., Cox P. A. R. (1996). *Plants people and culture.*The science of ethnobotany scientific American library. New York, USA.

Becker, C. D and R. Leon. (2000). Indigenous institutions and forest conduction: Lessons from the Yuracare, Mij Press, Cambridge, Massachusetts, USA.

Bender,Lionel. (Ed).(1976) The Non-Semitic languages of Ethiopia,Michigan state university.USA.

Boonyaratana, kornkit L. Supawita T. (2005).Names medicinal plants and their issues. Bangkok: Department of Pharmacognosy, Faculty of pharmacy, Chalalonskorn University,

Carol Gaye. (2008). An Ethno-linguistic study of Nitstapi personal names, M. A. Thesis, University of South Africa.

Central statistical authority.(1994).The population and housing census of Ethiopia, Addis Ababa Central Statistical office.

Central statistical authority.(1998).The population and housing census of Ethiopia, Addis Ababa Central Statistical office.

Central statistical authority.(2007).The population and housing census of Ethiopia, Addis Ababa Central Statistical office.

Cotton, C.M. (1996). *Ethnobotany*: Principles and Applications. John Wiley and Sons Ltd., Chichester, England.

Cunningham, A.B. (1996). People, park and plant use recommendation for multiple use zones and development alternatives around Bwindi: Impenetrable National Park, Uganda. In*: People and Plant, Working Paper 4.* Pp.18-25. UNESCO, Paris.

Darwin, Charles. (1909). *The origin of species by natural selection.* New York: P.F.Collier.

Dawit Abebe (1986). Traditional medicine in Ethiopia.The attempt being made to promote it foreffective and better utilization.*SINET: Ethio. J. Sci.* **9:** 61–69.

Dawit Abebe (2001a). The role of medicinal plants in healthcare coverage of Ethiopia, the PossibleIntegration.**In:** *Conservation and Sustainable Use of Medicinal Plants in Ethiopia.* Pp: 6-21.

(Medhin Zewdu and Dawit Abebe (eds*).* Proceeding of The National Workshop onBiodiversity Conservation and Sustainable Use of Medicinal Plants in Ethiopia, 28 April-01May 1998, IBCR, Addis Ababa, Ethiopia.

Desalegn Desissa. (2000). *Uses and conservation status of medicinal plants used by the Shinasha people.*EWNHS, Addis Ababa.

Edward, Sapir. (1924). *Culture, genuine and spurious,American Journal of sociology.* London.

Edwards, S. (2001). The ecology and conservation status of medicinal plants in Ethiopia. What do we know? **In**: *Conservation and Sustainable Use of Medicinal Plants in Ethiopia.* Pp. 46-55, (Medhin Zewdu and Abebe Demissie (Eds.). Proceedings of National Workshop on Biodiversity Conservation and Sustainable use of medicinal plants in Ethiopia, Institute of Biodiversity Conservation and Research, Addis Ababa, Ethiopia.

Emily Roberson. (2008). Medicinal plants at risk. Nature's pharmacy our threasure criest: why we must conserve our natural heritage a native plant conservation campaign report. Center for Biological diversity. Web source

Ensermu Kelbessa, SebsebeDemissew, ZerihunWoldu and Edwards, S. (1992). Threatened Endemic Plants of Ethiopia.In:Edwards, S. and ZemedeAsfaw (eds.). Plants used in African traditional medicine as practiced in Ethiopia and Uganda, 35-55 Botany 2000: NAPREC, Monograph Series No.2. Addis Ababa University, Ethiopia.

Etana Tolasa. (2007). Use and conservation of traditional medicinal plants by Indigenous people in Gimbi woreda, Western Welga, Ethiopia.M.Sc Thesis, Addis Ababa University.

FAO.(1997).Non-wood forest products. Medicinal plants for forest conservation and health care. No. 11. FAO, Rome.

Ferguson, Charles A. (1976). The Ethiopian Language Area.In Bender, Marvin. Lionel, J. Donald Bowen, Robert L. Cooper, and Charles A. Ferguson (eds). 1976. Language in Ethiopia, 63-76 (London: Oxford University Press.)

Girma A. Demeke. (2006). Sketch of Sidaama Grammar.*Lissan Journal of African Languages & Linguistics*, 87-96

Girma Defar. (1998). Non-wood forests products of Ethiopia. FAO Corporate documentary repository.

Greenberg. Joseph H. (1970). Some generalizations concerning glottalic consonants, especially implosives international journal of American Linguistics, 36, 2, 123-145.

Griaule, M. (1930). Le lives, de recettes dun dabtara abyssinien, Paris Institute of de ethnologie.

Gumperz, J.J. (1968). The Speech Community.Sills. ILL. (Ed.). 1968. *International Encyclopedia of the Social Sciences. Volume 9:* 381-386. New York: The Macmillan Company/The Free Press.Higa, M. 1980.

Gut, E. (2003).Evolution report of the manuscript of the Sidaama-Amharic – English dictionary.Awassa.(Unpublished).

IUCN species Survival Commission Medicinal plant specialist Group.(2007). "Way conserves and Manage Medicinal plants?"www.iucn.org/themes/ssc/sgs/mpsg/main/way.html

Jost Gippert., Nikolaus P. Himmelmann., Ulrike Mosel. (2006). Essentials of language documentation. Berlin, Germen.

Kawachi,Kazuhiro. (2007). A grammar of Sidaama, A Cushitic language of Ethiopia. A dissertation submitted to the faculty of the Graduate School of the University of Buffalo, State University of New York.

Kembo sure and Nathan O. Ogechi.(2009) Linguistic human rights and language policy in the Kenyan education system. Addis Ababa.

Konno, B (2009). Integration of traditional medicine with modern medicine. EHNRI, Addis Ababa.Pp. 3-9.

Lamarck, Jean Baptiste. (1809). The zoological philosophy an exposition with regards to the natural history animals. New York.

Mackey, W.F. and J. Ornstein (Eds.).(1980). Sociolinguistic Aspects of Word-borrowing.*Sociolinguistics: Studies in Language Contact.* 275-292.

Marinelli, J. (Ed). (2005). plant: The ultimate visual Reference to plant and flowers of the world .New York: Dk publishing, Inc.

Martin, G.J. (1995). *Ethno botany*: A Method Manual. Chapman and Hall, London, pp: 267- 347

Medhin Zewdu and Abebe Demisssie (eds.). *Sustainable Use of Medicinal Plants in Ethiopia.* Pp.76-91, IBCR,Addis Ababa, Ethiopia.

