

Ethnobotanical Study on Assessment of Practice on Traditional Plant Medicine Use among People of Wonchi District, Central Ethiopia

Gadisa Melkamu*

Department of biology, University of Gonder, Ethiopia

Email: gadisamelkamu2010@gmail.com

Abstract

Ethiopia is a country characterized by a wide range of climate and ecological condition which helped to have high diversity of medicinal plants and up to 80% of the population use traditional medicine for primary health care. Studies on the current practices of the communities in the area are vital to document the basic information in these regards. Therefore, this study was aimed in assessing the practices of traditional plant medicine use among communities of Wonchi District.

Keywords: Indigenous practice; Local people; Medicinal plants; Traditional Medicine; Wonch district.

Results

The most widely used route of administration in the study area was oral accounted for [56.67%] followed by dermal [29.63%]. This is the reason that oral and dermal routes permit rapid physiological reaction of the prepared medicines with the pathogens and increase its curative power. The prepared traditional medicines were applied in a number of ways, among which drinking [37.57%], creaming [16.76%], and eating [10.40%] were mentioned frequently.

1. Introduction

According to [83] consultation of medicinal practitioners is very helpful for the development and incorporation of useful approaches in planning and budgeting system for health care provision of most developing nations and indigenous communities. In Africa, traditional medicine plays a central role in health care needs of rural people and urban poor. Here, it is said that, this situation would remain so long as modern medicine continues to be unable to meet the health care of the people of the continent effectively [41].

* Corresponding author.

The value and role of this health care system will not diminish in the future, because they are both culturally viable and expected to remain affordable, while the modern health care service is both limited and expensive [83]. Indigenous traditional medicinal practices were carried out essentially based on private practice, i.e. private agreement between consenting parties, and the knowledge of traditional practice in most cases has descended through oral folk lore [6]. The secret information retained by traditional healers is relatively less susceptible to distortion but less accessible to the public. However, the knowledge is dynamic as the practitioners make every effort to widen their scope by reciprocal exchange of limited information with each other [16].

Incomplete coverage of modern medical system, shortage of pharmaceuticals and unaffordable prices of modern drugs, make the majority of Ethiopian still to depend on traditional plant medicines [17,71]. Hence the present study was initiated to investigate the indigenous practice of traditional plant medicine use among local communities of Wonch District, Western Ethiopia.

1. 1. Statement of the Problem

Traditional medicine is an ancient form of health care practices long before appearance of scientific medicine which have played and continue to have important role in providing curative services to very large number of people particularly in the rural areas of almost all countries of Africa [35]. It is the culture of many people because of its accessibility to the people even in most remote areas particularly in the community where care is given at low cost to patients in their home. Most people have good attitude towards traditional plant medicine, although it is not always the best form of health care system [35].

In many parts of Ethiopia, considerable numbers of researches have been done on those practice of traditional plant medicine [5]. Like in other parts of country, in the current study area, the knowledge on medicinal plants depth and width become lesser and lesser due to its secrecy, unwillingness of young generation to gain the knowledge, influence of modern education, religious and awareness factors, which all results in gradual disappearance of indigenous knowledge on medicinal plants [Researcher long term direct observation]. But there was no much formal research work that had been done on the indigenous practice of traditional plant medicine in the study area. Therefore, this study was aimed to document the traditional medicinal plant species practices in the study area.

2. Materials and method

2.1. Descriptions of the Study area and Location

Wonchi District is one of the Districts in the Southwest Shoa Zone, Oromia Region, Ethiopia, which is located 124 km away from southwest of Addis Ababa with the area coverage of 460,516 hectare and the altitude range between 1798m to 2118m above sea level. The administrative center of Wonchi is Chitu and it has beautyfull Creator Lake known as Wonchi Lake from which the district has got its name. As a result many tourists from inside and outside visit this natural lake every year and it is source of income for the country [wonch district health office report,2019].

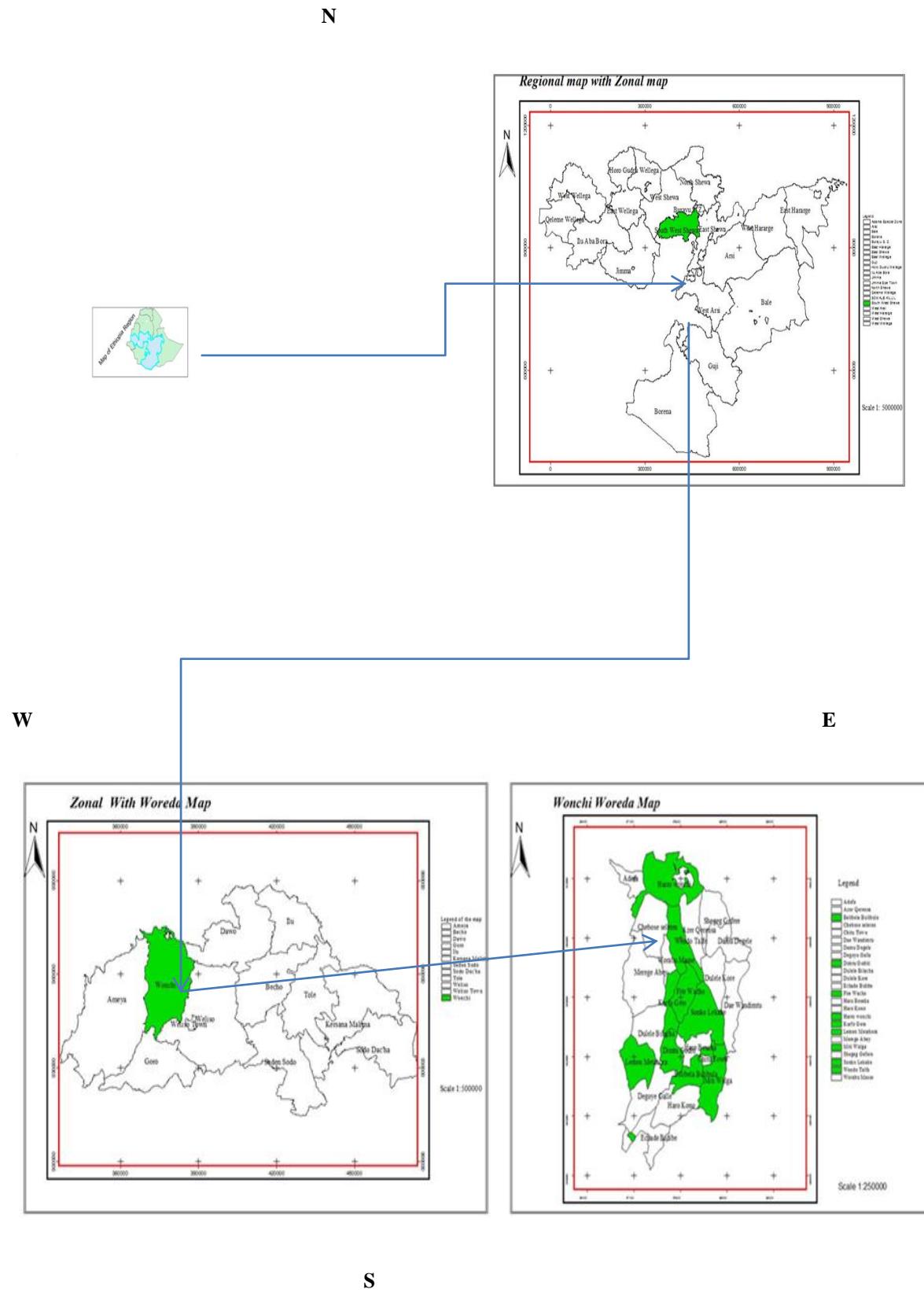


Figure 1: Map of the Study Area

2.2. Population

Demographically the district has a population of 119, 736 with almost equal gender ratio of 49.8% male and 50.2% female. The average family size is 6 and the average number of children per household was nearly 4 indicating that it is found to focus of development intervention addressing child wellbeing to bring real development in the community. Religion wise, Orthodox constitute 58.9%, Protestants 39.6% and Muslims constitute 1.3% while the ethnic group composition, as per the Terminal evaluation findings of 2013, more than 99% are Oromo, the remaining being Amhara, Gurage and others [CSA, 2007].

2.3. Climate

Ecologically the district is divided into *dega* or high land [40%] and *woina dega* or mini land [60%]. The mean annual rain fall of the area ranges from 1650-1800mm with annual temperature range of 10-30°C and mean average of 19.6 °C. The study area had 28.7°C annual mean maximum and, 19.6°C annual mean minimum temperature. The annual mean maximum and minimum temperature were recorded in March and November respectively. The highest rainfall distributions occur from June to September [Figure 2].

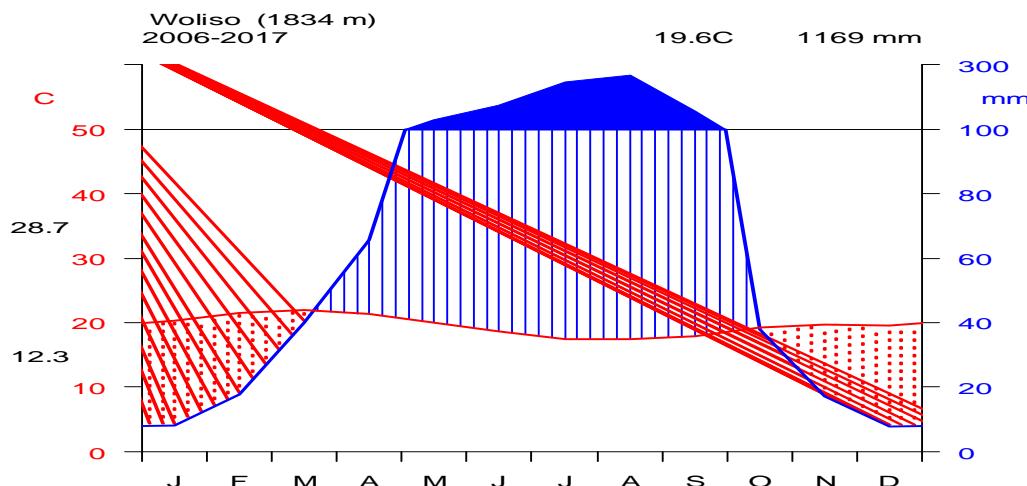


Figure 2: Climadiagram of the study area from 2006-2017

2.4. Land use types

Out of the total areas of the District, 82% is cultivated land, 11.7% grazing land, 8.9% covered by natural forest, 1.03% is water body while others is 18.6% [World Vision Ethiopia Wonch area Office report, 2018].

2.5. Vegetation of the study area

Due to variation in altitude and topographical features, the wonchi district vegetation shows three different zones, namely: Afromontane forest, sub alpine and afroalpine] vegetation [92,37]. The common plant species of the study area include: *Achyranthes aspera*, *Albizia schimperiana*, *Alchemilla pedata*, *Apodytes dimidiata*, *Brucea antidyserterica*, *Dombeya torrida*, *Embelia schimperi*, *Erica arborea*, *Festuca gilbertiana*, *Lobelia*

rhyngopetalum, Hagenia abyssinica, Hypericum revolutum, Jasminum abyssinicum, Juniperus procera, Kniphofia foliosa, Lobelia giberroa, Maytenus arbutifolia, Millettia ferruginea, Nuxia congesta, Olea capensis, Olea europaea subsp. caspida, Papaneasimensis, Pittosporum viridiflorum, Prunus africana, Phytolacadodicandra, Salix subserrata, Schefflera abyssinica, Thymus schimperi and Zehneria scabra Vegetation.

2.6. Study Design

Field survey design was employed together information on the indigenous knowledge, attitude and practice of traditional plant medicine of the local people in the study area. During the survey, both qualitative [none numerical] and quantitative [numerical] data were collected.

2.7. Reconnaissance Surveys

Preliminary survey was conducted from march 20- 25, 2020. During the preliminary survey general information about the study area were gathered. Based on the information sampling technique, Sampled Kebeles, number of informants and study sites were determined.

2.8. Study Site Selection

From a total 23 Kebeles in the District, nine study Kebeles were selected purposively based on availability of key informants following the recommendation of government officials, stakeholders, and religious leaders during reconnaissance survey. The sampled Kebeles are [Belbela,Dimtu,Fite ,Haro wanch,Kurfo gute,Lemen meta hora,Miti welga,Sonkole kake,Waldo telfa].

2.9. Informant Selection

A total of 198 informants were selected. From these 27 were key informants [3 informants per Kebele] which were selected purposively and 171 [19 per Kebele] of them were general informants which were selected randomly [simple random sampling technique following lottery method]. Age range of informants selected for the study were from 20 to 80 who lived 5 year and above in the study area. According to [42],the size of the sample depends on the available fund, time and other reasons and not necessarily depends on total population.

2.10. Data Collection Method

Semi-structured interview, observation and guided field walks with informants were employed to obtain ethnobotanical data as used by [38]. Interview was based on a checklist of questions prepared beforehand in English and translated to local languages [Afaan Oromo]. Information regarding indigenous practice of local community towards traditional plant medicine of healers was recorded at the spot. Guided field observation was made on the medicinal plants to check the availability of the plant in the area, to know the habit and habitat of the plant. Focus group discussion was also made to get more information on medicinal plants practice

2.11. Data Analyses

Descriptive statistics were used to analyze the data on medicinal plants use and associated indigenous knowledge of local community, their attitude on traditional plant medicine use and medicinal plant used by traditional plant medicine healers of the study area. The results were displayed and summarized in tables and figures by using percentage, frequency and texts. The most useful information gathered on medicinal plants which were analyzed through the descriptive statistics include application, methods of preparation, route of application, disease treated, and parts used and the habit of the plant.

3. Results and discussion

3.1. Socio-demographic characteristics of respondent's

A total of 198 informants including 27 key informants were selected. As pointed out by Martin [1995], the selection of key informants is commonly systematic. Most of the respondents [77.77%] were males [Table 1]. The majority of respondent's age range was from 40-60[51.5%]. Most of the participants [86.86%] were married [Table 1]. Almost all religious leader respondents were followers of Orthodox Christian. From all respondents 33.83% were able to read and write. Number of farmers' respondents predominated [33.33%] other respondents while NGO workers are lower in number [5.05%] [Table 1].

Table 1: Socio-demographic characteristics of respondents in the study area

| No | Variables | Response option | Frequency | Percentage [%] |
|----|----------------------|------------------------|-----------|----------------|
| 1. | Sex | Male | 154 | 77.77 |
| | | Female | 44 | 22.23 |
| | | Total | 198 | 100 |
| 2. | Age | 20-40 | 14 | 7.07 |
| | | 41-60 | 102 | 51.51 |
| | | 61-80 | 82 | 41.41 |
| 3. | Marital status | Single | 12 | 6.06 |
| | | Married | 171 | 86.86 |
| | | Windowed | 15 | 7.57 |
| 4. | Religion | Christian | 142 | 71.71 |
| | | Muslim | 27 | 13.63 |
| | | Waqefata | 25 | 12.62 |
| | | Others | 4 | 2.02 |
| 5. | Education | Uneducated | 41 | 20.70 |
| | | Able to read and write | 67 | 33.83 |
| | | 12 complete | 10 | 5.05 |
| | | 10 complete | 38 | 19.19 |
| | | Diploma | 39 | 19.69 |
| | | Degree | 3 | 1.51 |
| 6. | Occupational status. | Farmers | 66 | 33.33 |
| | | MERCHANTS | 25 | 12.62 |
| | | Government employer | 36 | 18.18 |
| | | NGO worker | 10 | 5.05 |
| | | Others | 61 | 30.80 |

Table 2: Distribution of informant groups by number

| No | Respondents | Male | Female | Total | Percentage [%] |
|----|------------------------------------|------|--------|-------|----------------|
| 1 | Farmers | 26 | 7 | 33 | 16.66 |
| 2 | Merchants | 16 | 9 | 25 | 12.62 |
| 3 | Religious leaders | 26 | 6 | 32 | 16.16 |
| 4 | Health care workers | 26 | 10 | 36 | 18.18 |
| 5 | Traditional plant medicine users | 46 | 8 | 54 | 27.27 |
| 6 | Traditional plant medicine healers | 14 | 4 | 18 | 9.10 |
| 7 | Total | 154 | 44 | 198 | 100 |

3.2. Mode of preparation and route of administration

Concerning the preparation of traditional medicine, the local people employed various methods of preparation of traditional medicines for different types of ailments. The most principal method of TMP preparation reported was in the form of crushing [20%] and the least was cooking [1.6%] [Table 8]. This might be the effective extraction of the plant gives immediate response for health problems when crushed or pounded to increase its curative potential. The result is consistent with the findings of [36] in which crushing is highly reported method of remedy preparation. But it disagrees with the report of [42] which revealed that squeezing is the most used preparation method. The most widely used route of administration was oral accounted for [56.67%] followed by dermal [29.63%] [Table, 8]. This is the reason that oral and dermal routes permit rapid physiological reaction of the prepared medicines with the pathogens and increase its curative power [33]. These results are consistent with findings of various ethnobotanical researches elsewhere in Ethiopia and other countries such as that of [55,26,41,33,7 ,28,44, 36 ,61].

Table 3: Mode of preparation and route of administration

| Forms of preparation | Total | % of total | Administration | Remedy counts | Percentage[%] |
|----------------------|------------|------------|----------------|---------------|---------------|
| Crushing | 25 | 20 | Oral | 153 | 56.67 |
| Pounding & mixing | 25 | 18.4 | Dermal | 80 | 29.63 |
| Pounding&powdering | 23 | 17.6 | Nasal | 19 | 7.04 |
| Squeezing | 21 | 16 | Optical | 6 | 2.22 |
| Chewing | 18 | 14.4 | Auricular | 5 | 1.85 |
| Pounding & squeezing | 6 | 4 | Nasal and oral | 4 | 1.48 |
| Decoction | 5 | 4 | Neck | 3 | 1.11 |
| Cooking | 2 | 1.6 | | | |
| Total | 125 | 100 | | 270 | 100 |

3.3. Ways of applications and dosage of plant remedies

The prepared traditional medicines were applied in a number of ways, among which drinking [37.57%], creaming [16.76%], and eating [10.40%] were mentioned frequently [Figure 6]. This finding is consistent with the finding of[26,7]in which drinking accounted the largest percentage of remedy.

The dosage of medicine to be administered is given by estimating age, the physical condition of the patient and the severity of the diseases. Amounts to be administered is also estimated by the use of measurements such as length of a finger [for bark, root and stem length], pinch [for powdered plant material] different measuring materials [e.g. spoon, coffee cup, tea cup and glass cups] and number count [for sap/extract drops, leaves, seeds, fruits, bulbs, rhizomes and flowers]. But these measurements are not accurate enough to determine the precise amount. Some of the medicinal preparations are reported to have adverse effects on the patients. Informants reported that *Hagenia abyssinica*, *Phytolacca dodecandra* and some others are found to have adverse side effects like stomach pain, vomiting and diarrhea. The informants recommended additives for some of these adverse side effects, such as drinking of milk and barley soup immediately after intake of medicinal plants [55,56,43].This study agreed with study made by [3] in Kilte Awlaelo District, Eastern zone of Tigray region of Ethiopia [39] in Amaro district, southern nations and nationalities of Ethiopia showed no agreement in accurate measurement or unit used among informants.

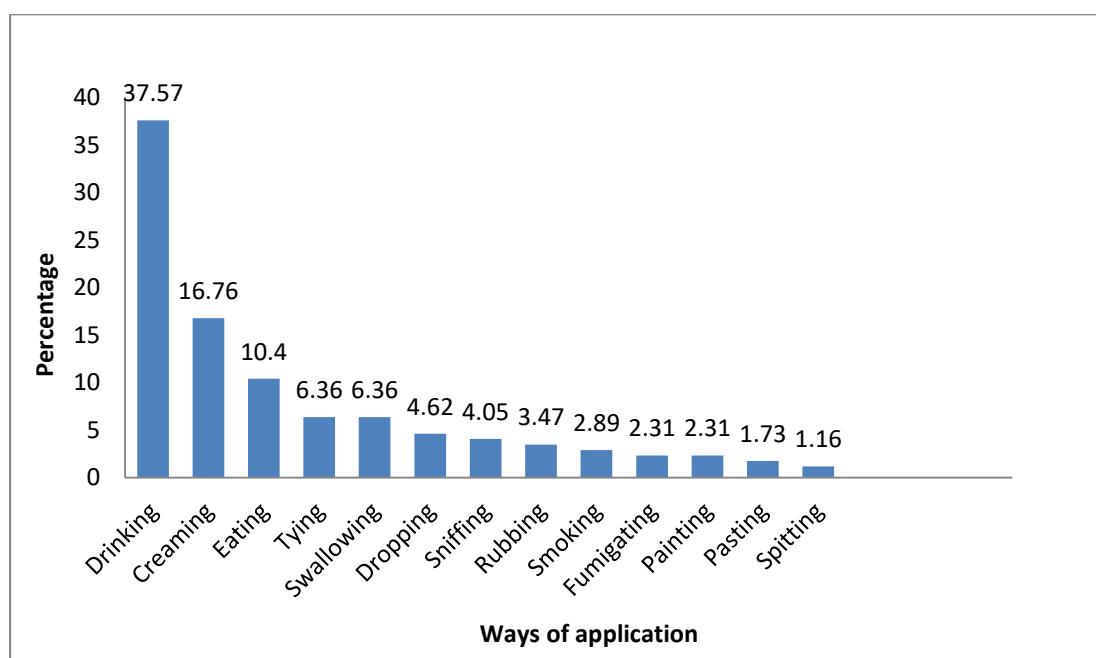


Figure 3: Application ways of remedies for human and livestock ailment treatment

3.4. Conditions of preparation of remedies

The results showed that majority of the remedies were prepared using fresh material 50, [53.76%], while 15

species [16.13%] were used in the dried form and 28 [30.11%] either fresh or dried. Similar studies were also conducted by [53,70] which showed that using fresh materials for different health problems is more than dry materials or dry or fresh. This could be due to the fact that the fresh materials did not lose their volatile bioactive chemicals like oils, which could deteriorate on drying.

3.5. Disease types and related medicinal plants in the study area

In the area a total of 57 ailment types [both human and livestock ailments] were recorded along with the medicinal plants. From these disease types, wound is the most frequently mentioned ailment type and it is claimed to be treated by many number [25 species] of medicinal plants. This is followed by Malaria and stomach ache which are claimed to be treated by 14 and 13 species respectively. While Abortion, back pain, bilharzia, ear defect, goiter, infertility, retained placenta and syphilis are claimed to be treated by only a single medicinal plant species [Appendix 7].

Paired-wise comparison analysis on six most important TMPs claimed to treat wound was performed. The result showed that *Acacia abyssinica* is the most useful and effective plant to treat wound followed by *Kalanchoe petitiana* while *Olea europaea* ranked sixth. [Table 9] Preference ranking was also made on other six TMPs which were mentioned to treat malaria [Table 10]. The result showed that *Vernonia amygdalina* is the most preferred species that ranked first followed by *Juniperus procera*. *Eucalyptus globulus* is the least preferred species followed by *Lepidium sativum* [Table 10]. All of the species particularly the top ranked ones by preference and pair wise needs special urgent conservation action and sustainable uses. In this regard the results agree with the findings of [7].

Table 4: Paired-wise comparison on six more mentioned medicinal plants against wound

| Species name | Respondents [1-7] | | | | | | | Sum | Rank |
|-----------------------------|-------------------|----|----|----|----|----|----|-----|-----------------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| <i>Acacia abyssinica</i> | 3 | 5 | 2 | 2 | 5 | 3 | 4 | 24 | 1 st |
| <i>Kalanchoe petitiana</i> | 4 | 0 | 3 | 2 | 3 | 4 | 5 | 21 | 2 nd |
| <i>Asparagus africanus</i> | 5 | 3 | 4 | 1 | 1 | 2 | 3 | 19 | 3 rd |
| <i>Euphorbia abyssinica</i> | 2 | 4 | 1 | 4 | 0 | 3 | 2 | 16 | 4 th |
| <i>Rumex nervosus</i> | 1 | 2 | 2 | 1 | 4 | 2 | 1 | 13 | 5 th |
| <i>Olea europaea</i> | 0 | 1 | 3 | 5 | 2 | 1 | 0 | 12 | 6 th |
| Total | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 105 | |

Table 5: Preference ranking on six most frequently reported plants claimed to treat malaria

| Species name | Respondents | | | | | | | Sum | Rank |
|----------------------------|-------------|---|---|---|---|---|---|-----|-----------------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| <i>Vernonia amygdalina</i> | 6 | 2 | 4 | 5 | 1 | 2 | 6 | 26 | 1 st |
| <i>Juniperus procera</i> | 5 | 3 | 3 | 2 | 4 | 4 | 4 | 25 | 2 nd |
| <i>Allium sativum</i> | 4 | 6 | 5 | 1 | 2 | 3 | 3 | 24 | 3 rd |
| <i>Zingiber officinale</i> | 3 | 5 | 4 | 2 | 6 | 1 | 2 | 23 | 4 th |
| <i>Lepidium sativum</i> | 3 | 5 | 2 | 4 | 2 | 1 | 3 | 20 | 5 th |
| <i>Eucalyptus globulus</i> | 2 | 4 | 1 | 3 | 5 | 1 | 2 | 18 | 6 th |

3.6. Major human diseases in the study area

In the study area, a total of 44 diseases of humans recorded were treated with a total of 50 plant species, where one species can treat a single disease or a number of diseases [Appendix 5]. Similarly, one ailment can be treated with a combination of plant species or single plant. For example, wound is treated with 25 species of plants, malaria and stomach-ache with 14 species each; body swelling and evil eye treated with 10 species each, tonsillitis with 9 species. Fibril illness, scabies [itches] and skin rash treated with 7 species each [Appendix 5]. Most of the reported medicinal plants were used to treat human ailments [Appendix 5]. This showed that, the people of the study area are more knowledgeable and give great attention about human ailments as compared to livestock diseases. Similar results were recorded by Seyoum Getaneh [2009] in Debre Libanos District, North Shewa Zone of Oromia Region, Ethiopia. Medicinal plants recorded in this study also used as remedies in other part of the country. For instance, 28 species were mentioned[53], 9 species[20],10 species [2], 61 species in[26], 30 plant species[33], and 59 plant species [65].

3.7. Livestock diseases in the study area

In comparison to human diseases, livestock diseases were treated with a few number of plant species in the study area. A total of 13 livestock ailments were identified that were treated by traditional medicinal plants in the area [Appendix 8] Common diseases affecting livestock health in the study area were bloating which was treated by 10 species, anthrax and leech by 6 species each, ectoparasite [lice] by 5 species, rabies by 3 species, erythroblasts, horse disease, retained placenta and coccidiosis are treated by 2 species each and the remaining diseases are treated by 1 species each [Appendix 8] In addition, proper documentation and understanding of farmer's knowledge, attitude, and practices about the occurrence, cause, treatments, prevention and control of various ailments is important in designing and implementing successful livestock production [75].

3.8. Threats and conservation of medicinal plants in the study area

3.8.1. Threats to medicinal plants

The causes of threats to medicinal plants in the study area were both natural and anthropogenic factors. The most dominant factors affecting the medicinal plants in the study area was agricultural land expansion [34.34%] followed by charcoal production [16.16%]. While, the least serious factor was wild fire [4.04%] and then overflooding [4.54%] [Table 11]. Similar problems were also emphasized by [27,82]. Moreover, the problems identified so far during the course of this study are almost similar to what other literature sources studied in many parts of the country have already stated [35,55,80]. The medicinal plants of Wonch district in general and particular are facing the same problem.

The loss of medicinal plants associated with the missing advantages gained from medicinal plants and indigenous knowledge associated with plants [69]. This is observed in wonch district as collection and search for some medicinal plants like *Cordia africana*, *Ekebergia capensis* and *Thalictrum rhynchocarpum* need longer time distance from their residence. Similar findings were also reported in Ethiopia [26,7,36] that showed need for agricultural land and for other uses severely threatened plant species in general and medicinal plants in particular.

Merchants, health care workers and other members of society obtained charcoal and timber from *Acacia abyssinica* and *Cordia africana* mature plants were recorded in the area indicating over exploitation. [7] argue that quite simply, mature seed producing tree that are the backbone of the population will die and are not replaced and ultimately the resource base on which culturally values are built will disappear because of over harvesting.

Individual farmers in the area as observed during the study penetrated the forest with their axes daily. Here, the scenario is people need plants for their daily life activity i.e. as source of house hold tools, charcoal, furniture, agricultural implements. Thus, those multi-purpose species are on front line to be affected by these activities.

Table 6: Factors affecting Medicinal plants in the study area.

| Variable | Factors | Frequency | Percentage [%] |
|---|-----------------------------|-----------|----------------|
| Threats to conservation of medicinal plants | Agricultural land expansion | 68 | 34.34 |
| | Fire wood | 23 | 11.61 |
| | Charcoal | 32 | 16.16 |
| | Timber production | 17 | 8.58 |
| | Construction wood | 21 | 10.60 |
| | Medicinal plant trade | 10 | 5.05 |
| | Drought | 10 | 5.05 |
| | Over flooding | 9 | 4.54 |
| | Wild fire | 8 | 4.04 |
| Total | | 198 | 100 |

3.9. Conservation of medicinal plants and associated knowledge in the study area

Local people of the area know the importance of conserving the plants in both ex-situ and in-situ conservation methods. For instance, some people have started conserving the plants in fenced/protected pasture land [18.62%]; in different worship areas [churches, mosques] [21.49%], in their farms [18.62%], field/farm margins and around their home gardens [18.58%] and live fences of the famers [20.20%] [Table 12].[59,36] have also reported that different worship areas are conservation sites for remnant vegetation in general and medicinal plants in particular. For instance, medicinal plants like *Juniperus procera*, *Olea europaea* subsp.*cuspidata* and *Euphorbia abyssinica* are found in church forest and also plants like *Hagenia abyssinica*, *Ocimum urticifolium* and *Ruta chalepensis* are found in the majority of home gardens in the study area, as they need these plants in their daily life as spices, medicine or for other values. Plants such as *Acacia abyssinica* and *Cordia africana* are also left as remnants of forest in the agricultural field due to their uses as timber source, for construction and fuel wood. Many medicinal plant species were also reported to be rare. Some of these local names are BOODAA WALEENSSUU[meaning plain land of Erythrina brucei], BARAA CALALQAA [meaning valley of Apodytes dimidiata], KARREE BAROODEDOO [meaning hilly slope of Myrica salicifolia], and GULLUUGURRAA [meaning mountainous slop of Prunus africana]. What then ethno botanists have to learn from such evidences should be the point of focus. Such local clues could be good contributors for designing ecosystem/habitat conservation, rehabilitation and resilience of species in their wild state where they are best adapted. These need an urgent attention to conserve such resources in order to optimize their use in the primary health care system. Some studies have shown that most of the medicinal plants used in Ethiopia are harvested from the wild [50, 88].

Table 7: Indiginous knowledge of local community towards medicinal plants conservation

| Variables | | Frequency | Percentage [%] |
|--|----------------------------------|-----------|----------------|
| Knowledge on the importance of medicinal plant conservation | Good | 101 | 51.01 |
| | Not good | 97 | 48.99 |
| Types of conservation | | 198 | 100 |
| | On worship areas | 42 | 21.49 |
| | On protected pasture | 36 | 18.62 |
| | In their farms | 43 | 21.11 |
| | In home gardens | 37 | 18.58 |
| | In live fences of the farmers | 40 | 20.20 |
| Total | | 198 | 100 |

4. Conclusion and recommendations

4.1. Conclusion

A study on medicinal plant indigenous knowledge, attitude and practice in the area revealed that the community use medicinal plants for maintaining their primary health care. From the study it can be said that the different segment of the community in the study area are in different level of knowledge with regard to traditional plant medicine use, i.e. difference in age, sex, work and education level has impact on the knowledge of the use of traditional plant medicine. In addition from the result of the study it can be concluded that there are considerable number of community members which do have negative attitude towards use of traditional plant medicines specially educated and youngsters are developing negative attitudes. Moreover, the result of the study revealed that, though negative attitude towards traditional plant medicine is believed to be increasing from time to time, still the community is extensively practicing the use of traditional plant medicines. The ethnobotanical study of medicinal plants in the study area showed that medicinal plants are used by a large member of the population and it is the most important means of treating some common human and livestock ailments.