Mekonnen Bishaw. (1991). Promoting traditional medicine in Ethiopia: A brief historical review of governmental policy. Social science and medicine.Web source.

Mesfin Tadesse (1986). Some medicinal plants of central Shewa and southwestern Ethiopia. SINET: *Ethiopian Journal of Science* 9:143-68.

Mesfin Tadesse and SebsebeDemissew. (1992). Medicinal Ethiopian plants Inventory, Identification and Classification. In: *Plants Used in African Traditional Medicine as Practiced in Ethiopia and Uganda.* Pop 1-19, (Edwards, S.And ZemedeAsfaw (Eds). Botany 200, east and Central Africa, NAPRECA, Monograph Series, No.**5:** Published by NAPRECA, Addis AbabaUniversity, Addis Ababa, Ethiopia.

Ministry of Health.(1984/1985).A study regarding the future development of traditional medicine. Addis Ababa, Ethiopia.

MirgissaKaba. (1998). Utilization of plant medicine for the treatment of healthproblems.The case of Oromo of Chora District,Illubabor Zone, Western Ethiopia.*Ethio. J. Health Dev.*, 10: 161- 166.

Mojela, M.V. 1991. *Semantic Changes Accompanying Loan Words in the Northern SothoLexicon.* M.A. Thesis. Pretoria: Vista University.

Mulusew Asratie. (2006). A linguistic survey of proper names in Sidama.*Lissan Journal of African languages &linguistics* , 133-141

Pankhurst, R. (1965). A historical examination of traditional medicine and surgery.Ethio-Medical journal.

Pankhurst, R. (1990). An introduction to medicinal history of Ethiopia.The Red Sea Press, Inc.New Jersey.

Penal code of Ethiopia. 1949.

Punch, K. (1998). *Introduction to Social Research. Quantitative and Qualitative Approaches,* London, California, New Delhi: Sage.

Robert Audi. (ed.). (1995) The Cambridge Dictionary of Philosophy, Cambridge University Press. England .

Sebsebe Demissew. (Ed.). (1989). Este Debdabe: Ethiopian traditional medicine Biology Department Science Faculty, Addis Ababa University.

Serto Ader. (1978). Newspaper, Ethiopia.

Sidaam Zone.Statistical report.(2005/6).

Sidaama Zone Administration report (2006).

Sidaama Zone Agricultural and Rural Development Bureau report (2006).

Sidaama Zone Health Bureau report (2005/6).

Sidama-Amharic –English dictionary, (1999).Hawassa

Sinclair,J. and Coulthard, M.(1992). Towards an analysis of discourse. In M. Coulthard (Ed). Advances in spoken discourse analysis. London: Routledge.

Sintayehu Tamene. (2011). An Ethno-Botanical study of medicinal plants in Wendo Genet natural forest. M. S. c Thesis. Addis Ababa University.

Sofowora A. Medicinal plants and traditional medicine in Africa.(2nd Ed.). Spectrum Books Limited, Ibadan, Nigeria. Pp. 1-153.

Teferi Gedif and Jurgeon, H. H. (2003).The use of medicinal plants in self-care in rural central Ethiopia.*Journal of Ethno-pharmacology 87:155-61.*

Teliya, V.N. (1988). Metaphorization and its role in linguistic world view creation.The role of human factor in language. Language and world view. Moscow: Nauka. (in Russian)

Teliya, V.N. (1990). Designation.Encyclopedic linguistic dictionary. Moscow: Sovetskaya

Ten-year perspective plan, (1983/1984). Addis Ababa. Provisional military government of socialized Ethiopia.

Tesfaye Awas and Sebsebe Demissew (2009).Ethno botanical study of medicinal plants in Kafficho people, southwestern Ethiopia. In: *Proceedings of the 16th International Conference of Ethiopian Studies.* Pp. 714-18, (Svein E., Harald A., Birhanu Teferra and Shiferaw Bekele (eds). Trondheim.

Tesfaye Hailemariam, Sebsebe Demissew and ZemedeAsfaw. (2009). An ethno botanical study of medicinal plants by local people in the lowlands of Konta Special Woreda, SNNPRS, Ethiopia. *Journal of Ethno biology and Ethno medicine*, 6: 25-45

The Federal Democratic Republic of Ethiopia Health Policy.(1993). Addis Ababa.

The Federal Democratic Republic of Ethiopia, Civil Code.(1987).

The Federal Democratic Republic of Ethiopia.Drug Policy, 1993, Addis Ababa.

Thulin, M. (2004). Horn of Africa in: Hotspots revisited Earth's Biologically Richest and Most Endangered Terrestrial Ecoregion (Russel, A. M., Patrico, R. G. Michael. H., John, P., Thomas, B., Cristna, G. M., John, L. and Gustavo A.B., eds). Da Fonseca.

Urga Kelbessa, Asefa Ayale and Guta Merga.(2004). Traditional Medicine in Ethiopia. Proceedings of a national workshop held in Addis Ababa, Ethiopia, 30 June-2 July 2003. EHNRI, Addis Ababa, Ethiopia.

Usher, R., Bryant, I. and Johnston, R. (1997) *Adult Education and the Postmodern Challenge: Learning Beyond the Limits,* London: Routledge.

Watson, O. (Ed.). (1976). *Longman Modern English Dictionary.* Harlow: Longman.

Wedenkind, Klous. (1980). Sidama, Gedeo (Derasa), Burji: Phonological differences and likenesses. Journal of Ethiopian studies, 14: 131-76.

WHO. (2002). Traditional medicine: Growing Needs and potentials. Geneva.

Zelealem Leyew. (2011). Wild plant nomenclature and traditional botanical knowledge among three ethnolinguistic groups in northwestern Ethiopia. Addis Ababa, Ethiopia.

Zemede Asfaw. (1997). Survey of indigenous food plants, their preparations and home gardens in Ethiopia.In: Bede, N. and Okigbo, B.N. (eds.), NU/ INRA Assessment Series. No. B6.

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Appendix 1: Medecinal Plants with brief description

Botanical name	***Calpumia aurea* (Ait.) Benth.**
Family	Fabaceae
Vernacular name	sikata
Habit	**Sh**
Preparation and Administration	Fresh leaves pounded and painted on the head Dry/fresh leaves pounded and put on the wound or washed until recovery Fresh leaves pounded, and sprayed on the infected skin in sunlight
Diseases treated	Head infection,Wound, Skin infection (borosho,gogu dhiba,madate dhiba)
Voucher number	**HYD 001**

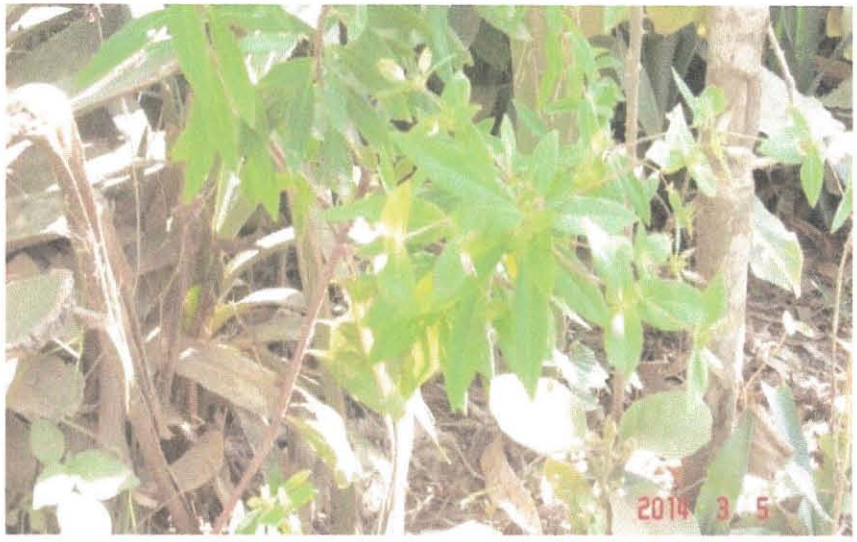
Botanical name	*Carica papaya* L
Family	Caricaceae
Vernacular name	pappaajja
Habit	**T**
Preparation and Administration	Fresh leaves are boiled with water and cooled, then drunk in the morning Dry/fresh seeds is pounded with water and drunk three times Fresh fruit taken orally
Diseases treated	Intestinal parasites(godewu dhiba) malaria(shekerre),gastricillness,(gag asu dhiba)
Voucher number	**HYD 002**

Botanical name	*Catha edulis* (Vahl.) Forssk. ex Endl.
Family	Celastraceae
Vernacular name	tʃ'aate
Habit	**Sh**
Preparation and Administration	Dry and fresh roots crushed, boiled, filtered, cooled and drunk until recovery
Diseases treated	Amoeba (sufuro)
Voucher number	**HYD 003**

Botanical name	*Citrus limon* (L.) Burm.F.
Family	Rutaceae
Vernacular name	loome
Habit	**Sh**
Preparation and Administration	Fresh fruit juice is drunk
Diseases treated	Blood pressure (sukaretedhiba)
Voucher number	**HYD 004**

Botanical name	*Citrus sinensis* (L.) osb.
Family	Rutaceae
Vernacular name	burtukaane
Habit	**Sh**
Preparation and Administration	Fresh fruit juice is drunk
Diseases treated	Gastric illness, Common cold (gagashudhiba, ganshsho)
Voucher number	**HYD 005**

Botanical name	*Cominplina benghalensis* L.
Family	Commelinaceae
Vernacular name	laalunt'e
Habit	**H**
Preparation and Administration	Leaf/stem Latex rubbed on infected part
Diseases treated	Skin infection (gogudhiba)
Voucher number	**HYD 006**



Botanical name	*Cordia qfricana* Lam.
Family	Boraginaceae
Vernacular name	waadditʃʃo
Habit	**T**
Preparation and Administration	Fresh stem bark chewed
Diseases treated	Teeth problem and sudden sickness (godowadhiba)
Voucher number	**HYD 007**

Botanical name	*Clutia abyssinica* Jaub. And Spach.
Family	Euphorbiaceae
Vernacular name	bindʒe
Habit	**H**
Preparation and Administration	Fresh roots chewed Fresh leaves crushed and pounded, the powder Sprayed on the affected part
Diseases treated	Toothache, To kill cockroach and the bug (umudamume)
Voucher number	**HYD 008**

Botanical name	*Cucurbita pepo* L.
Family	Cucurbitaceae
Vernacular name	baakula
Habit	CI
Preparation and Administration	Dry seeds are cooked and eaten in the morning.
Diseases treated	Tapeworm and Ascaries (godewadhiba, godawuhamasha)
Voucher number	**HYD 009**

Botanical name	*Datura stramonium* L.
Family	Solanaceae
Vernacular name	bindʒille
Habit	H
Preparation and Administration	Fresh leaves pounded and patted on the head
Diseases treated	Head infection (umudamume)
Voucher number	**HYD 0010**

Botanical name	*Delonix regia* (Boj. ex Hook.) RAF.
Family	Fabaceae
Vernacular name	mimi
Habit	T
Preparation and Administration	Dry/fresh leaves, crushed, boiled and filtered, then the decoction drunk in the middle of the night Fresh leaf extractis parted on the wound
Diseases treated	Diabetes, Acute bleeding Wound (sukarte, munde)
Voucher number	**HYD 0011**

Botanical name	*Eucalyptus citriodora* Hook.
Family	Myrtaceae
Vernacular name	ʃittote barzaafe
Habit	T
Preparation and Administration	Fresh leaves rubbed by hand and sniffed
Diseases treated	Headache (umudamume)
Voucher number	**HYD 0012**

Botanical name	*Euphorbia ampliphylla Pox*
Family	Euphorbiaceae
Vernacular name	tʃ'arre
Habit	Sh
Preparation and Administration	Latex mixed with butter taken orally
Diseases treated	Intestinal parasites (godowudhiba)
Voucher number	**HYD 0013**

Botanical name	*Euphorbia tlrucalli* L.
Family	Euphorbiaceae
Vernacular name	ʃuraamo tʃ'arre
Habit	Sh
Preparation and Administration	Latex dropped on the place
Diseases treated	Skin cancer (gogudhiba)
Voucher number	**HYD 0014**

Botanical name	*Ficus sur* Forssk.
Family	Moraceae
Vernacular name	odakko
Habit	T
Preparation and Administration	Dry fruits pounded, powdered and then mixed with honey and taken orally twice Dry fruits pounded, powdered and then parted on wound Fresh stem barks crushed, pounded, boiled, and cooled, then drunk twice as a tea
Diseases treated	Malaria Wound Acute bleeding Vomiting (shekerre, munde, tunshisa dhiba)
Voucher number	**HYD 0016**

Botanical name	*Flacourtia indica* (Burm. f.) merr.
Family	Flacourtiaceae
Vernacular name	hagaala
Habit	Sh
Preparation and Administration	Dry parts of the plants put in to the fire and smoking
Diseases treated	Teeth problem Evil eye Headache(hinkote dhiba,dudate,umudamume)
Voucher number	**HYD 0015**