Most medicinal plants collected and identified were herbs and all plant parts were used for preparation of remedies. However, the use of medicinal plants for multiple purposes is leading to depletion in an alarming rate. This is worthy because of some of the uses [Agricultural expansion, firewood, construction, forage, charcoal.] are the major destructive.

Threats that erode indigenous knowledge usually comes from secrecy, oral-based knowledge transfer, the unwillingness of young generation to gain the knowledge, unavailability of the species, the influence of modern education and awareness factors are the major ones.

The results of this study also showed that cultivation of plant species in and around home gardens for different purposes have great contribution to the conservation of medicinal plants and the associated knowledge.

4.2. Recommendations

Based on the results of the study, the following recommendations are forwarded.

- ❖ Integrated conservation and management program on medicinal plants focused on awareness development and active involvement of local community, governmental and non governmental bodies shall be practiced in the district.
- ❖ Young generation needs raising awareness to avoid negative impacts on the medicinal plants and associated knowledge in the area, hence, documentation of the medicinal plants of the area needs to be continued.
- ❖ Avoid uprooting of the plant species for medicinal purpose particularly before its flowering, fruiting and seeding. If possible, it is better to use other parts of the medicinal plants such as leaves instead of root to protect them from the risk of extinction and endangering the species by collecting the roots or barks of the plants.

- ❖ Establishing traditional healers associations by providing supports like land, fund and assistances for cultivations of medicinal plants in the district would help to conserve medicinal plants.
- ❖ The societies have no good awareness with tradition plant medicine healers. So that all stakeholders should work together to change the situation and to benefit from traditional plant medicine.
- ❖ The government should create possible conditions and include to the teaching curricula about traditional plant medicine use
- ❖ To change the attitude of the society any concerned body should give trainings, seminaries about traditional plant medicine use.
- ❖ The government and other officials should recognize the use of traditional plant medicine and also the healers of traditional plant medicine need any supports from concerned bodies.
- ❖ The insights of religious institution and health care institution should be positive and work together with traditional plant medicine.
- ❖ The user's negative attitude should be changed in to positive and the lack of knowledge about traditional plant medicine use also should be changed by giving training to them and through creating awareness. All stakeholders should develop positive attitude for traditional plant medicine healers. The healers of traditional plant medicine should use appropriate measurements to give the medicine for users.

5. Abbreviations

IK; indigenousknowledge, MM; modern medicine, MP; medicinalplants, TMPU; Traditional medicinal plant use

6. Declarations

Ethical approval

Written ethical clearance was obtained from the research and ethical committe of the department of biology university of Gonder.A formal letter was written to wonchi distict health and agricultural office and each kebele administration to conduct the study.Written informed consent was sought and obtained from every participant who decided to take part in the study.They were assured about the confidentiality of their responses.

7. Consent for publication

Not applicable

8. Availability of data and materials

The datasets used and /or analysed during the current study available from the author for reasonable request.

9. Completing interests

The author declares that they have no financial and non financial competing interests.

10. Author contributions

GM was involved in the conception, design, analysis, interpretation, report and manuscript writing.

Acknowledgements

I extend my deepest gratitude to those who participated in the study for their time to provide relevant information.I wish to extend my thanks to data collectors and supervisors.I also indebted to all those who apply their effort in the process of this study.Finally ,thankful to university of Gonder for their financial support provided.

References

- [1]. Abebe Demissie [2001]. Biodiversity conservation of medicinal plants, problems and prospects In conservation and sustainable use of medicinal plants in Ethiopia, PP.198- 203.
- [2]. Abiyot Berhanu, Zemede Asfaw and Ensermu Kelbessa [2006]. Ethnobotany of plants used as insecticides, repellents and anti-malarial agents in Jabitehnon District, West Gojjam.Ethiop. J. Sci., **29**[1]: 87-92.
- [3]. Abraha Teklay, Balcha Abera and Mirutse Giday [2013]. An ethnobotanical study of medicinal plants used in Kilte Awulaelo District, Tigray Region of Ethiopia. Journal of Ethnobiology and Ethnomedicine, **9**:65.
- [4]. Amare Getahun [1976]. Some common medicinal and poisonous plants in Ethiopia in folk medicine. Addis Ababa University, Ethiopia.
- [5]. Aschalew Lata and Takele Etana ,[2014].Assessment of knowledge, attitude and practice on traditional medicine in lag hare dire dawatown,Addisababa:Ethiopia.
- [6]. Asfaw Debela, Dawit Abebe and Kelbessa Urga [1999]. An overview of traditional medicine in Ethiopia: Prospective and Development Efforts. In: [Tami rat Ejigu, ed.] Ethiopian.
- [7]. Balick, m.j.and cox,P.A.[1996].plants,people and culture;Science of ethnobotany.Newyork,USA. Bahailu Etana [2010]. Ethnobotanical Study of Traditional Medicinal Plants of GomaWereda Jima Zone of Oromia Region, Ethiopia: M.Sc Thesis.Addis Ababa University,Addis Ababa.
- [8]. Bannerman, R. H. [1993]. Traditional Medicine and Health Care Coverage. World Health Organization, Geneva.
- [9]. Bayaferers,T[2000].A Floristic analysis and ethno botany study of seem wet land of chefa Area, south wello, Ethiopia.M.sc.Thesis, Addis Ababa University.
- [10]. Berhane Kidane, Vander Maesen, L.J.G., Van Andel, T. and Zemede Asfaw [2014].Ethnoveterinary medicinal plants used by the Maale and ari ethnic communities in Southern Ethiopia. Journal of Ethnopharmacology 153: 274-282.
- [11]. Berhe, C., Mengistu, B., W/Aregay, G., 1995. Women Lead in Protecting Food Germ plasm and Herbs

- for Health in Ethiopia [unpublished]. Report Submitted to Earth Care Africa, Nairobi, Kenya
- [12]. Buragohain,J.[,2011].Ethno medical plants used by the ethnic communities of Tinsukia district Assam, India. Recent Research in science and Technology 3[9], 31-42.
 - [13]. Cotton, C.M. [1996]. Ethno botany: Principles and Applications. John Wiley and Sons Ltd.,Chichester, England, pp. 347-374.
 - [14]. Cunningham, A.B. [1996]. People, Park and Plants use recommendations for multiple use zones and development alternatives around Bwindi: Impenetrable National Park, Uganda.In: People and Plants: Working Paper 4, pp.18-25. UNESCO, Paris.
 - [15]. Daniel [1999].Biostatistics, A foundation for analysis in the health science 7th edition; New York John Wiley.
 - [16]. DawitAbebe, [1986]. Traditional Medicine In Ethiopia. The attempt being made to promote it for Effective and letter utilization. SINET Ethiopian Journal of science pp., 61-69.Addis Ababa, Ethiopia.
 - [17]. Dawit and AheduAyelu. [1993]. Medicinal plants and Enigmatic Health practice of Northern Ethiopian. Publishing house Addis Ababa, Ethiopia.
 - [18]. Dawit Abebeb, Asfaw Debela and KelbessaUrga [2005], Medicinal plants and other useful.
 - [19]. Dawit Abebe [1986]. Traditional medicine in Ethiopia: The Attempts being made to promote it for effective and better Utilization. SINET: Ethiop. J.Sci. [Supp.]: 62-69.
 - [20]. Debela Hunde, Zemedé Asfaw and Ensermu Kelbessa [2004]. Use and Management of Ethnoveterinary Medicinal Plants by Indigenous People in Boosat, Welenchiti area. Ethiopia. J. Biol. Sci., 3 [2]: 113-132.
 - [21]. Debela Hunde, MesfinTadesse and YihenewGirma.[2005] Survey of Medicinal plants used to Treated human disease in sekachekorsa, Jimma Zone, Ethiopia,J,Heath Sci.15:89-106.
 - [22]. Debela H[2001].Use and management of traditional medicinal plant by indiginous people ofboosat distirct,wolencht area:An ethno botanical approach.M.SC.thesis,Addis Ababa university p.48.
 - [23]. Deilnesaw yehualawu, Haile Yeneger and TizazuGebrie [2005], ethno botanical study of Traditional medicinal plants ,Haramaya Ethiopia.
 - [24]. Demel Teketay [2001]. Deforestation, Wood Famine and Environmental Degradation in Ethiopia's Highland Ecosystems: Urgent Need for Action. Northeast African Studies, [New Series]. 8 [1]: 53-76
 - [25]. Endashaw Bekele [2007]. Study on Actual Situation of Medicinal Plants in Ethiopia. *Moringa stenopetalala* is a perennial tree.
 - [26]. Endalew Amenu [2007]. Use and Management of Medicinal Plants by indigenous People of Ejaji Area [ChelyaWereda] West Shewa, Ethiopia: An Ethnobotanical Approach, M.ScThesis.Addis Ababa University, Addis Ababa.
 - [27]. Ensemu Kelbessa, Sebsebe Demissew, Zerihun Woldu and Edwards, S. [1992]. Some threatened Endemic Plants of Ethiopia. In: [S. Edwards and Zemedé Asfaw eds.]. The Status of Some Plants in Parts of Tropical Africa. NAPRECA, Series No.2, BOTANY 200: East and Central Africa.Pp. 35-55.
 - [28]. Ermias Lulekal, Zemedé Asfaw, Ensermu Kelbessa and Damme, P.V. [2013]. Ethnomedicinal Study of plants used for human ailments in Ankober District, North Shewa Zone, Amhara Region, Ethiopia. Journal of Ethnobiology and Ethnomedicine 9:63.
 - [29]. Eskedar Abebe [2011].Ethno botanical study on medicinal plants used by local communities in Debark

- distirct, North Gondar zone, Amhara regional state.
- [30]. Etana T[2007].Use and conservation of traditional medicinal plants by indiginous people in Gimbidistirct, westernwollega, Ethiopia,M.sc thesis,AAU,Ethiopia.
 - [31]. Fassil, H., 2003. Ethiopia: a qualitative understanding of local traditional knowledge and medicinal plant use. IK Notes 52, 1–4
 - [32]. Gedif, T., Hahn, H., 2003. The use of medicinal plants in self-care in rural central Ethiopia. *Journal of Ethnopharmacology* 87, 155–161
 - [33]. Fisseha Mesfin, Sebsebe Demissew and Tilahun Teklehymanot [2009]. An ethnobotanical study of medicinal plants in Wonago district, SNNPR, Ethiopia. *Journal of Ethnobiology and Ethno medicine* 5: 28. <http://www.Ethnobiomed.com/content/5/1/28>. Accessed on December 26, 2018.
 - [34]. Fullas F [2001] .Ethiopian Traditional Medicine: Common Medicinal Plants in Perspective Edition. FekaduFullas: Iowa.
 - [35]. Getachew Addis, Dawit Abebe and Kelbessa Urga [2001]. A Survey of Traditional Medicinal Plants in Shirka Ditrict, Arsi Zone, Ethiopia. *Pharmaceutical Journal* 19:30-47.
 - [36]. Getnet Chekole [2015].Ethnobotanical Study of Medicinal Plants in the environs of Tara-Gedam and Amba Remnant Forests in Libo Kemkem District. *Journal of Ethnobiology and Ethnomedicine*.
 - [37]. Getinet Masresha [2014]. Diversity, Structure and Regeneration Status of Vegetation in Simien Mountains National Park, Northern Ethiopia: PhD. Dissertation. Addis Ababa University, Addis Ababa.
 - [38]. Getu Alemayehu [2010]. Ethnobotanical Study of Medicinal Plants used by Local communities Of Minjar-Shenkora District, North Shewa Zone of Amhara Region, Ethiopia. *Journal of Medicinal Plants Studies*, 3[6].
 - [39]. Getu Alemayehu [2017].Ethnobotanical study of plant diversity and ethnobotany of medicinal and wild edible plants in amaro district of southern nations, nationalities and peoples region and gelana district of oromia region, southern Ethiopia.
 - [40]. Haile Yineger [2005]. A Study on the Ethno botany of Medicinal Plants and Floristic Composition of the dry afro Montana Forest at Bale Mountains National Park, Ethiopia: M.Sc. Thesis. Addis Ababa University West. International Journal of Medicine and medicinal Sciences Health spa &Resort. Thailand.
 - [41]. Jansen, P.C.M. [1981]. Spices, Condiments and Medicinal plants in Ethiopia, their Taxonomy and Agricultural Significance. Center for Agricultural Publishing and Documentation, Wageningen, Netherlands.Pp 327.
 - [42]. Jarso Belay [2016]. Ethnobotanical Study of Traditional Medicinal Plants used by IndigenousPeople of Jigjiga district, Somali Regional State, Ethiopia: MSc.Thesis.Haramaya University, Haramaya.
 - [43]. Kebu Balemie, Ensermu Kelbessa and Zemedé Asfaw [2004]. Indigenous Medicinal Plant Utilization, Management and Threats in Fentalle Area, Eastern Shewa, Ethiopia. *Ethiopian Journal of Science* 3 [1]: 37-58.
 - [44]. Ketema Tolossa, Etana Debela, Spiridoula Athanasiadou, Adugna Tolera, Gebeyehu Ganga and Jos GM Houdijk [2013]. Ethno-medicinal study of plants used for treatment of human and livestock ailments by traditional healers in South Omo, Southern Ethiopia. *Journal of Ethnobiology and*

- Ethnomedicine 9:32.
- [45]. Konno B. [2004]. International of traditional medicine with modern medicine.EHNRS.Addis Abebe.app,3-9.
 - [46]. Lai,PK.,and Roy, J. [2004].Antimicrobial and chemo preventive properties of herbs and Spices.Curr. Med. Chem. 11 [11]: 1451–60.
 - [47]. Lulekal, E., Kelbessa, E., Bekele, T., Yineger, H., 2008. An ethnobotanical study of medicinal plants in Mana Angetu District, southwestern Ethiopia. *Journal of Ethnobiology and Ethnomedicine* 4, 10.
 - [48]. Manandhar, N.P. [1995]. A survey of medicinal plants of Jajarkot District, Nepal. *Journal of Ethnopharmacology* 48[1]:1-6.
 - [49]. Martin, G. J. [1995]. Ethnobotany: A method Manual. A ‘People and Plants’ Conservation Manual. Champman and Hall, London, pp. 268.
 - [50]. Mesfin Tadesse and Sebsebe Demissew [1992]. Medicinal Ethiopian plants inventory,identification and classification. In: Plants used in African Traditional medicine as Practiced in Ethiopia and Uganda, East Africa. [Edwards, S. and ZemedAsfaw, ed]. Monograph Series. No. 5:1-19. Addis Ababa.
 - [51]. Mirutse G. [1999]. An Ethnobotanical study of medicinal plants used by the people in Ethiopia.
 - [52]. Martin,G.J.[1995]. Ethno botany: A method Manual. Chapman and Hall, London. Pp. 265-270ce. 30:18-22.
 - [53]. Mengistu Gebrehiwot [2010]. An Ethnobotanical Study of Medicinal Plants in Seru district, Arsi zone of Oromia Region, Ethiopia: M.Sc. Thesis. Addis Ababa University, Addis Ababa.
 - [54]. Mesfin Tadesse [1986]. Some Medicinal Plants of Central Shewa and South Western Ethiopia.SINET: Ethiop. J. Sci., 9: 143-167..
 - [55]. Mirutse Giday and Gobena Ameni [2003]. An Ethnobotanical Survey on Plants of Veterinary Importance in two Woredas of Southern Tigray, Northern Ethiopia. SINET: Ethiopian J. of Sci., 26:123-136.
 - [56]. Mirutse Giday, Zemed Asfaw, Thomas Equist and Zerihun Woldu[2003].An EthnobotanicalStudy of Medicinal Plants used by the Zay people in Ethiopia. *Journal of Ethnopharmacology* 85:43-52.
 - [57]. Mulugeta Kuma [2014].Use and Management of Medicinal Plants by Indigenous People of Jima Rare District in Oromia Region, Ethiopia: M.Sc. Thesis.Haramaya University,Haramaya.
 - [58]. Mutabazi [2008].Traditional knowledge and imperialistic notion.Rabist.com, 2015.
 - [59]. Nigussie Amsalu [2010].An Ethnobotanical Study of Medicinal Plants in FartaWoreda, South Gondar Zone of Amhara Region, Ethiopia: M.Sc Thesis. Addis Ababa University, Addis Ababa.
 - [60]. Pharmacotherapy Group [2009]. Current Trends in Ethnobotany. *Tropical Journal of Pharmaceutical Research* 8[4]: 295-296.
 - [61]. Patience, T., Esezah, K., Mukadasi B., Justine N., Maud K., Patrick M. and James K.[2016].Ethnobotanical survey of medicinal plant species used by communities around Mabira Central Forest Reserve, Uganda. *Journal of Ethnobiology and Ethnomedicine* 12:5.
 - [62]. Quanash,N.[1998].Bicultural diversity and integrated health care in Madagascar. *Nature and Resource*.
 - [63]. Robert and henry, [2000] medicinal Indian 2nd edition Asiatic publishing house.New Delhi India. Sherman, P. and Hash, GA. [2001].Why vegetable recipes are not very spicy.Evol.and Hu Behav.22