Botanical name	*Kalanchoe petitiana* A. Rich
Family	Crassulaceae
Vernacular name	hantʃ'uluulle
Habit	H
Preparation and Administration	Fresh Leaves heated with fire, then salt added and tied on the swollen part
Diseases treated	Leg swelling (gamitoke)
Voucher number	**HYD 0017**

Botanical name	*Lactuca inermis* Forssk.
Family	Asteraceae
Vernacular name	amessa
Habit	H
Preparation and Administration	Fresh leaf/whole plant crushed and pounded is filtered and mixed with coffee and milk then drunk
Diseases treated	Anemia (mundeteanje)
Voucher number	**HYD 0018**

Botanical name	*Lagenaria siceraria* (Molina) Standi.
Family	Crassulaceae
Vernacular name	surup'a
Habit	CI
Preparation and Administration	Fresh seeds pounded with water, filtered and drunk until recovery in the evening or Dry seeds pounded with water, and then drunk two times a day
Diseases treated	Jaundice and Intestinal parasites (magarto, godowdhiba)
Voucher number	**HYD 0019**

Botanical name	*Olea europea* subsp. *Cuspidat a* (Wall.ex G.
Family	Oleaceae
Vernacular name	edʒersa
Habit	T
Preparation and Administration	Dry/fresh branches used as tooth brush and chewed Fresh leaves boiled and the infusion drunk
Diseases treated	Teeth problem and Intestinal parasites (hinkotedhiba, godwu)
Voucher number	**HYD 0020**

Botanical name	*Rhamnus prinoides* L'Herit.
Family	Rhamnaceae
Vernacular name	t'addo
Habit	Sh
Preparation and Administration	Fresh leaves rubbed on the infected skin
Diseases treated	Skin infection (gogudhiba)
Voucher number	**HYD 0021**

Botanical name	*Rhus glutinosa* A. Rich
Family	Anacardiaceae
Vernacular name	olontʃo
Habit	T
Preparation and Administration	Dry/fresh stem bark boiled and decoction drunk
Diseases treated	Vitamin shortage (Vitamineteanje)
Voucher number	**HYD 0022**

Botanical name	*Rubus apetalus* Poir.
Family	Rosaceae
Vernacular name	gora
Habit	Sh
Preparation and Administration	Fresh leaves are chewed and sprayed on the swollen part Fresh/dry leaves are pounded then either sprayed or tied on the wound
Diseases treated	Body swelling Wound (gamitoke)
Voucher number	**HYD 0023**

Botanical name	*Senna occidentalis* (L.) Link
Family	Rosaceae
Vernacular name	hamaʃʃu hak'a
Habit	Sh
Preparation and Administration	Fresh leaves are chewed and sprayed on Fresh leaves pounded and sprayed on bite place
Diseases treated	Poisoning (hadho)
Voucher number	**HYD 0024**

Botanical name	*Solanum incanum* L.
Family	Solanaceae
Vernacular name	borbodo
Habit	Sh
Preparation and Administration	Fresh root chewed and swallowed Fresh leaves are rubbed and inserted in to nose Fresh fruits or leaves are rubbed on the part with the snake bite
Diseases treated	Intestinal parasites Amoeba Nasal blooding Snake bite (godowudhiba)
Voucher number	**HYD 0025**

Botanical name	*Solarium nigrum* L.
Family	solanaceae
Vernacular name	t'u?naajje
Habit	H
Preparation and Administration	Fresh leaves cooked and eaten as vegetables
Diseases treated	Intestinal parasites (godowudhiba)
Voucher number	**HYD 0026**

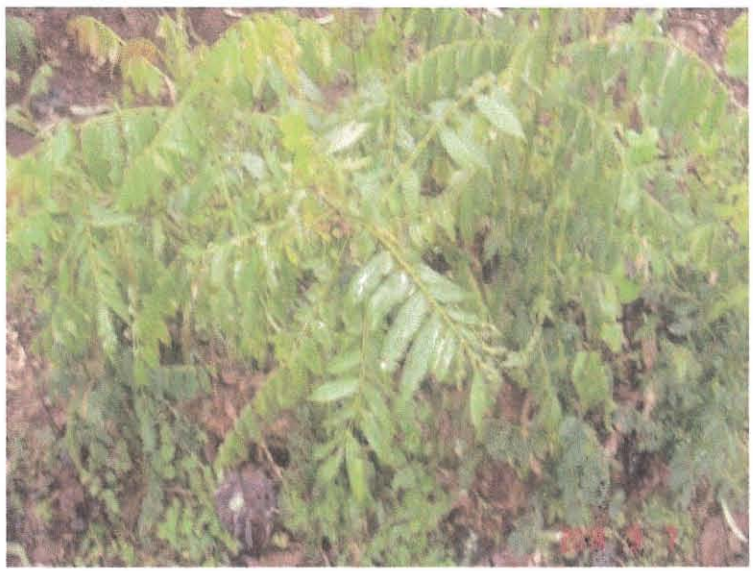
Botanical name	*Vemonia auriculifera* Hiern
Family	Asteraceae
Vernacular name	reedʒe
Habit	Sh
Preparation and Administration	Fresh roots chewed and sprayed on swollen part Fresh leaves crushed and pounded, then drummed on the wound Dry/fresh leaves pounded and mixed with butter and pasted
Diseases treated	Body swelling Wound Head infection (gamitoke, gogudhiba)
Voucher number	**HYD 0027**

Botanical name	*Achyranthes aspera* L.
Family	Amaranthaceae
Vernacular name	noole
Habit	H
Preparation and Administration	Fresh leaves are pounded with water and drunk Fresh root is pounded with water and drunk in the morning
Diseases treated	Stomach problem Pneumonia (balamo)
Voucher number	**HYD 0028**

Botanical name	*Antiaris toxicaria* Lesch.
Family	Moraceae
Vernacular name	dimbitʃo
Habit	T
Preparation and Administration	Dry/fresh stem bark is pounded and powdered then mixed with milk and given orally
Diseases treated	Rabies (woshudhiba)
Voucher number	**HYD 0029**

Botanical name	*Ehretia cymosa* Thonn.
Family	Boraginaceae
Vernacular name	giddiʧʃo
Habit	T
Preparation and Administration	Fresh stem bark crushed, pounded and mixed with water and drunk
Diseases treated	Stomach problem (godowudhiba)
Voucher number	**HYD 0030**

Botanical name	*Hypoestes forskaolii* (Vahl) R.Br.
Family	Acanthaceae
Vernacular name	t'et'e
Habit	H
Preparation and Administration	Fresh root is pounded with water and given orally
Diseases treated	Stomach problems (godowu dhiba)
Voucher number	**HYD 0031**



Botanical name	*Millettia ferruginea* (Hochst.) Bak.
Family	Fabaceae
Vernacular name	hengeddit∫∫o
Habit	T
Preparation and Administration	Fresh stem bark is crushed and pounded with water and given orally and painting on the body
Diseases treated	Ecto-parasites (godowu dhiba)
Voucher number	**HYD 0032**

Botanical name	*Allium sativum* L.
Family	Alliaceae
Vernacular name	waadʒo tuma
Habit	H
Preparation and Administration	Bulbs are mixed with *Zingiber officinale* and chewing and swallowing Seeds are mixed with *Zingiber officinale and Nicotiana tabacum* then pounded and given through mouth Bulbs are chewed and swallowed in the night and sleeping Bulbs are pounded with water and given orally in the morning
Diseases treated	Common cold (Human) Common cold (Livestock)(ganshsho) Typhoid Malaria (human) Pneumonia(balamo) (livestock)
Voucher number	**HYD 0033**

Botanical name	*Cucumis prophetarum* L.
Family	Cucurbitaceae
Vernacular name	basu baak'ula
Habit	CI
Preparation and Administration	Dry fruits are pounded and powdered then mixed with water and milk, then drunk in the morning Dry fruits are pounded and powdered then mixed with water and the decoction parts drunk in the morning until recovery Whole plant parts/Dry seeds are pounded and powdered then mixed with water and given orally
Diseases treated	Intestinal parasites (Human) Pneumonia (human) Gonorrhea (sebet) human) Glandular swelling (human) Stomach problem (Livestock) Pneumonia (Livestock)
Voucher number	**HYD 0034**

Botanical name	*Ekebergia capensis* Sparrnx
Family	Melianthacea'e
Vernacular name	goddiitʃʃo
Habit	T
Preparation and Administration	Dry seed is chewed and swallowed Dry seeds are chewed and given through nose
Diseases treated	Intestinal parasites (human)(Godowudhiba) Cough (livestock) (Busano) (gadansudhiba) (Livestock)
Voucher number	**HYD 0035**

Botanical name	*Juniperus procera* Hochst. ex. Engl.
Family	Cuppressaceae
Vernacular name	hoontʃo
Habit	T
Preparation and Administration	Diy seeds are a pounded and powdered then mixed with tea, and then drunk and smell through nasal Fresh leaves are crushed and pounded then mixed with butter given orally
Diseases treated	Pneumonia (balamo) Nasal problem Asthma (human) (worantotedhiba) (livestock) (livestock)
Voucher number	**HYD 0036**

Botanical name	*Maesa lanceolata* Forssk.
Family	Myrsinaceae
Vernacular name	gowatʃʃo
Habit	Sh
Preparation and Administration	Fresh leaves are rubbed at the place Dry leaves are pounded with water and powdered then given orally
Diseases treated	Skin infection (human) (gogudhiba) (gadansudhiba) (livestock)
Voucher number	**HYD 0037**

Botanical name	*Plectranthus igniarius*(Schweinf.) Agrew.
Family	Lamiaceae
Vernacular name	tontoona
Habit	Sh
Preparation and Administration	Fresh/dry leaves are pounded and mixed with butter, then painting Fresh leaves are pounded and given orally Fresh leaves are pounded into the painting
Diseases treated	Skin infection (human) (gogudhiba) Stomach problems (livestock) (tick)
Voucher number	**HYD 0038**

Botanical name	*Nicotiana tabacum* L.
Family	Solanaceae
Vernacular name	araddo
Habit	Sh
Preparation and Administration	Dry leaves are Pounded and powdered then drunk for livestock or smelling through the nose for human
Diseases treated	Common cold (livestock) Headache (human) (Umu damumme)
Voucher number	**HYD 0039**

Botanical name	*Primus africana* (Hook.f.) Kalkm.
Family	Rosaceae
Vernacular name	garbitʃʃo
Habit	T
Preparation and Administration	Dry stem bark is crushed, pounded and powdered then put on
Diseases treated	Wound (both) (madatedhiba)
Voucher number	**HYD 0040**

Botanical name	*Phytolaccadodecandra* L'Herit
Family	Phytolaccaceae
Vernacular name	haraandʒitʃʃo
Habit	Sh
Preparation and Administration	Dry/fresh root is chewed and swallowing Stem bark is putted on sun light then after drying chewed and fluid is swallowed for three days Dry root is pounded and powdered then mixed with water and drunk after breakfast Fresh/dry stem bark or leaf is crushed and pounded then filter and given orally and painting on the body Dry/fresh root is crushed, pounded and powdered then mixed with milk and given orally Dry/fresh root is crushed and pounded with water, then filter and drunk for four days (livestock) and two days for human
Diseases treated	Wound (both) (madatedhiba)
Voucher number	**HYD 0041**

Botanical name	*Ricinus communis* L.
Family	Euphorbiaceae
Vernacular name	komboitʃʃo
Habit	T
Preparation and Administration	Fresh root, crushed and pounded then, decoction is drunk in the light/morning Fresh/dry roots chewed and spray on place.
Diseases treated	Pneumonia (both) (balamo) Body swelling (human) (gamitoke)
Voucher number	**HYD 0042**