- [3]: 147–163.
- [64]. Sebsebe Demissew and Ermias Dagne [2001]. Basic and applied research on medicinal plants of Ethiopia. In: Conservation and Sustainable Use of Medicinal Plants in Ethiopia, Proceeding of The National Work Shop on Biodiversity and Sustainable use of Medicinal Plants In Ethiopia, 28 April-01 May 1998, pp 29-33. [Medhin Zewdu and Abebe Demissei eds.], IBCR, AA.
- [65]. Seyoum Getaneh [2009]. Ethnobotanical study of Medicinal Plants in Debre-Libanos district, North Shewa Zone of Oromia Region, Ethiopia M.Sc. Thesis, Addis Abeba University, pp. 94.
- [66]. Sintayehu Tamene [2011]. An Ethnobotanical Study Of Medicinal Plants In Wondo Genet Natural Forest and Adjacent Kebeles, Sidama Zone, SNNP Region, Ethiopia. MSc. Thesis. Addis Ababa University, Addis Ababa, Ethiopia.
- [67]. Sumner, J. [2000]. The Natural History of Medicinal Plants. Timber Press. p. 16.
- [68]. Stepp,J. [2004].The role of weeds as sources of pharmaceuticals. Journal of Ethno pharmacology, 92 [2–3]: 163–166.
- [69]. Sofowara,A.[1982].medicinal plants and traditional medicine in Africa. John William and sons. New york,pp.225-256.
- [70]. Tadesse Beyene [2015].Ethno botany of Medicinal Plants in Erob and Gulomahda Districts, eastern Zone of Tigray Region, Ethiopia: PhD. Dissertation. Addis Ababa University, Addis Ababa.
- [71]. Teferi Gedife and Hahn, H. [2003]. The use of Medicinal Plants in self-care in rural central Ethiopia. Journal of Ethnopharmacology 87: 155-161.
- [72]. Tena Regassa [2016]. Vascular Plant Diversity and Ethnobotanical Study of Medicinal and wild edible Plants in Jibat, Gedo and Chilimo Forests, West Shewa Zone of Oromia region, Ethiopia: PhD. Dissertation. Addis Ababa University, Addis Ababa.
- [73]. Tewodros Tesfaye [2016]. Use and Management of Medicinal Plants by People of Melka Belo District, East Hararghe, Oromia Region, Ethiopia: M.Sc. Thesis.Haramaya University, Haramaya.
- [74]. Thomas, H. [1995]. Indigenous Knowledge, Emancipation and Alination. Journal of Knowledge transfer and utilization. 8[1]: 63-73. University of Washington.
- [75]. Tafesse Masfin and Mokonnen Lemma, [2001], plants in Ethiopia veterinary medicine. Their interaction with conventional drug.
- [76]. Teferi Flatie, Teferi Gedif, Kaleab Asres and Tsige Gebre-Mariam [2009] Ethnomedical survey of Berta ethnic group Assosa Zone, Benishangul-Gumuz regional state, mid-west Ethiopia.J. Ethnob. and Ethnomed. 5:14
- [77]. Tesfaye A, Zemed A [1999]. An Ethno-botanical Study of the Bertha People of the Benshangul Gumuz Region in Western Ethiopia. Program and Abstracts of the National Workshop. “Have We ValuedOur Biodiversity?
- [78]. Tesfaye Awas and Sebsebe Demissew [2009]. Ethnobotanical study of medicinal plants in Kafficho people, southwestern Ethiopia. In: Plant Diversity in Western Ethiopia:Ecology, Ethnobotany and Conservation. The University Foundation for Student Life [Sio]. University of Oslo, 2007. Norway. Pp 1-15.”
- [79]. Tesfaye Hailemariam, Sebsebe Demissew and Zemed Asfaw [2009]. An ethnobotanical study of medicinal plants used by local people in the lowlands of Konta special Wereda,Southern Nations,

- Nationalities and People Regional State, Ethiopia. *Journal of Ethnobiology and Ethnomedicine*, 6:25.
- [80]. Tilahun Teklehaymanot and Mirutse Giday [2007]. Ethnobotanical Study of Medicinal Plants used in the Zegie Peninsula, Northwestern Ethiopia. *Journal of Ethnobiology and Ethno medicine*. 3:12.
- [81]. Tizazu Gebre [2005]. An ethno botanical study of medicinal plants in konso special district, Southern nations, and nationalities and people's regional state, Ethiopia M.SC.Thesis.Addis Ababa University, Addis Ababa.
- [82]. Vivero, J.L., Ensermu Kelbessa and Sebsebe Demissew [2005]. The Red List of Endemic Tree &Shrubs of Ethiopia and Eritrea. Published by Fauna and Flora International [FFI], Cambridge, UK.
- [83]. WHO [1979].The promotion and development of traditional Medicine. World Health Organization.Technical Report Series 622, WHO, Geneva.
- [84]. WHO [1998]. Regulatory situation of herbal medicines: A World wide Review. Pp. 1-9. WHO/TRM/98.1, Geneva.
- [85]. WHO[2002].Traditional medicine, growing needs and potetial.Geneva.ZemedeAsfaw[2001], Conservation of traditional medicinal plants.
- [86]. WHO[2008].Traditionalmedicinefactsheetno.134.December,2008.<http://www.who.int/mediacentre/factsheets/fs123/en/>[Accessed,
- [87]. William, P.C. [2003].Environmental Science: Global Concern. 11th ed. America, New York: McGraw-Hill.
- [88]. ZemedeAsfaw [2001]. The Role of Home garden in Production and Conservation of Medicinal Plants. In: Conservation and Sustainable Use of Medicinal plants in Ethiopia p. 76- 91, [Medhin Zewdu and Abebe Demissie Ed.]. Proceeding of the national workshop On Biodiversity Conservation and Sustainable use of medicinal plants in Ethiopia, 28 April – 01 May 1998, IBCR, Addis Ababa.
- [89]. Zelalem mengesha [2006].Traditional vs. modern medicine from Jimma Town south east Ethiopia: publishing house Addis Ababa Ethiopia.
- [90]. Zewdie Kassa [2009]. An ethnobotanical study of medicinal plant biodiversity of trees and Shrubs in Jeldu Wereda, Western Shoa, Ethiopia. M.Sc. Thesis Addis Ababa University, Addis Ababa.
- [91]. Zerihun Woldu [1999]. Forest in the vegetation types of Ethiopia and their status in the geographical context.In: Edwards, S., Abebe Demissie, Taye Bekele and Haase, G. [eds.].forest Genetic Resource Conservation: Principles, Strategies and Actions. Workshop proceedings. Institute of Biodiversity Conservation and Research, and GTZ, AA,Pp 1-41.

Appendix 1: Lists of plants collected from the study area [D=dry; F=fresh; DF= dry or fresh; Cl=climber; H=herb; Sh=shrub; T=tree]

Table 13

| No | Scientific name | Family | Local name[oromoo] | Condition of plant | Plant habitat | Habit |
|-----|---|----------------|--------------------|--------------------|---------------|-------|
| 1. | <i>Acacia abyssinica</i> Hochst. ex Benth | Fabaceae | Girar | F | wild | T |
| 2. | <i>Achyranthesaspera</i> L. | Amaranthaceae | Talenj | F | wild | H |
| 3. | <i>Allium cepa</i> L. | Alliaceae | Shinkurt Dimma | F | cultivated | H |
| 4. | <i>Allium sativum</i> L. | Alliaceae | Shinkurt Addii | F | cultivated | H |
| 5. | <i>Aloe pubescens</i> Reynolds | Aloeaceae | Eret | F | wild | H |
| 6. | <i>Artemisia abyssinica</i> Sch. Bip. ex A. Ri | Asteraceae | Harit | F | wild | H |
| 7. | <i>Asparagus africanus</i> Lam. | Asparagaceae | Yesetkest | F | wild | Cl |
| 8. | <i>Brassica carinata</i> A.Br. | Brassicaceae | Gomenzer | D | cultivated | H |
| 9. | <i>Brassica nigra</i> L. | Brassicaceae | Senafich | D | cultivated | H |
| 10. | <i>Brucea antidyserterica</i> Fresen. | Simaroubaceae | Waginos | DF | wild | Sh |
| 11. | <i>Buddleja polystachya</i> Fresen. | Loganiaceae | Anfar | F | Both | Sh |
| 12. | <i>Calpurnia aurea</i> [Ait.] Benth. | Fabaceae | Digita | DF | wild | Sh |
| 13. | <i>Capsicum annuum</i> L. | Solanaceae | Berbere | D | cultivated | H |
| 14. | <i>Carica papaya</i> L. | Caricaceae | Papaya | F | cultivated | T |
| 15. | <i>Carissa spinarum</i> L. | Apocynaceae | Agam | DF | wild | Sh |
| 16. | <i>Citrus limon</i> [L.] Burm.f. | Rutaceae | Lomi | F | cultivated | Sh |
| 17. | <i>Clematis simensis</i> Fresen. | Ranunculaceae | Azo hareg | DF | wild | Cl |
| 18. | <i>Clerodendrum myricoides</i> [Hochst.] Vatke | Lamiaceae | Misirich | DF | wild | Sh |
| 19. | <i>Clutia abyssinica</i> Jaub. & Spach | Euphorbiaceae | Fiyalefaj | F | wild | H |
| 20. | <i>Coffea Arabica</i> L. | Rubiaceae | Buna | D | cultivated | Sh |
| 21. | <i>Cordia africana</i> Lam. | Boraginaceae | Wanza | D | wild | T |
| 22. | <i>Coriandrum sativum</i> L. | Apiaceae | Denbelal | D | cultivated | H |
| 23. | <i>Croton macrostachyus</i> Del. | Euphorbiaceae | Bisana | DF | wild | T |
| 24. | <i>Cucumis ficifolius</i> A.Rich. | Cucurbitaceae | Ye medir enbuay | F | wild | Cl |
| 25. | <i>Cucurbita pepo</i> L. | Cucurbitaceae | Duba | D | cultivated | Cl |
| 26. | <i>Cupresses lusitanica</i> Mill. | Cupressaceae | Yeferenj tsid | F | Both | T |
| 27. | <i>Cynoglossum coeruleum</i> [Hochst.ex.A.rich.] | Boraginaceae | Chigigit | F | wild | H |
| 28. | <i>Cyphostemma adenocaule</i> [Steud. exA. Rich.]Des. ex Wild & Drum. | Vitaceae | Aserkush | F | wild | Cl |
| 29. | <i>Datura stramonium</i> L. | Solanaceae | Astanagir | F | wild | H |
| 30. | <i>Discopodium penninervum</i> Hochst. | Solanaceae | Almit | F | wild | Sh |
| 31. | <i>Dodonaea angustifolia</i> L. | Sapindaceae | Kitkita | DF | wild | Sh |
| 32. | <i>Dombeya torrida</i> [J. F. Gmel.] P. Bamps | Sterculiaceae | Wulkifa | DF | wild | T |
| 33. | <i>Dovyalis abyssinica</i> [A.Rich.]Warb. | Flacourtiaceae | Koshim | F | Both | Sh |
| 34. | <i>Echinops kebericho</i> Mesfin | Asteraceae | Kerebicho | D | wild | H |
| 35. | <i>Emelia schimperi</i> Vatke | Myrsinaceae | Enkoko | DF | wild | Sh |
| 36. | <i>Erica arborea</i> L. | Ericaceae | Asta | DF | wild | T |
| 37. | <i>Eucalyptus globulus</i> Labill. | Myrtaceae | Bahirzaf Addi | DF | cultivated | T |
| 38. | <i>Euphorbia abyssinica</i> . Gmel | Euphorbiaceae | Kulkual | DF | wild | T |
| 39. | <i>Guizotia abyssinica</i> L. | Asteraceae | Nug | D | cultivated | H |
| 40. | <i>Hagenia abyssinica</i> [Bruce] J. F. Gmel. | Rosaceae | Koso | DF | wild | T |
| 41. | <i>Hypericum revolutum</i> Vahl | Hypericaceae | Amja | DF | wild | Sh |
| 42. | <i>Jasminum abyssinicum</i> L. | Oleaceae | Tembelel | F | wild | Cl |
| 43. | <i>Juniperus procera</i> Endl. | Cupressaceae | Ye abesha tsid | DF | wild | T |
| 44. | <i>Justicia schimperiana</i> [Hochst. exNees] T. Anders | Acanthaceae | Simiza sensel | F | wild | Sh |
| 45. | <i>Kalanchoe petitiana</i> A. Rich. | Euphorbiaceae | Endawula | F | wild | H |
| 46. | <i>Kosteletzky begonifolia</i> Ulbr. | Malvaceae | Yemegerem | F | wild | H |
| 47. | <i>Linum usitatissimum</i> L. | Lineaceae | Telba | D | cultivated | H |