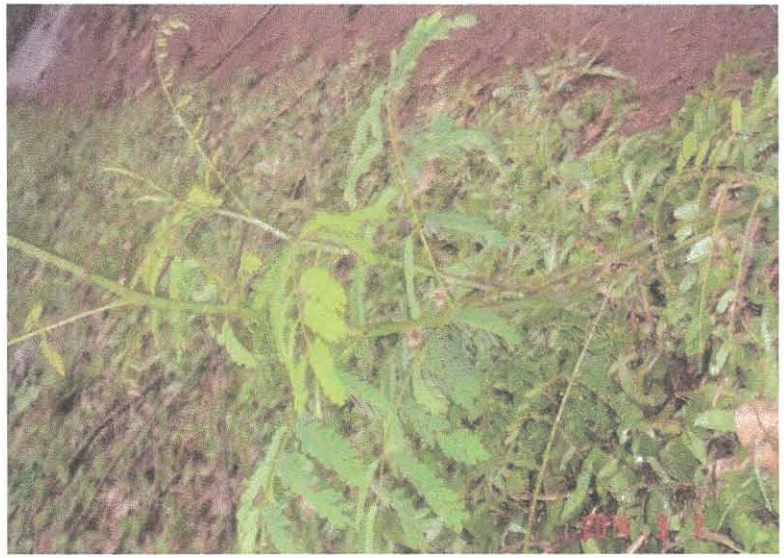
Botanical name	*Ruta chalepensis* L.
Family	Rutaceae
Vernacular name	Sunkurta
Habit	H
Preparation and Administration	Fresh leafs and stems are chewed and swallowed in the morning Dry leaves are cocked as tea and drunk Fresh leaves are pounded powdered and mixed with oil, then drunk in the morning for three days Fresh leaves are chewed and swallowed for Human and pounding with water and given orally to livestock mixed with salt
Diseases treated	Amoeba (human) Vomiting (human) Pneumonia Body swells (human) (sufuro, tunshisha, balamo)
Voucher number	**HYD 0043**

Botanical name	*Vernonia amygdalina* Del.4
Family	Asteraceae
Vernacular name	hetʃʃo
Habit	Sh
Preparation and Administration	Fresh leaves are pounded with water and filtered and drunk in the morning Fresh leaves are mixed with the leaf of croton macrostachyus and pounded and filter, then given orally Fresh leaves are crushed, pounded and boiling, then infusion and decoction parts drunk in the morning Fresh leavs are pounded with water then filter and drunk
Diseases treated	Intestinal parasites (Human) (godowudhiba) Stomach problems (Livestock) Jaundice (human) (magarto) Malaria (human) Intestinal parasites (human) (Shekere)

Botanical name	*Gallnsoga quadriradiata* Ruiz and Pav
Family	Asteraceae
Vernacular name	mat'aat'eessa
Habit	H
Preparation and Administration	Fresh flowers chewed and swallow oral
Diseases treated	Tonsillitis
Voucher number	**HYD 0045**

Botanical name	*Justlcla schimperiana* (Hochst.ex A.Nee
Family	Asteraceae
Vernacular name	sikɨtʃo
Habit	Sh
Preparation and Administration	Fresh Leaf heated on fire, then salt added and tied on the swollen part
Diseases treated	Leg swelling (gamitoke)
Voucher number	**HYD 0046**

Botanical name	*Momordica boivinii* Bail
Family	Cucurbitaceae
Vernacular name	Kire
Habit	CI
Preparation and Administration	Fresh roots chewed and swallowed after breakfast Fresh leaves, crushed, pounded and filtered, then mixed with goat milk and drunk in the morning
Diseases treated	Gonorrhea (Sebt'e) Intestinal parasites
Voucher number	**HYD 0047**



Botanical name	*Toddolia asiatica* (L.) Lam.
Family	Rutaceae
Vernacular name	harangama
Habit	Sh
Preparation and Administration	Fresh roots chewed and swallowed in the morning and rubbed into the swollen part
Diseases treated	Glandular Swelling Body swelling (gamitoke)
Voucher number	**HYD 0048**

Botanical name	*Coffea arabica* L.
Family	Rubiaceae
Vernacular name	buna
Habit	Sh
Preparation and Administration	Whole parts are burned and smoking Seeds are cocked and chewed and swallowed Dry Cocked seeds are pounded and given nasal
Diseases treated	Malaria (human) Gastric illness Headache (human) Sudden sickness (both) (Shekere, umudamume)
Voucher number	**HYD 0049**

Botanical name	*Aloe* sp.
Family	Aloaceae
Vernacular name	argiisa
Habit	H
Preparation and Administration	Fresh leaf latex taken orally
Diseases treated	Intestinal parasites (godowudhiba)
Voucher number	**HYD 0050**

Botanical name	*Argemone hiexicana* L.
Family	Papaveraceae
Vernacular name	wadʒo uta
Habit	H
Preparation and Administration	Dry/fresh leaves crashed, pounded and filtered, then infusion drunk in the middle of the night
Diseases treated	Diabetes (sukare)
Voucher number	**HYD 0051**

Botanical name	*Bersama abyssinica* Fresen.
Family	Melianthaceae
Vernacular name	t'ewerrakko
Habit	T
Preparation and Administration	Dry leaves burned and mixed with butter, then parted in open sunlight
Diseases treated	Skin infection (gogudhiba)
Voucher number	**HYD 0052**

Botanical name	*Artemisia afra*
Family	*African wormwood*
Vernacular name	inare
Habit	H
Preparation and Administration	wrap leaves in enset leaves and put over fire, squeeze liquid out of bundle, drink on empty stomach Infant growth: decoction of leaves given to infants under six months who are too small.
Diseases treated	Fungal conditions of the skin (gogudhiba) Smallpox; stomach ache; infant growth/weight gain; anti-malarial
Voucher number	**HYD 0053**

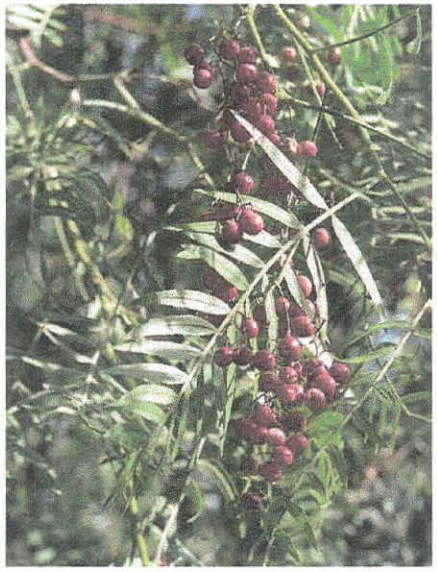
Botanical name	*Syzygium guineense*
Family	Waterberry
Vernacular name	duuwantʃʃo
Habit	T
Preparation and Administration	Combined with Ziba (*Podocarpus gracilior*, in previous listing) in cold maceration
Diseases treated	Drink on an empty stomach first thing in the morning, this induces vomiting, which is thought to help treat stomach problem (tunshishadhiba)
Voucher number	**HYD 0054**

Botanical name	*Embelia schimperi*
Family	*Embelia schimperi*
Vernacular name	kʼonkʼo
Habit	Sh
Preparation and Administration	Seeds dried, powdered and eaten to eliminate hookworms
Diseases treated	Hookworms (gododhiba)
Voucher number	**HYD 0055**