| | | | | | | |
|-----|--|------------------|----------------------------------|----|------------|----|
| 48. | <i>Lobelia rhynchopetalum</i> Hemsl. | Lobeliaceae | Jibira | D | wild | Sh |
| 49. | <i>Lepidium sativum</i> L. | Brassicaceae | Feto | D | cultivated | H |
| 50. | <i>Maesa lanceolata</i> Forssk. | Myrsinaceae | Shwaria[kelawa] | DF | wild | Sh |
| 51. | <i>Melia azedarach</i> Forssk. | Meliaceae | Nim | DF | cultivated | T |
| 52. | <i>Myrtus communis</i> L. | Myrtaceae | Ades | D | wild | Sh |
| 53. | <i>Nicotiana tabacum</i> L. | Solanaceae | Timbaho | DF | cultivated | H |
| 54. | <i>Nigella sativa</i> L. | Ranunculaceae | Tikur azmud | D | cultivated | H |
| 55. | <i>Ocimum basilicum</i> L. | Lamiaceae | Zikakibe | F | cultivate | H |
| 56. | <i>Ocimum lamiifolium</i> Hochst. ex Benth. | Lamiaceae | Damakese | F | Both | sh |
| 57. | <i>Olea europaea</i> L. subsp. <i>cuspidate</i> [Wall. ex G. Don] Cif. | Oleaceae | Weyra | DF | wild | T |
| 58. | <i>Opuntia ficus-indica</i> [L.] Miller | Cactaceae | Balas[Ashewa kulkual] | F | wild | Sh |
| 59. | <i>Otostegia integrifolia</i> Benth. | Lamiaceae | Tunjit | D | wild | Sh |
| 60. | <i>Osyris quadripartita</i> Decn. | Santalaceae | Keret | F | wild | Sh |
| 61. | <i>Phytolacca dodecandra</i> L' Herit. | Phytolaccaceae | Endod | F | wild | Sh |
| 62. | <i>Pittosporum viridiiflorum</i> Sims | Pittosporaceae | Tebera | F | wild | T |
| 63. | <i>Plantago lanceolata</i> L. | Plantaginaceae | Gortab [Wenberet] | F | wild | H |
| 64. | <i>Prunus persica</i> [L.] Batsch | Rosaceae | Kok | F | cultivated | T |
| 65. | <i>Pterolobium stellatum</i> [Fors]Brenan | Fabaceae | Kentafa | DF | wild | Sh |
| 66. | <i>Rhamnus prinoides</i> L. Herit. | Rhamnaceae | Gesho | F | cultivated | Sh |
| 67. | <i>Ricinus communis</i> L. | Euphorbiaceae | Gulo | DF | cultivated | Sh |
| 68. | <i>Rosa abyssinica</i> Lindley | Rosaceae | Kega | F | wild | Sh |
| 69. | <i>Rumex abyssinicus</i> Jacq. | Polygonaceae | Makmako | DF | wild | H |
| 70. | <i>Rumex nepalensis</i> Spreng. | Polygonaceae | Lut | F | wild | H |
| 71. | <i>Rumex nervosus</i> Vahl | Polygonaceae | Embacho | DF | wild | Sh |
| 72. | <i>Ruta chalepensis</i> L. | Rutaceae | Tenadam | DF | cultivated | H |
| 73. | <i>Salix macronata</i> Thunb. | Salicaceae | Lahaya | F | wild | T |
| 74. | <i>Schinus molle</i> L. | Anacardiaceae | Kundoberbere | DF | cultivated | T |
| 75. | <i>Sesamum indicum</i> L. | Pedaliaceae | Selit | D | cultivated | H |
| 76. | <i>Sida schimperiana</i> Hochst. Ex A. Rich. | Malvaceae | Cifrig | DF | wild | H |
| 77. | <i>Solanum adoense</i> [Hochst] ex A. Rich. | Solanaceae | Zerch Enbuay | DF | wild | Sh |
| 78. | <i>Solanum incanum</i> L. | Solanaceae | Enbuay | DF | wild | Sh |
| 79. | <i>Solanecio gigas</i> [Vatke.]C. Jeffery | Asteraceae | Yeshikoko gomen [Mogne qitel] | F | wild | Sh |
| 80. | <i>Stephania abyssinica</i> [Dillo&A.Rich.]Walp. | Menispermaceae | Ye ayit hareg [Chewchawit] | F | wild | Cl |
| 81. | <i>Syzgium aromaticum</i> L. | Myrtaceae | Kirunfu | D | cultivated | T |
| 82. | <i>Tanacetum cinerariifolium</i> [Trev]. Sch. Bip. | Asteraceae | Kaba | F | wild | H |
| 83. | <i>Trigonella foenum-Graecum</i> L. | Fabaceae | Abish | D | cultivated | H |
| 84. | <i>Thymus schimperi</i> Ronniger | Lamiaceae | Tosign | DF | wild | H |
| 85. | <i>Urera hypselodendron</i> [A. Rich.] Wedd. | Urticaceae | Lankuso | F | wild | Cl |
| 86. | <i>Urtica simensis</i> Steudel | Urticaceae | Sama | F | wild | H |
| 87. | <i>Verbena officinalis</i> L. | Verbenaceae | Atuch | F | wild | H |
| 88. | <i>Verbascum sinaiticum</i> Benth. | Scrophulariaceae | Kutina[ye Ahya joro] | DF | wild | H |
| 89. | <i>Vernonia amygdalina</i> Del. | Asteraceae | Gerawa | F | Both | T |
| 90. | <i>Vernonia hymenolepis</i> A.Rich. | Asteraceae | Weynagift | F | | Sh |
| 91. | <i>Zehneria scabra</i> [Linn.f.] Sond. | Cucurbitaceae | Haregresha[Etse sabeq[NechHareg] | F | wild | Cl |
| 92. | <i>Zingiber officinale</i> Roscoe | Zingiberaceae | Jinjible | F | cultivated | H |
| 93. | <i>Ziziphus spina- christi</i> [L.] Desf. | Rhamnaceae | Gaba | F | Both | Sh |

Appendix 2: List of medicinal plants used for both human [Hu] and livestock [Li] ailment treatment: scientific name; family; local name [A=Amharic; O=Afan Oromo] habit; parts used; disease treated; methods of preparation with dosage used and route of application.

Key:Habit [Ha.]: Herb [H] ;Shrub [Sh] ; Tree[T]; Climber [Cl.]; Epiphyte [Ep.]; Parts used [Bark, B; Latex, La; Root, R; Leaf, L; Fruit, Fu.; Flower, Fw.; Seed, Se.;Stem,St.;Sap,Sa; Bulb, Bu.; Root and leaf, LR.; Above ground , Ag; Leaf and seed, LSe; shoot, Sht.

Table 14

| Scientific name | Family | Local Name | Ha | Pu | Used for | Disease treated | Mode of preparation | Route |
|---|---------------|------------|----|-----|----------|-----------------|---|--------|
| <i>Acacia abyssinica</i> Hochst. ex Benth. | Fabaceae | Girar [A] | T | Sht | Hu | Tonsillitis | Fresh shoot is chewed and the juice is swallowed. | Oral |
| | | Laaftoo[O] | | Sht | Hu | Wound | Fresh shoot is pounded, squeezed and the sap is creamed on affected part | Dermal |
| <i>Achyranthes aspera</i> L. | Amaranthaceae | Talenj[A] | H | L | Both | Pneumonia | Fresh leaf are pounded, mixed with water and drunk in the Morning. | Oral |
| | | Darguu[O] | | L | Hu | Body swelling | Leaf is squeezed and creamed on swollen body. | Dermal |
| | | | | L | Hu | Wound | Leaves are pounded and tied on the wound. | Dermal |
| | | | | L | Hu | Nasal bleeding | Fresh leaf of <i>Achyranthes aspera</i> is squeezed and its juice is dropped in to the nostrils to stop bleeding. | Dermal |
| | | | | R | Hu | Stomach-ache | The root of <i>Achyranthes aspera</i> is chewed and swallowed during feeling of ache. | Oral |

| | | | | | | | | |
|---|------------|---|---|----|--------|-----------|---|--------|
| <i>Allium cepa</i> L. | Alliaceae | Qey shenkurt[A] Qullubbii Diiimaa[O] | H | Bu | Li | Leech | Fresh bulb is pounded, mixed with little water, decanted and poured through the nose. | Oral |
| | | | | Hu | Asthma | | Fresh bulb of <i>Allium cepa</i> is crushed with <i>Zingiber officinale</i> rhizome and boiled. Then drink the solution in the morning until recovery. | Oral |
| <i>Allium sativum</i> L. | Alliaceae | Nech shenkurt[A] Qullubbii adii[O] | H | Bu | Hu | Malaria | Fresh bulb of <i>Allium sativum</i> and rhizome of <i>Zinger officinale</i> are pounded together, mixed with honey and eaten. | Oral |
| | | | | Bu | Hu | Evil eye | Bulb of <i>Allium sativum</i> is crushed together with rhizome of <i>Zingiber officinale</i> and <i>Lepidium sativum</i> , pasted with honey and 2 tea spoons is taken. | Oral |
| | | | | Bu | Hu | Colds | The Bulb is pounded, mixed with honey and 2-3 teaspoon is eaten every day for three days. | Oral |
| <i>Aloe pubescens</i> Reynolds | Aloaceae | Eret [A] Argiisa[O] | H | La | Hu | Fire burn | The latex is painted on the wound | Dermal |
| | | | | La | Hu | Ringworm | The latex of the young leaves is creamed on the affected area and repeated every day until recovery. | Dermal |
| | | | | La | Li | anthrax | Root of <i>Aloe pubescens</i> is crushed and mixed with cold water. Then two cup of tella is given to cattle. | Oral |
| <i>Artemisia abyssinica</i> Sch. Bip.ex A. Rich. | Asteraceae | Harit[A] Harritaa[O] | H | L | Hu | Evil eye | Leaf concoction together with root of <i>Echinops kebericho</i> is added to a burning fire and smoked to the patient. | Nasal |
| | | | | L | Hu | Malaria | Fresh leaf is crushed and pounded with water, filtered and drunk until recovery. | Oral |
| | | | | L | Hu | Child | Leaf is squeezed and ¼ of coffee cup juice is given to children | Oral |

| | | | | | | Stomach-ache | | |
|------------------------------------|--------------|-------------------------------------|----|----|----|-----------------------------------|---|--------|
| <i>Asparagus africanus</i> Lam. | Asparagaceae | Yesetkest[A] Sariitii[O] | Cl | R | Hu | Retained placenta | Fresh root is pounded; mixed with water and boiled, decanted, mixed with honey and drunk. | Oral |
| | | | | R | Hu | Wound | Fresh root is pounded together with leaves of <i>Dodonea angustifolia</i> , mixed with butter and creamed on the wound. | Dermal |
| | | | | L | Hu | Malaria | Leaf is smashed, mixed with water and decanted, then mixed with milk and one coffee cup is taken every morning. | Oral |
| | | | | L | Li | Bloating | Leaves of <i>Asparagus africanus</i> & the root of <i>Verbasicum sinaiticum</i> are pounded and mixed with water, decanted and dropped in to left nostril. | Nasal |
| <i>Brassica carinata</i> A.Br. | Brassicaceae | Gomenzer [A] Ija raafuu[O] | H | Se | Hu | Stomach problem | Crushed and eaten with <i>Allium sativum</i> by adding salt. | Oral |
| | | | | Se | Hu | Cancer | The seed of <i>Brassica carinata</i> together with seed of <i>Ricinus communis</i> is crushed, powdered and mixed with honey and then creamed on affected part. | Dermal |
| <i>Brassica nigra</i> L. | Brassicaceae | Senafich[A] Sanaafica[O] | H | Se | Hu | Malaria | Powdered seed of <i>Brassica nigra</i> , chopped <i>Allium sativum</i> and <i>Cicer arietinum</i> seed [Shimbura] are soaked with water and eaten after one day by injera in the morning. | Oral |
| | | | | Se | Hu | Intestinal parasites Amoeba | The semi-liquid condiment made of <i>Brassica nigra</i> called [awaze] is eaten with either injera or germinated bean seeds. | |

| | | | | | | | | | |
|--|---------------|-----------------------------------|----|----|------|---------------------------|--|--------|--|
| <i>Brucea antidysenterica</i> Fresen. | Simaroubaceae | Waginos [Abalo[A] Qomanyoo [O] | Sh | L | Li | External parasites [lice] | Leaf of <i>Brucea antidysenterica</i> is pounded and mixed with water. The mixture is used to wash skin of cattle, donkey, mule and horse. | Dermal | |
| | | | | L | Hu | Wound and itches | Dried leaf of <i>Brucea antidysenterica</i> is pounded, mixed with butter and creamed the affected part until recovery. | Dermal | |
| | | | | R | Hu | Evil eye | Dried root of <i>Brucea antidysenterica</i> and <i>Carissa spinarum</i> are mixed together, smoked & inhaled. | Nasal | |
| | | | | Se | Hu | Back pain | Seed of <i>Brucea antidysenterica</i> is boiled with milk and drunk for 3-4 consecutive days. | Oral | |
| <i>Buddleja polystachya</i> Fresen. | Loganiaceae | Anfar[A] | Sh | L | Li | Eye disease | Fresh Leaf of <i>Buddleja polystachya</i> is chewed and spitted on cattle eye. | Eye | |
| | | Adaaddii[O] | | L | Hu | Wound | Fresh leaf of <i>Buddleja Polystachya</i> is pounded, powdered and applied on wound | Dermal | |
| <i>Calpurnia aurea</i> [Ait.] Benth. | | Digitaa[A] | | L | Hu | Wound | Dried leaf of <i>Calpurnia aurea</i> is pounded, mixed with butter or honey and creamed on the wounded part. | Dermal | |
| | | Ceekaa [O] | | L | Li | Scabies and Lice | Leaf of <i>Calpurnia aurea</i> , <i>Croton macrostachyus</i> and <i>Justicia schimperiana</i> are pounded, mixed with water and wash the body of the cattle every morning until the Scabies [itches] and parasites are eradicated. | Dermal | |
| | | | | L | Both | Snake bite | Leaf of <i>Calpurnia aurea</i> is squeezed and drop of the sap is | Oral | |

| | | | | | | | | |
|----------------------------|-----------------|---------------------------|----|-----------|----|----------------------|--|--------|
| | | | | L | Hu | Diarrhea | given orally to cattle and to Human. | |
| <i>Capsicum annuum L.</i> | Solanaceae | Berbere [A] Qaaraa[O] | H | Fu/S e | Hu | Skin rash | Fruit and seed of <i>Capsicum annuum</i> is pounded, powdered, mixed with butter and creamed the infected parts | Dermal |
| | | | | | Hu | Tonsillitis | Fruit and seed of <i>Capsicum annuum</i> is pounded, powdered, mixed with oil, roasted and drunk | Oral |
| <i>Carica papaya L.</i> | Caricaceae | Papaya [A] Pappayya[O] | T | Fu | Hu | Heart problem | Fruit is eaten | Oral |
| | | | | L | Hu | malaria | Leaf of <i>Carica papaya</i> and <i>Allium sativum</i> bulb are pounded together and made in the form of soup, boiled and mixed with honey and two cup are drunk. | Oral |
| | | | | L | Hu | Intestinal parasites | Fresh leaves are boiled with water and cooled then drunk in the morning. | Oral |
| <i>Carissa spinarum L.</i> | Apocynacea e | Agam[A] Agamsa[O] | Sh | R | Hu | Evil eye | Root of <i>Asparagus africanus</i> , root, <i>Lobelia rhynchopetalum</i> bark, <i>Artemisia abyssinica</i> root and leaf, <i>Allium sativum</i> and <i>Ruta chalepensis</i> are crushed and smashed together and rolled by piece of cloth and tied on neck or arm. | Neck |
| | | | | L | Hu | Head ache | Dried Leaf of <i>Carissa spinarum</i> is pounded and the smoke is used as treatment for head ache. | Nasal |

| | | | | | | | | |
|---|---------------|---|----|-----|----|-----------------|---|--------|
| | | | | L | Hu | Stomach-ache | Leaf of <i>Carissa spinarum</i> is Pounded, mixed with honey. Two-three spoon is taken early in the morning before breakfast. | Oral |
| | | | | L | Hu | Malaria | Fresh root is pounded, mixed with cold water, decanted and drunk after one day. | Oral |
| <i>Citrus limon</i> [L.] Burm.f. | Rutaceae | Lomi [A] Loomii [O] | Sh | L | Hu | Cough | The leaf of <i>Citrus limon</i> is pounded, powdered, mixed with milk, boiled and sugar is added. Then drink pure liquid during feeling of the pain. | Oral |
| | | | | Fu | Hu | Athlete's foot | Fruit of <i>Citrus limon</i> is squeezed and creamed on affected part for continuous days. | Dermal |
| | | | | Fu | Hu | Scabies[itches] | Fruit juice is squeezed and applied to the affected part. | Dermal |
| | | | | Fu | Hu | Vomit | Fresh fruits are squeezed and the juice is drunk | Oral |
| <i>Clematis simensis</i> Fresen. | Ranunculaceae | Azo hareg[A] Hidda feetii[O] | Cl | L | Hu | Cancer | Fresh leaf is crushed, smashed, rolled by clean cloth and tied on hand. | Dermal |
| | | | | | Li | Horse itch | Leaf of <i>Clematis simensis</i> is squeezed and dropped on itched part. | Dermal |
| | | | | R/L | Hu | Tonsillitis | Leaf of <i>Clematis simensis</i> is crushed, rolled in clean cloth and tied on neck. | Neck |
| | | | | R/L | Hu | Wound | Dried root and leaf of <i>Clematis simensis</i> are pounded, powdered, mixed with butter and creamed on affected part. | Dermal |
| <i>Clerodendrum myricoides</i> [Hochst.] Vatke | Lamiaceae | Misirich[A] Maraasisaa[O] | Sh | R | Hu | Stomach-ache | Root of <i>Clerodendrum myricoides</i> , fruit of <i>Croton macrostachyus</i> and root of <i>Solanum adoense</i> are crushed together and mixed with rotten butter and drunk. | Oral |
| | | | | R | Hu | Headache | Root latex of <i>Clerodendrum myricoides</i> is dried, powdered, mixed with butter and creamed on head | Dermal |

| | | | | | | | | |
|---|------------------|------------------------------------|----|----|----|------------------------|--|--------|
| | | | | R | Hu | Evil eye | Dried root is crushed and put on broken pot, and then fire is added to it and fumigated. | Nasal |
| | | | | L | Hu | Eye problems | Leaves are pounded and powdered then sprayed to the eye. | Eye |
| <i>Clutia abyssinica</i> Jaub. & Spach | Euphorbiaceae | Fiyalefaj [A] Ulee loonii[O] | H | Se | Hu | Ring worm | Fresh seed is smashed, mixed with butter and creamed on affected part. | Dermal |
| | | | | L | Hu | Ear disease | Leaf of <i>Clutia abyssinica</i> is pounded, squeezed and then its drop is added through the ear. | Ear |
| | | | | R | Hu | Toothache | Fresh root is chewed and kept on teeth for some times. | Oral |
| <i>Coffea Arabica</i> L. | Rubiaceae | Buna[A] Buna[O] | Sh | Se | Hu | Diarrhea | Powder of roasted coffee bean is mixed with butter and eaten or drunk before breakfast for 3-4 days. | Oral |
| | | | | | Hu | Fire burn | Seed of <i>Coffea arabica</i> is roasted, pounded, powdered and applied on affected part. | Dermal |
| | | | | | Hu | Spider poison | Seed of <i>Coffea arabica</i> is Roasted, powdered, mixed with butter and painted. | Dermal |
| | | | | | Hu | Eye disease | Roasted seeds of <i>Coffea Arabica</i> is pounded together with Leaf of <i>Trigonella foenum-graecum</i> , mixed with butter and rubbed on the external eye. | Eye |
| <i>Cordia africana</i> Lam. | Boraginacea e | Wanza[A] Waddeessa[O] | T | B | Hu | Unstopped menstruation | Fresh bark is pounded, mixed with water, decanted and drunk with one coffee cup for three consecutive days | Oral |
| | | | | L | Hu | Toothache | Fresh leaf is chopped, chewed with salt and the juice is swallowed. | Oral |
| | | | | Fu | Hu | Intestinal parasites | The Fruit is eaten as food for the case of Intestinal parasites in the morning before food for 4-5 consecutive days. | Oral |
| <i>Coriandrum sativum</i> | Apiaceae | Denbelal[A] | H | Se | Hu | Cough | The seed together with butter and small quantity of water | Oral |

| | | | | | | | | |
|--------------------------------------|---------------|---|----|-----|----|------------------|---|--------|
| L. | | Dinbilaala[O] | | | Hu | Wound | are boiled and drunk. | |
| | | | | | | | Leaf of <i>Coriandrum sativum</i> is pounded with leaf of <i>Croton macrostachyus</i> and <i>Rumex nervosus</i> . Then creamed on wounded part for 2-3 days. | Dermal |
| <i>Croton macrostachyus</i> Del. | Euphorbiaceae | Bisana [A] Bakkannisa [O] | T | Sht | Hu | Gonorrhea | Seven, nine or eleven shoot tips is cut, cooked together with <i>Ruta chalepensis</i> and one spoonful of the solution is drunk per a day for seven consecutive days. | Oral |
| | | | | B | Li | Bloating | The bark of root is ground, mixed with water and given to the animal. | Oral |
| | | | | L | Li | Scabies[itches] | Leaf of <i>Croton macrostachyus</i> with leaf of <i>Brucea antidyserterica</i> are crushed together and used as skin wash for calf. | Dermal |
| <i>Cucumis ficifolius</i> A.Rich. | Cucurbitaceae | Midir enbuay[A] Coolootoo[Hiddii hooloo[O] | Cl | R | Hu | Gonorrhea | Root of <i>Cucumis ficifolius</i> and root of <i>Cyphostemma adenocaule</i> are crushed and pounded together, mixed with water and decanted, then mixed with honey and drunk. | Oral |
| | | | | R | Li | Cattle infection | Root of <i>Cucumis ficifolius</i> with leaf of <i>Vernonia amygdalina</i> are pounded together and mixed with cold water. Then given to cattle by tella material [merti]. | Oral |
| | | | | Fu | Hu | Stomach-ache | The root of <i>Cucumis ficifolius</i> is chewed and swallowed during the feeling of ach | Oral |
| | | | | Sa | Hu | Ear pain | Sap of fruit is added to ear canal. | Ear |
| <i>Cucurbita pepo</i> L. | Cucurbitaceae | Duba [A]Dabaaqula [O] | Cl | Se | Hu | Tape worm | Seed of <i>Cucurbita pepo</i> is roasted and eaten before breakfast. | Oral |

| | | | | | | | | |
|---|-------------------|---|----|----|----|-------------------------------|--|--------|
| <i>Cupresses lusitanica</i> Mill. | Cupressaceae e | YeFerenj tsid[A]Gaatt iraa faranjii[O] | T | La | Hu | Ringworm | Latex of <i>Cupresses lusitanica</i> is creamed on affected part of body. | Dermal |
| <i>Cynoglossum coeruleum</i> [Hochst.ex.A.rich.] | Boraginaceae e | Chigogit[A] | H | L | Hu | Headache | Fresh leaf of <i>Cynoglossum coeruleum</i> is massaged and sniffed. | Nasal |
| | | Maxxannee [O] | | R | | Body swelling | Fresh root of <i>Cynoglossum coeruleum</i> is chewed and sprayed on swollen part | Dermal |
| | | | | L | | Scabies[Itches] | Juice of fresh leaves is applied on the skin. | Dermal |
| <i>Cyphostemma adenocaule</i> [Steud. ex A. Rich.] Des. ex Wild & Drum. | Vitaceae | Aserkush[A] | Cl | Tu | Hu | starvation | Tuber is cooked and eaten during famine | Oral |
| | | Hidda Bofaa[O] | | Ag | Li | Infection on Neck[livestock] | Tied on the livestock's neck. | Neck |
| <i>Datura stramonium</i> L. | Solanaceae | Astanagir[A]] | H | L | Hu | Dandruff | Leaf is crushed with leaf of <i>Myrtus communis</i> & the powder is rubbed over the head after having cut the hair. | Dermal |
| | | Manjii [O] | | R | Hu | Headache | Roots of <i>Datura stramonium</i> is pounded with leaf of <i>Ocimum gratissimum</i> and sniffed Nasally. | Nasal |
| | | | | Fu | Hu | Scabies[itches] | About 2-3 spoons of Powdered fruit of <i>Datura stramonium</i> is mixed with butter and creamed. | Dermal |
| | | | | L | Hu | Wound | Fresh leaf of <i>Datura stramonium</i> is squeezed and creamed the affected [wounded] part of the body. | Dermal |
| <i>Discopodium penninervum</i> | Solanaceae | Almit[a] | Sh | L | Li | Leech | The leaf of <i>Dispcopodium penninervum</i> is pounded, mixed with little water and the decanted is given to cattle. | Oral |

| | | | | | | | | |
|---|----------------|--------------------------------|---------|----------------|-----------------|--|---|-------|
| Hochst. | | | | | Li | Bloating | The fresh leaf of <i>Dispcopodium penninervum</i> is pounded, squeezed, mixed with water, decanted and given to cattle. | Oral |
| | | | | | | | | |
| <i>Dodonaea angustifolia</i> L. | Sapindaceae | Kitkita[A] Ittacha[O] | Sh L | Hu Hu Li | Diarrhea | Fresh leaves are pounded, mixed with water, decanted and drunk. | Oral | |
| | | | | | Skin rash | Fresh leaves are crushed, mixed with water and painted the skin. | Dermal | |
| | | | | | Wound | Dried leaves of <i>Dodonaea angustifolia</i> are powdered and sprayed on the wound of pack [domesticated] animals. | Dermal | |
| | | | | | Ecto-parasities | Fresh leafs are crushed and pounded with water, then leaf extract is given Orally and pounded leaves are painted on the cattle body. | Dermal | |
| <i>Dombeya torrida</i> [J. F. Gmel.] P. Bamps | Sterculiacea | Wulkifa [A] Daannisa[O] | T L | Hu | Fire burn | Fresh leaf of <i>Dombeya torrida</i> is squeezed and creamed on affected part. | Dermal | |
| | | | | | Abdominal pain | Dried leaf powder is mixed with honey and given Orally. | Oral | |
| <i>Dovyalis abyssinica</i> [A.Rich.] Warb. | Flacourtiaceae | Koshim[A] Koshommii [O] | Sh | Fu | Hu | Intestinal Parasites | Its fruit is eaten as food for the case of intestinal parasite before breakfast every morning | Oral |
| <i>Echinops kebericho</i> Mesfin | Asteraceae | Kerebicho [A] Qarabichoo[O] | H | R | Hu | Evil eye | Root concoction together with Leaf of <i>Artemisia abyssinica</i> is added to a burning fire and smoked to the patient. | Nasal |
| | | | | R | Hu | Rabies | Root concoction together with root of <i>Ricinus communis</i> is boiled and decoction is drunk. | Oral |

| | | | | | | | | |
|---------------------------------------|---------------|--|----|-----|----|----------------|--|------------|
| | | | | R | Hu | Evil Spirit | Root is Crushed, heated on fire and its smoke is inhaled. | Nasal |
| | | | | R | Hu | Tetanus | Root of <i>E. kebericho</i> with bark of <i>Croton macrostachys</i> is pounded, powdered together, mixed with honey and then one cup of the mixture is taken for 3 days. | Oral |
| <i>Embelia schimperi</i> Vatke | Myrsinaceae | Enkoko [A] Haanquu [O] | Sh | Se | Hu | Tape worm | Seed of <i>Embelia schimperi</i> is dried and powdered, mixed with water, two glasses are taken in the morning before food and stay for 6-7 hours. | Oral |
| | | | | Fu | Hu | Epilepsy | Fruit of <i>Embelia schimperi</i> with seed of <i>Guizotia abyssinica</i> is crushed, powdered, mixed with local alcohol “tej” and drunk | Oral |
| <i>Erica arborea</i> L. | Ericaceae | Asta[A] Maxaxee [O] | T | Sht | Hu | Giardiasis | Shoot is boiled and the decoction is drunk for 3-4 days consecutively. | Oral |
| | | | | L | Hu | Wound | The powder of dried leaves is mixed with butter & rubbed on the affected part. | Dermal |
| <i>Eucalyptus globulus</i> Labill. | Myrtaceae | Nech bahirzaf[A] Bargamoo adii[O] | T | L | Hu | Influenza | The Leaf of <i>Eucalyptus globulus</i> is chopped and Boiled with water and inhale the vapor repeatedly. | Oral/Nasal |
| | | | | St | Hu | Fibril illness | The young leaves and immature stem tip are boiled in water and the steam is inhaled by the patient during the sleep time until recovery. | Nasal |
| | | | | L | Hu | Malaria | Dried leaf is put on fire and smoked | Nasal |
| | | | | L | Hu | Cough | Leaf is boiled with sugar and one tea cup of syrup is drunk. | Oral |
| <i>Euphorbia abyssinica</i> . Gmel | Euphorbiaceae | Kulkual [A] | T | Fw | Hu | Wound | Fresh flower of <i>Euphorbia abyssinica</i> is squeezed and creamed on affected part | Dermal |

| | | | | | | | | |
|--|--------------|-----------------------|----|----|------------|--|---|--------|
| | | Adaammii [A] | B | Hu | Ascariasis | Fine powder of pounded bark of <i>Euphorbia abyssinica</i> and <i>Croton macrostachyus</i> is mixed with water, decanted and taken at meal time. | Oral | |
| | | | | La | Hu | Gonerrhea | Very small amount of the milky latex is mixed with red teff flour, baked and eaten for three consecutive days. | Oral |
| <i>Guizotia abyssinica</i> L. | Asteraceae | Nug[A] Nuugii[O] | H | Se | Hu | Kidney Problem | Seed of <i>Guizotia abyssinica</i> is roasted, pounded and mixed with powdered leaves of <i>Thymus schimperi</i> and boiled. Then one coffee cup is drunk for 3-5 days. | Oral |
| | | | | Se | Hu | Swelling | Seed is roasted, pounded and powdered, then boiled with salt and the syrup is drunk. | Oral |
| | | | | Se | Li | Leech | More than one litter powdered seed mixed with water is given to cattles for three days continuously. | Oral |
| <i>Hagenia abyssinica</i> [Bruce] J. F. Gmel. | Rosaceae | Koso [A] Heexoo[O] | T | Fu | Hu | stomach-ache | Fresh fruit is crushed, squeezed and the juice is mixed with tella and drunk. | Oral |
| | | | | Se | Hu | Venereal disease [abalazar] | Dried Seed is powdered, mixed with tela and drunk. | Oral |
| | | | | Se | Hu | Eczema | Calf horn and <i>roasted Hagenia abyssinica</i> seed are pounded together, mixed with butter and creamed on affected body part. | Dermal |
| | | | | Se | Hu | Tape worm | The seed of <i>Hagenia abyssinica</i> is crushed, powdered, mixed with milk, boiled and drunk for five days before breakfast. | Oral |
| <i>Hypericum</i> | Hypericaceae | Amja [A] | Sh | L | Hu | Erythroblasts | Leaf is boiled with water and the decoction is drunk. | Oral |

| | | | | | | | | |
|---|-------------------|---|----|---------|----|-----------------------------|--|--------|
| <i>revolutum</i> Vahl | e | Muka Foonii[O] | | Sht | Hu | Dandruff | Shoot is crushed, squeezed and the sap is creamed after having cut hair. | Dermal |
| | | | | L/ R | Li | Rabies | The root and leaf of <i>Hypericum revolutum</i> together with roots of <i>Rumex nervosus</i> , <i>Phytolacca dodecandra</i> , <i>Brucea antidysenterica</i> , leaf and bark of <i>Croton macrostachyus</i> are pounded together, mixed with water and given to cattle. | Oral |
| <i>Jasminum abyssinicum</i> L. | Oleaceae | Tembelel Biluu[O] | Cl | L | Hu | Eye disease | The leaves of <i>Jasminium abyssinicum</i> and seven pieces of immature stems of <i>Olea europaea</i> are ground and powdered together, mixed with water and drop of mixture is applied on infected part for 3 days. | Eye |
| <i>Juniperus procera</i> Endl. | Cupressaceae e | Ye abesha tsid[A] Gaattiraa[O] | T | B | Hu | Tonsillitis | Fresh stem bark is chewed and the juice is swallowed. | Oral |
| | | | | B | Hu | Malaria | Dried bark is boiled with water and the decoction is drunk. | Oral |
| | | | | L | Hu | Pneumonia | Fresh leaf is Crushed and steeped in cold water and the infusion is drunk. | Oral |
| <i>Justicia schimperiana</i> [Hochst. exNees] T. Anders | Acanthaceae | Simiza[sens el][A] DHummug aa[O] | Sh | L | Li | Hen disease [Cocoidiosi] | The leaf [shoot] is crushed, mixed with water and decanted; 'Enjera' [bread] is soaked with the solution and given to the hen. | Oral |
| | | | | L/R | Li | Blackleg | Leaf and root of <i>Justicia schimperiana</i> is pounded with dried fruit of <i>Ricinus communis</i> and the solution is given to cattle. | Oral |
| | | | | L | Hu | Leg swelling | Fresh Leaf is heated on fire; salt is added to it and tied on the swollen part. | Dermal |
| | | | | L | Li | Lice | Leaf of <i>Justicia schimperiana</i> with leaf of <i>Calpurina aurea</i> are used to wash the body of cattle to remove the | Dermal |