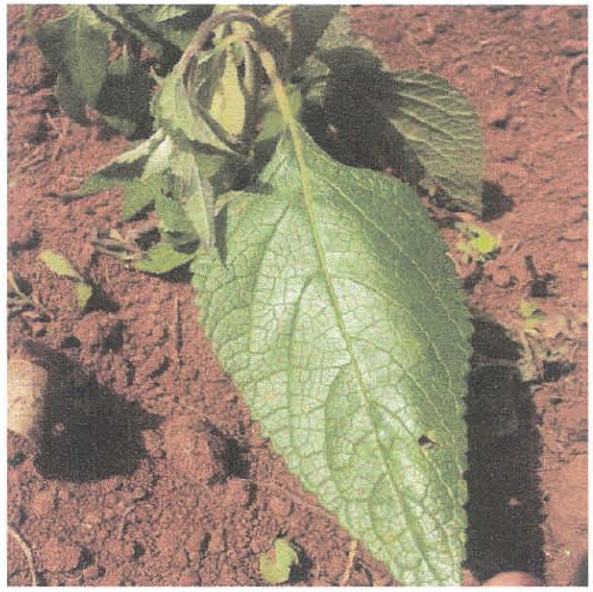
Botanical name	*Drynaria volkensii*
Family	basket fern
Vernacular name	kokkoso
Habit	Sh
Preparation and Administration	chew rhizome to relief ache
Diseases treated	Toothache(hinkotedhiba)
Voucher number	**HYD 0056**

Botanical name	Crispus
Family	Curly Dock, Yellow Dock
Vernacular name	ʃiʃu
Habit	H
Preparation and Administration	roots chewed and juice swallowed for Pneumonia
Diseases treated	Pneumonia (balamo)
Voucher number	**HYD 0057**

Botanical name	*Dioscorea alata*
Family	Yam
Vernacular name	bojje
Habit	Sh
Preparation and Administration	Leaves rubbed vigorously on the skin for feudal conditions
Diseases treated	Fungal conditions of the skin (gogudhiba)
Voucher number	**HYD 0058**



Botanical name	*Schinus molle*
Family	*Schinus molle*
Vernacular name	kundo
Habit	T
Preparation and Administration	Fruit chewed for sore throat
Diseases treated	Sore throat (miche)
Voucher number	**HYD 0059**



Botanical name	*Ocimum urticifolium* L.
Family	Lamiaceae
Vernacular name	mattʃʃ'ate t'agitʃʃo
Habit	Sh
Preparation and Administration	Fresh leaves rubbed by hand and droplets are drunk and leaves painted on the body and sniffed
Diseases treated	Fibril illness Headache (miche)
Voucher number	**HYD 0060**

Botanical name	*Foeniculum volgare*
Family	Fennel
Vernacular name	nugusa
Habit	H
Preparation and Administration	Added to soups
Diseases treated	antifungal, antibacterial, antioxidant
Voucher number	**HYD 0061**

Botanical name	*Hagenia abyssinica*
Family	Hagenia
Vernacular name	soitʃʃo
Habit	T
Preparation and Administration	Infusion of the female flowers
Diseases treated	Tapeworms (godowudhiba)
Voucher number	**HYD 0062**

Botanical name	*Ajuga integrifolia*
Family	(bugleweed)
Vernacular name	koote
Habit	H
Preparation and Administration	Cold water maceration
Diseases treated	Stomach ache (godowudhiba)
Voucher number	**HYD 0063**

Botanical name	Zingiber officinale
Family	Ginger
Vernacular name	dʒaandʒiweelo
Habit	H
Preparation and Administration	roots chewed for stomach ache
Diseases treated	Stomach ache (godowudhiba)
Voucher number	**HYD 0064**

Botanical name	*Pentas lanceolata*
Family	Egyptian Starcluster
Vernacular name	finčami
Habit	CL
Preparation and Administration	Root washed and chewed, then split on pustules. A ceremony is performed to aid healing. The word "burst" is said to "pop" the painful swellings. Next, the word "spread" is repeated to disperse the pain. Nourishing food is given for recovery.
Diseases treated	Pneumonia (balaamo)
Voucher number	**HYD 0065**

Botanical name	*Syzygium guineense*
Family	Waterbury
Vernacular name	unknown
Habit	H
Preparation and Administration	Drink on an empty stomach first thing in the morning, this induces vomiting, which is thought to help treat Hepatitis
Diseases treated	Hepatitis c(jellelitof)
Voucher number	**HYD 0066**

Botanical name	*Syzygium guineense*
Family	Waterby
Vernacular name	dook'ima
Habit	T
Preparation and Administration	Drink on an empty stomach first thing in the morning, this induces vomiting, which is thought to help treat Hepatitis
Diseases treated	Hepatitis (jellelitof)
Voucher number	**HYD 0067**

Botanical name	***Heterotheca canescens***
Family	Yellow/Golden Aster
Vernacular name	bett'o
Habit	H
Preparation and Administration	mix flowers of Yellow Aster with young leaves of gesho chewed in a quid wrapped with cloth or enset leaves. Juice swallowed for swollen tonsils/lymph nodes
Diseases treated	Swollen tonsils/lymph nodes
Voucher number	**HYD 0068**

Botanical name	*Ensete ventricosum*
Family	*false banana*
Vernacular name	Wesse
Habit	Sh
Preparation and Administration	Specific varieties eaten for bone fractures, aiding placental discharge after birth, diarrhea, inducing abortion and wound healing
Diseases treated	diarrhea; inducing abortion; wound healing; strength and improve immune healt.
Voucher number	**HYD 0069**

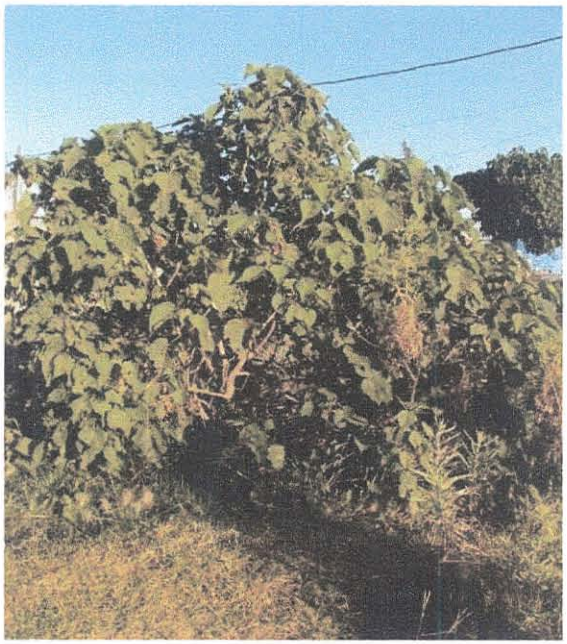
Botanical name	*Hibiscus crassinervius* Hochst. ex. A. Rich.
Family	Malvaceae
Vernacular name	worarriitʃʃo
Habit	H
Preparation and Administration	Whole plant parts are crushed and pounded then Given orally in the morning
Diseases treated	Nasal problem (Worantotedhiba)
Voucher number	**HYD 0070**