| | | | | | | | |
|--|---------------|--|----|----|----|-------------------|---|
| | | | | | | lice. | |
| <i>Kalanchoe petitiana</i> A. Rich. | Euphorbiaceae | Endawula [A] Bosoqgee [O] | H | R | Hu | Bone fracture | Fresh leaf is squeezed; the juice is mixed with butter and applied topically on fractured part. |
| | | | | L | Hu | Wound | Fresh leaf is heated with fire, squeezed and the juice is dropped on wounded part |
| | | | | R | Hu | Ear disease | Fresh root of <i>Kalanchoe petitiana</i> is squeezed and few drops are added through ear canal. |
| <i>Kosteletzkyia begonifolia</i> Ulbr. | Malvaceae | Yemegerem [A] | H | R | Li | For anthrax | Fresh leaf of <i>Kosteletzka begonifolia</i> is pounded squeezed mixed with "tella" and drunk. |
| | | | | R | Hu | For body swelling | Fresh leaf of <i>Kosteletzka begonifolia</i> is pounded squeezed mixed with "tella" and drunk. |
| <i>Linum usitatissimum</i> L. | Lineaceae | Telba[A] Talbaa[O] | H | Se | Hu | Wound | Seed of <i>Linum usitatissimum</i> is pounded, mixed with honey and creamed on wounded part |
| | | | | Se | Li | Retained placenta | Seed of <i>Linum usitatissimum</i> is powdered and half of a glass of the powder is dissolved in water and given to cattle. |
| | | | | Se | Hu | Amoeba | The pounded seed is mixed with water and drunk before breakfast. |
| | | | | Se | Hu | Gastritis | The seed of <i>Linum usitatissimum</i> is pounded, mixed water and sugar and then drunk during feeling the pain. |
| <i>Lobelia rhynchopetalum</i> | Lobeliaceae | Jibira[A] | Sh | B | Hu | | The bark and root of <i>Lobelia rhynchopetalum</i> is crushed, mixed with little water and sniffed at the sickness time or |
| | | | | | | | Nasal |

| | | | | | | | | |
|------------------------------------|--------------|---|----|----------------|----|--------------------------|---|-------------|
| Hemsl. | | | | and R | | Evil eye | the dried root is tied with piece of cloth around the neck or put it in the pocket. | and Dermal |
| | | | | R | Hu | Scabies[itches] | Root of <i>Lobelia rhynchopetalum</i> is dried, powdered, mixed with butter, rub the body for some days and finally taking a shower at the end of the day. | Dermal |
| <i>Lepidium sativum</i> L. | Brassicaceae | Feto[A] Feeoco[O] | H | Se | Hu | Bloating | Seed of <i>Lepidium sativum</i> and bulb of <i>Allium sativum</i> are pounded together, mixed with water and given to cattle. | Oral |
| | | | | Se | Hu | Dysentery | The seed of <i>Lepidium sativum</i> is ground, mixed with milk, then filtrate and the solution is drunk. | Oral |
| | | | | Se | Hu | Malaria | Seed of <i>Lepidium sativum</i> , bulb of <i>Allium sativum</i> and rhizome of <i>Zingiber officinale</i> are pounded together and given to Human with honey. | Oral |
| | | | | Se | Hu | Tonsilitis | Seed of <i>Lepidium sativum</i> and bulb of <i>Allium sativum</i> are pounded together and given to Human with honey. | Oral |
| | | | | Se | Hu | Fibril illness | Dried seeds are powdered and added in to fire and smoked to the patient. | Nasal /Oral |
| | | | | St | Hu | Hemorrhoids | Stem is heated on fire and used to burn the affected part | Dermal |
| <i>Maesa lanceolata</i> Forssk. | Myrsinaceae | Shwaria[kelawa] [A] Abbayyii [O] | Sh | L and Se | Li | For leeches | Dried leaf and fruit of <i>Maesa lanceolata</i> are crushed, pounded and the powder is added to water to kill leeches | Oral |
| | | | | R | Li | Retention of placenta | Root of <i>Maesa lanceolata</i> is boiled with seed of <i>Linum usitatissimum</i> and given to cattle. | Oral |

| | | | | | | | | |
|-----------------------------------|------------|-------------------------|----|-------|------|----------------------|--|--------|
| | | | | L | Hu | Eczema[chife] | Dried leaf powder together with the powder of leaf of <i>Croton macrosrachyus</i> are pasted with butter and applied for seven days consecutively. | Dermal |
| <i>Melia azedarach</i> Forssk. | Meliaceae | Nim[A] Niimii[O] | T | L | Hu | Malaria | Chewing and swallowing the juice of fresh leaf. | Oral |
| | | | | B | Li | Anthrax | The fine powder of dried bark is added to a glass of water and applied through the mouth. | Oral |
| | | | | Sht | Hu | Tooth ache | Young shoot tip is chewed and kept on the teeth. | Oral |
| <i>Myrtus communis L.</i> | Myrtaceae | Ades[A] Adasii[O] | Sh | L | Both | Intestinal parasites | Dried leaf of <i>Myrtus communis</i> is pounded, added to tella and drunk to expel intestinal parasites. | Oral |
| | | | | L | Hu | Dandruff | The leaf of <i>Myrtus communis</i> is powdered, mixed with butter and creamed on head after is cut. | Dermal |
| | | | | L | Hu | Scabies[itches] | Dried powder is mixed with butter & applied on the affected part | Dermal |
| <i>Nicotiana tabacum</i> L. | Solanaceae | Timbaho[A] Tamboo[O] | H | L | Hu | Snake bite | Leaf of <i>Nicotiana tabacum</i> is crushed and squeezed, mixed with water and the Juice is drunk to expel the poison by vomiting. | Oral |
| | | | | L | Li | Bloating | Leaf and root of <i>Nicotiana tabacum</i> is dried, powdered, mixed with salt, water and made as bread. Slice is given to cattle before they drink water for three days. | Oral |
| | | | | St/ L | Li | Leech | The young stems and or leaf is ground, add salt, and then one glass of the mixture is given every morning for three | |

| | | | | | | | | |
|--|-------------------|---|----|----|----|--------------------|--|-------|
| | | | | | | | days orally or through the nose. | Oral |
| | | | | L | Li | Internal parasites | Leaf of <i>Nicotiana tabacum</i> is pounded with root of <i>Carissa spinarum</i> and mixed with water. One merit solution is given to calf. | Oral |
| <i>Nigella sativa</i> L. ae | Ranunculace ae | Tikur azmud[A] Abasuuda gurraacha [O] | H | Se | Hu | Depression | Seed is added to tea and drunk to stimulate mental. | Oral |
| | | | | Se | Hu | Tonsillitis | Seed of <i>Nigella sativa</i> is pounded, powdered and added to coffee. Then drunk for 3-4 consecutive days. | Oral |
| | | | | Se | Hu | Stomach-ache | Seed is crushed and pounded with <i>Ruta chalepensis</i> , <i>Lepidium sativum</i> and <i>Allium sativum</i> then mixed with honey and a spoonful of the mixture is taken before breakfast. | Oral |
| <i>Ocimum basilicum</i> L. | Lamiaceae | Zikakibe[A] Gosobila[O] | H | L | Hu | Headache | Leaf of <i>Ocimum basilicum</i> is crushed and sniffed. | Nasal |
| | | | | L | Hu | Malaria | Leaf of <i>Ocimum basilicum</i> and bulb of <i>Allium sativum</i> are pounded together and eaten with honey in the morning. | Oral |
| | | | | L | Li | Bloating | Its fresh leaves with the bulb of <i>Allium sativum</i> and salt are ground together and then one litter of the solution is given to cattle. | Oral |
| <i>Ocimum lamiifolium</i> Hochst. ex Benth. | Lamiaceae | Damakese[A]] Damakasee[| Sh | L | Hu | Febrile illness | Fresh leaf of <i>Ocimum lamiifolium</i> together with leaf of <i>Eucalyptus globulus</i> , is pounded, mixed with water and drunk or the patient can inhale the vapor of the boiled mixture. | Oral |

| | | | | | | | | |
|--|-------------|--|----|----------|--|---|--|--------|
| | | O] | | | | | | |
| | | L | Hu | Headache | Leaf of <i>Ocimum lamiifolium</i> is massaged and sniffed. | Oral | | |
| <i>Olea europaea L. subsp. <i>cuspidata</i> [Wall. ex G. Don] Cif.</i> | Oleaceae | Weyra[A] Ejersa[O] | T | L | Both | Eye disease | Leaf is Crushed and squeezed. Then the sap is dropped by piece of clean cloth on eye. | Eye |
| | | | | St | Hu | Wound | Fresh stem is heated on fire and the oily liquid produced from the stem is applied on the wound. | Dermal |
| | | | | St | Hu | Gastiritis | Oily liquid produced from the stem is drunk after meal for three consecutive days. | Oral |
| | | | | B | Hu | Haemorrhoid | The bark is heated on fire and held on the pain area. | Dermal |
| <i>Opuntia ficus-indica</i> [L.] Miller | Cactaceae | Balas [Ashewa kulkual[A] Adaammmii [O] | Sh | L | Hu | Ear disease | Leaf of <i>Opuntia ficus-indica</i> is squeezed and the sap is dropped through ear canal safely. | Ear |
| | | | | Fu | Hu | Stomach-ache | Ripened fruit is eaten | Oral |
| <i>Otostegia integrifolia</i> Benth. | Lamiaceae | Tunjit[A] Xunjiitii[O] | Sh | L | Hu | Stomach-ache | Leaf of <i>Otostegia integrifolia</i> and leaf of <i>Solanum adoense</i> are crushed, squeezed together and the juice or sap is drunk. | Oral |
| | | | | Hu | Fibril illness | Dried leaf is added to fire and fumigated | Oral and Nasal | |
| | | | | Hu | Tonsillitis | Fresh leaf of <i>Otostegia integrifolia</i> is squeezed and half of coffee cup is drunk | Oral | |
| <i>Osyris quadripartita</i> | Santalaceae | Keret [A] | Sh | St | Hu | Stomach-ache | Fresh stem bark of is chewed & the solution is swallowed. | Oral |

| | | | | | | | | |
|---|----------------|---|----|----|-------|--|--|--------|
| Decn | | Waatoo [O] | L | Hu | Wound | Dried or fresh leaf of is crushed, powdered and then applied on the wound part | Dermal | |
| <i>Phytolacca dodecandra</i> L' Herit. | Phytolaccaceae | Endod[A] Handoodee[O] | Sh | Se | Hu | To stop pregnancy | Seed of <i>Phytolacca dodecandra</i> are crushed, smashed, squeezed and the juice is drunk. | Oral |
| | | | | | | Malaria | Fresh root is smashed, mixed with water, decanted and drunk in the morning. | Oral |
| | | | | R | Li | Bilharziha | Fresh root is chewed and swallowed. | Oral |
| | | | | | | Stomach-ache | Fresh root is crushed and pounded with water, then filtered and drunk for four days | Oral |
| <i>Pittosporum viridiflorum</i> Sims | Pittosporaceae | Tebera[A]Dambii[O] | T | L | Hu | Dandruff | Leaf is crushed, smashed and mixed with butter and creamed after having cut hair. | Dermal |
| <i>Plantago lanceolata</i> L. | Plantaginaceae | Gortab Ye wusha milas Wenberet[A]] Qorxobbi [O] | H | L | Hu | Wound | Fresh leaf of <i>Plantago lanceolata</i> and bulb of <i>Allium sativum</i> are crushed, smashed together and rubbed on wounded part. | Dermal |
| | | | | | | Fibril illness | Rub the body with the squeezed leaves | Dermal |
| | | | | | | Skin cut | Fresh leaf of <i>Plantago lanceolata</i> is smashed, squeezed and three to four drops of the exudate is added to skin cut. | Dermal |
| <i>Prunus persica</i> [L.] Batsch | Rosaceae | Kok[A] Kookii [O] | T | L | Hu | Constipation | Fresh leaf of <i>Prunus persica</i> is crushed and mixed with water and given orally for continuous days until it gets relieve. | Oral |
| | | | | | | | Leaf is pounded, mixed with water and decanted, and then one cup of local tella is given to Human. | |

| | | | | | | | | |
|---|--------------|------------------------------|----|----|----|--|---|----------------|
| | | | | | | Diarrhea | | Oral |
| | | | | Ep | Hu | For delayed pregnancyWo man[Infertile] | Leaf of epiphyte is cut by her Husband. Then crushed, mixed with water, decanted, drunk at bed time and continuing sexual intercourse. | Oral |
| <i>Pterolobium stellatum</i> [Forsk]Brennan | Fabaceae | Kentafa[A] Harangamaa [O] | Sh | L | Hu | Goiter | Crush the leaves and mix with butter. Then apply the paste and tie it on the neck. | Dermal |
| | | | | L | Hu | Evil eye | Leaf of <i>Pterolobium stellatem</i> and <i>Ruta chaleensis</i> are pounded, mixed with water and one coffee cup is drunk. | Oral |
| | | | | R | Hu | Sudden sickness | Root of <i>Pterolobium stellatem</i> is dried, powdered and preserved. One spoon of the powder is mixed with alcohol and given to human. | Oral |
| <i>Rhamnus prinoides</i> L. Herit. | Rhamnaceae | Gesho[A] Geeshoo[O] | Sh | L | Hu | Teeth-ache | Leaf is chewed and kept on the teeth. | Oral |
| | | | | L | Li | Leech | Leaf is crushed, dried and soaked with the leaves of a <i>Solanumtuberosum</i> at least for 2 days & then given small droplets through left nostril & then much more through their mouth. | Oral and Nasal |
| | | | | L | Hu | Tonsillitis | Young leaves are chewed and the juice is swallowed. | Oral |
| <i>Ricinus communis</i> L. | Euphorbiacea | Gulo[A] Qobboo[O] | Sh | Se | Hu | Headache | Seed is pounded, mixed with butter, and tied on head. | Dermal |
| | | | | Se | Li | Anthrax | Fresh Fruit is pounded, mixed with water and given for cattle to drink. | Oral |

| | | | | | | | | |
|------------------------------------|------------------|--|----|----------|----|----------------------|---|--------|
| | | | | Se | Hu | Impotency | Seeds are pounded, mixed with small quantity of Aloe spp. latex and drink one coffee cup before bed time for 3-4 days. | Oral |
| | | | | L | Li | Bloating | Fresh leaf is pounded, mixed with water; salt is added and given to cattle Orally. | Oral |
| <i>Rosa abyssinica</i> Lindley | Rosaceae | Kega[A] Goraa[O] | Sh | L | Hu | Ascariasis | Fresh leaf is pounded, mixed with water <i>and a cup of the mixture is drunk.</i> | Oral |
| | | | | Fu | | Hypertension | Fresh fruit with the leaves of <i>Ostostegia integrifolia</i> are ground, powdered, mixed with water and one coffee cup is drunk during the sick time. | Oral |
| | | | | Fw/ L | | Erythroblasts | The flower and leaf of <i>Rosa abyssinica</i> is eaten for some days. | Oral |
| <i>Rumex abyssinicus</i> Jacq. | Polygonacea e | Makmako[A]] Dhangaggoo Fardaa[O] | H | R | Hu | “Ayne tila” | Root of <i>Rumex abyssinicus</i> and root of <i>Verbascum sinaiticum</i> are crushed together and mixed with honey. Then drunk before breakfast for three consecutive days. | Oral |
| | | | | R | Hu | Hypertension | Dried root of <i>Rumex abyssinicus</i> is pounded , added to tea and drunk | Oral |
| | | | | R | Hu | Ring worm | The root of <i>Rumex abyssinicus</i> with root of <i>Rumex nepalensis</i> is pounded, powdered, mixed with solution of <i>Citrus limon</i> and creamed on affected part. | Dermal |
| <i>Rumex nepalensis</i> Spreng. | Polygonacea e | Lut [A] Tultii[O] | H | R | Li | Retained placenta | Latex of <i>Rumex nepalensis</i> root is washed out by water and given to animal [e.g. sheep, cow] | Oral |
| | | | | R | Hu | Stomach-ache | Root is Chewed and the sap is swallowed. | Oral |
| | | | | R | Hu | Wound | Root is chopped, dried, powdered and applied on wounded | Dermal |