Botanical name	*Musa acuminate*
Family	*wild banana*
Vernacular name	muz
Habit	T
Preparation and Administration	broken petiole juice applied to wounds
Diseases treated	Cease wound bleeding
Voucher number	**HYD 0071**

Botanical name	*Podocarpus falcatus (Thunb.) Mirb.*
Family	*Podocarpaceae*
Vernacular name	dagutʃʃo
Habit	T
Preparation and Administration	Tender shoots pounded in a mortar and pestle, squeeze juice from pulp, and drink Abortion: young leaves eaten to induce abortion
Diseases treated	Stomach ache, worms, and malaria; abortion (ʃekere), (gondowdhiba)
Voucher number	**HYD 0072**

Botanical name	*Discopodium*
Family	*Peninervum*
Vernacular name	redʒitʃʃo
Habit	H
Preparation and Administration	Stem juice applied to wounds to stop bleeding; insert leaf into nose to stop a nose bleed
Diseases treated	Stop bleeding (munde)
Voucher number	**HYD 0073**

Botanical name	*Leucas martincensis*
Family	*Labiatae*
Vernacular name	burditʃʃo
Habit	H
Preparation and Administration	Leaves, crushed and squeeze juice into the eyes; one drop in each eye in the morning
Diseases treated	Eye disease (illete dhiba)
Voucher number	**HYD 0074**



Botanical name	*Croton macrostachyus*
Family	*croton*
Vernacular name	masintʃʃo
Habit	T
Preparation and Administration	Leaf stem broken and sap applied topically to skin
Diseases treated	Skin fungus (gogudhiba)
Voucher number	**HYD 0075**

Appendix 2:
Informant name list

Name	Age	Gender	Education status	Woreda
Basu Bankura	55	Male	College	Shebedino
Melese Milosa	37	Male	College	Shebedino
Tsegaye Abebe	78	Male	Illiterate	Aleta chuko
Degefe Abebe	84	Male	Illiterate	Aleta chuko
Adera Ligamo	72	Male	Illiterate	Aleta wendo
Ferew Hewiso	44	Male	Grade 3	Aleta wendo
Dukamo Dugena	52	Male	Grade 4	Aleta wendo
Derbe korosso	81	Male	Illiterate	Aleta wendo
Habtamu Borja	62	Male	Grade 2	Aleta wendo
Girma Demeke	45	Male	Grade 6	Aleta wendo
Girum Bekele	54	Male	Grade 8	Aleta wendo
Ethiopia Berakko	77	Male	College	Aleta wendo
Abiyot Bekele	87	Male	Grade 5	Aleta wendo
Tagel Mekonen	92	Male	Illiterate	Aleta wendo
Gashu kebede	47	Male	College	Aleta wendo
Daniel Dafurssa	59	Male	Grade 4	Aleta wendo
Ego lema	57	Male	Grade 1	Aleta wendo
Argisso Gorfu	78	Male	College	Aleta wendo
Berakko Dumo	85	Male	Illiterate	Aleta wendo
Dobe kasshun	58	Male	Grade 10	Aleta wendo
Markose Alemayehu	65	Male	Grade 7	Aleta wendo
Taye Tesema	87	Male	Illiterate	Aleta wendo
Ibrahim muktar	56	Male	Grade 1	Aleta wendo
Hussen kaptyemer	58	Male	Grade 6	Aleta chuko
Zeru kefle	69	Male	Grade 1	Aleta chuko
Lema Ordofa	78	Male	Grade 3	Aleta chuko
Noe shuramo	75	Male	Grade 5	Aleta chuko
Kifle wondemu	62	Male	College	Aleta chuko
Desse Lalamo	82	Male	Illiterate	Aleta chuko
Nugusse suma	33	Male	College	Aleta chuko

Adera Eyamo	36	Male	Grade 4	Aleta chuko
Wegayehu Eyamo	45	Male	College	Aleta chuko
Gedewon bereyehun	49	Male	Grade 10	Aleta chuko
Abenezer wonago	53	Male	Grade 4	Aleta chuko
Eyob Girma	36	Male	College	Aleta chuko
Matiwos Huriso	89	Male	Illiterate	Aleta chuko
Solomon Galfato	84	Male	Illiterate	Aleta chuko
Soyatu Ahemed	70	Male	College	Aleta chuko
Molla Belguda	28	Male	Illiterate	Aleta chuko
Abebaw Argo	69	Male	College	Aleta chuko
Marta Buna	55	Female	Grade 9	Shebedino
Abebech Bekele	75	Female	Illiterate	Shebedino
Berke Amalo	69	Female	College	Shebedino
Tarikuwa Adal	96	Female	Illiterate	Shebedino
Sinke Biratu	54	Female	Grade 2	Shebedino
Rahel shimels	33	Female	Grade2	Shebedino
Kassech Gebre	52	Female	Grade 5	Shebedino
Semegn G/Michael	51	Female	College	Shebedino
Hiwote Tona	42	Female	Grade 11	Shebedino
Tadelech shiferaw	41	Female	Grade 9	Shebedino
Tewabech Amalo	49	Female	Grade 3	Shebedino
Ayenalem Bekele	65	Female	College	Shebedino
Neyema yoke	67	Female	College	Shebedino
Danchile kayamo	81	Female	Illiterate	Shebedino
Kinadu Batiso	44	Female	College	Shebedino
Mehalet kuma	98	Female	Illiterate	Shebedino
Nura yesuf	55	Female	Grade 7	Shebedino
Mulu Arfassa	79	Female	Grade 7	Shebedino
Foziya keder	73	Female	Grade 5	Shebedino
Rewda Mohamed	55	Female	Grade 8	Shebedino

Declaration

I, the undersigned, declare that this thesis is my original work and has not been presented for a degree in any universities and all sources of materials used for the thesis have been correctly acknowledged.

Name: Henok Yizengaw Demisse

Signature _____

Date _____

This thesis work has been submitted for examination with my approval as an advisor:

_____

Dr. Zelealem Leyew