| | | | | | | | | |
|-------------------------------|--------------|---------------------------------|----|-------|----|------------------------|---|--------|
| | | | | | | | part. | |
| | | | | L | Hu | Spider poison | Leaf of <i>Rumex nepalensis</i> is directly rubbed on affected skin. | Dermal |
| | | | | R | Hu | Internal Parasite | The root is Chewed and swallowed or boiled in the water and one glass of the solution is drunk. | Oral |
| | | | | R | Hu | Body swelling | Dry/fresh root is chewed and put on the swollen part. | Oral |
| <i>Rumex nervosus</i> Vahl | Polygonaceae | Embacho [A] Dhangaggo | Sh | L | Hu | Wound | Dried root bark is crushed, pounded, mixed with butter and placed on the wound. | Dermal |
| | | | | R | | Skin rash | Root of <i>Rumex nervosus</i> is dried and powdered. One coffee cup of powder is mixed with butter and creamed on affected skin | Dermal |
| | | | | L | Hu | Snake bite | The leaf of <i>Rumex nervosus</i> is chewed and the solution is swallowed during bite time. | Oral |
| | | | | L/ St | Li | Lice | <i>Rumex nervosus</i> together with <i>Sida schimperiana</i> is used to wash the calf to remove external parasites and Scabies [itches]. | Dermal |
| <i>Ruta chalepensis</i> L. | Rutaceae | Tenadam[A] Cilaattama[O] | H | L | Hu | Stomach-ache | Fresh leaf of <i>Ruta chalepensis</i> mixed with sugar & powder of <i>Vicia faba</i> , then boiled and drunk [or chewing and taking the sap]. | Oral |
| | | | | B/L | Li | Cocoidiosis [Bilii] | Bark and leaf of <i>Ruta chalepensis</i> and root of <i>Justicia schimperiana</i> are pounded together and given to hen with injera. | Oral |

| | | | | | | | | |
|---|---------------|-------------------------------------|----|------|----|-------------------|--|--------|
| | | | | Se | Hu | Evil eye | The seed of <i>Ruta chalepensis</i> with <i>Allium sativum</i> are finely crushed together and sniffed at the sickness time | Nasal |
| <i>Salix macronata</i> THunb. | Salicaceae | Lahaya[A] Alaltuu[O] | T | Sht | Hu | Hemorrhage | Fresh shoot is crushed, squeezed and the juice is rubbed on the affected part. | Oral |
| | | | | L | Hu | Wound | Fresh leaf of <i>Salix macronata</i> is pounded and placed on wounded part | Dermal |
| | | | | L | Li | Joint dislocation | The leaf is ground along with young stem, mixed with bread and given to the cattle in problem | Oral |
| <i>Schinus molle</i> L. | Anacardiaceae | Kundoberbere[A] Qundobarbaree[O] | T | L/Fu | Li | Eye disease | Fesh Leaf and fruit of <i>Schinusmolle</i> are chewed and spitted on cattle, equines, goat and sheep eye. | Eye |
| | | | | Se | Hu | Tonsillitis | Dried seed of <i>Schinusmolle</i> is pounded, powdered, mixed with honey and then drunk | Oral |
| <i>Sesamum indicum</i> L. | Pedaliaceae | Selit[A] Saliixa[O] | H | Se | Hu | Ear defect | Extract oil from the seed and drop the extract in canal the ear. | Ear |
| <i>Sidas chimperiana</i> Hochst. Ex A. Rich. | Malavaceae | Cifrig[A] Harmellaa[O] | H | R | Hu | Syphilis [ketegn] | Fresh Root of <i>Sidaschimperiana</i> and root of <i>Solanumadoense</i> are crushed together and mixed with water and decanted. Then mixed with honey and drunk. | Oral |
| | | | | R | Li | Horse disease | Ground, mixed with water and drunk or applied through the nostrils. | Nasal |
| | | | | R | Hu | Evil eye | Root is fumigated every evening to patient until recovery. | Nasal |
| <i>Solanum adoense</i> [Hochst] ex A. Rich. | Solanaceae | Zerch Enbuay[A] | Sh | Fu | Hu | Wound | Adding the drop of <i>Solanum adoense</i> fruit juice on wounded part | Dermal |

| | | | | | | | | |
|---|-------------------|--|----|----|----|----------------------------------|--|--------|
| | | Hiddii baddaa[O] | | Fu | Li | Bloat | Fruits of <i>Solanum adoense</i> are Squeezed on cattle feed. | Oral |
| | | | | L | Li | Anthrax | Dried leaf of <i>Solanum adoense</i> is crushed, pounded, mixed with tella and given to cattle. | Oral |
| <i>Solanum incanum</i> L. | Solanaceae | Enbuay[A] Hiddii loonii[O] | Sh | R | Hu | Snake bite | Dried root powder is drunk with coffee. | Oral |
| | | | | Sa | Hu | Infection caused by spine in leg | The sap of fresh fruit is squeezed & dropped on affected part. | Dermal |
| | | | | L | Hu | Nasal bleeding | The leaf of <i>Solanum incanum</i> is ground, powdered and sniffed several times until recovery. | Nasal |
| | | | | L | Li | Urination problem | The leaf of <i>Solanum incanum</i> and that of <i>Cuminum cyminum</i> are smashed together, mixed with water and given for horse, donkey, and mules to drink | Oral |
| <i>Solanecio gigas</i> [Vatke.]C. Jeffery | Astraceae | Yeshikoko gomen[Mog ne qitel[A]] Jirma Jaldeessaa[O] | Sh | L | Li | Bloating | The leaf of <i>Solanecio gigas</i> is pounded, squeezed and the juice is added through the nose | Nasal |
| | | | | L | Li | Lice | Leaf of <i>Solanecio gigas</i> is used to wash hair of calf as lice killer. | Dermal |
| <i>Stephania abyssinica</i> [Dillo&A.Rich.]Wal p. | Menisperma cae | Ye ayit hareg[Chewchawit | Cl | L | Hu | Wound | Leaf of <i>Stephania abyssinica</i> is pounded and a small amount is added to wound. | Dermal |
| | | | | R | Li | Rabies | Dry root of <i>Stephania abyssinica</i> is powdered and baked with teff flour and given to cattle. | Oral |

| | | | | | | | | |
|---|------------|--|---|----|--------------|---|---|--------|
| | | [Etse Iyesus[A] Hidda kalaalaa[O] | L | Li | Pasturolosis | Dried root and leaf of <i>Stephaniaabyssinica</i> is powdered together, mixed with water and given to the animal [cattle, goat or sheep]. | Oral | |
| <i>Syzgium aromaticum</i> L. | myrtaceae | Kirunfud[A] | T | Fu | Hu | Impotency | Dried <i>Syzgium aromaticum</i> is crushed, mixed with goat milk and boiled. Then the decoction is drunk. | Oral |
| | | Qurunfudii[O] | | Fu | Hu | Vomit | Fruit of <i>Syzgiumaromaticum</i> with rhizome of <i>Zingiberofficinale</i> is boiled and drunk. | Oral |
| <i>Tanacetum cinerariifolium</i> [Trev]. Sch. Bip. | Asteraceae | Kaba[A] | H | L | Hu | Fibril illness | The leaf of <i>Tanacetum cineratiifolium</i> is squeezed and drunk | Oral |
| <i>Trigonellafoenum-Graecum</i> L. | Fabaceae | Abish[A] | H | Se | Hu | Leg wound | Seed of <i>TrigonellafoenumGraecum</i> , seed of <i>Faciafabia</i> and seed of <i>Linumusitatissimum</i> are finely ground together, rolled in piece of cloth and tied on leg | Dermal |
| | | Sunqoo[O] | | Se | Hu | Body swelling | The seed of <i>Trigonellafoenum-graecum</i> is crushed, powdered, mixed with honey and little water, then boiled like “porage” and eaten | Oral |
| | | | | Se | Hu | Bone fracture | Seed is powdered; water is added to flour to make the paste, and then applied to the broken bone. | Oral |
| <i>Thymus schimperi</i> Ronniger | Lamiaceae | Tosign[A] | H | Ag | Hu | Cough | Its leaves, root and bark are ground together, powdered and mixed with water, one coffee cup [sini] is drunk | Oral |
| | | Xassee[O] | | | | | | |

| | | | | | | | | |
|--|--------------|--|----|-----|--------------|--|---|--------|
| | | | | | | | during pain time. | |
| | | | L | Hu | Stomach-ache | Leaf is boiled with leaves of <i>Foeniculumvulgare</i> and one tea cup is taken. | Ora | |
| | | | L | Hu | Hypertension | Leaf is boiled with sugar and drunk. | Oral | |
| <i>Urera hypselodendron</i> [A. Rich.] Wedd. | Urticaceae | Lankuso[A] Laanqisaa dhoqonu [O] | C1 | B | Li | Anthrax | Bark/shoot of <i>Urera hypselodendron</i> is crushed, smashed, mixed with powder of <i>Trigonella foenum-graecum</i> or with egg and given to cattle. | Oral |
| <i>Urtica simensis</i> Steudel | Urticaceae | Sama[A] Doobbi [O] | H | L | Hu | Gastritis, Heart Disease | Eat in the form of stew ['wot'] against gastritis & heart disease. | Oral |
| | | | | R/L | Hu | Gonorrhea | The root and leaves of <i>Urticasimensis</i> with the bark of <i>Crotonmacrostachyhus</i> are pounded, powdered, mixed with little water ,filtered, then a cup of filtrate is drunk for 5 days in the morning | Oral |
| <i>Verbena officinalis</i> L. | Verbenaceae | Atuch[A] Derguu[O] | H | L | Hu | For tonsillitis | Leaf of <i>Verbenaofficinalis</i> is Crushed, smashed, mixed with butter and creamed around neck. | Dermal |
| | | | | R | Hu | Fibril illness | Root of <i>Verbenaofficinalis</i> , together with the root of <i>Carissaspinarum</i> and root of <i>Rutachalepensis</i> , are fumigated to the patient. | Nasal |
| | | | | R | Hu | Diarrhea | Root of <i>V. officinalis</i> and root of <i>Phytolaccadodecandra</i> , bark of <i>Crotonmacrostachyus</i> are pounded, mixed with water, decanted and drunk after a day. | Dermal |
| <i>Verbascum</i> | Scrophularia | Kutina[| H | R | Li | Horse disease | Fresh Root of <i>Verbascumsinaiticum</i> is collected from three | |

| | | | | | | | | |
|---|---------------|---|----|---|----|---------------------------------|--|--------|
| <i>sinaiticum</i> Benth. | ceae | Ye Ahya joro[A] Gurra Harree [O] | | | | | places, smashed, mixed with water, decanted and given to horse | Oral |
| | | | | L | Hu | Impotency | Chopped Leaf of <i>Verbascum sinaiticum</i> is rolled by clean piece of cloth and tied around male sex organ to erect it. | Dermal |
| | | | | R | Hu | Wound | The root of <i>Verbascum sinaiticum</i> is crushed, powdered, mixed with butter and creamed on affected part. | Dermal |
| <i>Vernonia amygdalina</i> Del. | Asteraceae | Gerawa[A] Eebicha [O] | T | L | Hu | Malaria | Crushed leaves of <i>Vernonia amygdalina</i> concocted with leaves of <i>Ruta chalepensis</i> . One cup is served as a drink for 3-5 days with cold water in the morning. | Oral |
| | | | | L | Hu | Skin infection | The leaf of <i>Vernonia amygdalina</i> is pounded and the patient body is washed by the plant or the leaf of is used as a soap to wash the infected body. | Dermal |
| | | | | L | Li | Bloating Urine retention | Fresh leaves is squeezed, mixed with water, and then given to cattle in morning and at night until recovery. | Oral |
| <i>Vernonia hymenolepis</i> A.Rich. | Asteraceae | Weynagift [A] Sooyyama[O] | Sh | L | Hu | Gonorrhea | Leaf twig of <i>Vernonia hymenolepis</i> and bark of <i>Croton macrostachyus</i> are pounded together, mixed with honey and 1-3 spoons is taken in the morning before breakfast. | Oral |
| | | | | L | Hu | Wound | Leaf of <i>Vernonia hymenolepis</i> is squeezed and the sap is dropped on the wound. | Dermal |
| <i>Zehneria scabra</i> [Linn.f.] Sond. | Cucurbitaceae | Haregresaa[| Cl | L | Hu | Swelling | Leaf and bark of <i>Zehneria scabra</i> and leaf of <i>Rumex nervosues</i> are pounded together, rolled in clean cloth, and tied on swelling. | Dermal |

| | | | | | | | | |
|--|----------------|---|----|----|----------------|---|--|--------|
| | | Etse sabeq[Nech Hareg[A] Qorii Sinbiraa[O] | L | Hu | Fibril illness | The leaf of <i>Zehneria scabra</i> is pounded, squeezed and mixed with sugar and drunk one cup /or the stem is boiled and inhaled | Oral | |
| | | | R | Hu | Sudden sicknes | Fresh root is pounded, mixed with water and drunk. | Oral | |
| | | | L | Hu | Dandruff | Fresh leaf is squeezed to make juice and creamed after hair is cut. | Dermal | |
| <i>Ziziphus spina-christi</i> [L.] Desf. | Rhamnaceae | Gaba[A] | Sh | L | Hu | Dandruff | The leaf of <i>Ziziphus spina-christi</i> is pounded, powdered, mixed with butter and then creamed. | Dermal |
| <i>Zingiber officinale</i> Roscoe | Zingiberacea e | Jinjible[A] Zinjibila[O] | H | Rh | Hu | Malaria | Rhizome of <i>Zingiber officinale</i> and bulb of <i>Allium sativum</i> are pounded together and eaten with honey. | Oral |
| | | | | | Hu | Stomach ache | Rhizome of <i>Zingiber officinale</i> together with Leaf of <i>Vernonia amygdalina</i> and bulb of <i>Allium sativum</i> are pounded and eaten with honey. | Oral |

Appendix 3: List of the medicinal plant families and corresponding number of genera and species in the study area

Table 15

| No. | Family | No. of genera | No. of plant species | No | Family | No. of genera | No. of plant species |
|-----|---------------|---------------|----------------------|----|----------------|---------------|----------------------|
| 1. | Acanthaceae | 1 | 1 | 27 | Menispermaceae | 1 | 1 |
| 2. | Alliaceae | 1 | 2 | 28 | Myrsinaceae | 2 | 2 |
| 3. | Aloaceae | 1 | 1 | 29 | Myrtaceae | 3 | 3 |
| 4. | Amaranthaceae | 1 | 1 | 30 | Oleaceae | 2 | 2 |
| 5. | Anacardiaceae | 1 | 1 | 31 | Pedaliaceae | 1 | 1 |
| 6. | Apiaceae | 1 | 1 | 32 | Phytolaccaceae | 1 | 1 |
| 7. | Apocynaceae | 1 | 1 | 33 | Pittosporaceae | 1 | 1 |
| 8. | Asparagacea | 1 | 1 | 34 | Plantaginaceae | 1 | 1 |
| 9. | Asteraceae | 6 | 7 | 35 | Polygonaceae | 1 | 3 |
| 10. | Boraginaceae | 2 | 2 | 36 | Ranunculaceae | 2 | 2 |
| 11. | Brassicaceae | 2 | 3 | 37 | Rhamnaceae | 2 | 2 |
| 12. | Cactaceae | 1 | 1 | 38 | Rosaceae | 3 | 3 |
| 13. | Caricaceae | 1 | 1 | 39 | Rubiaceae | 1 | 1 |
| 14. | Cucurbitaceae | 3 | 3 | 40 | Rutaceae | 2 | 2 |
| 15. | Cupressaceae | 2 | 2 | 41 | Salicaceae | 1 | 1 |
| 16. | Ericaceae | 1 | 1 | 42 | Santalaceae | 1 | 1 |
| 17. | Euphorbiaceae | 5 | 5 | 43 | Sapindaceae | 1 | 1 |

| | | | | | | | |
|-----|----------------|---|---|----|------------------|---|---|
| 18. | Fabaceae | 4 | 4 | 44 | Scrophulariaceae | 1 | 1 |
| 19. | Flacourtiaceae | 1 | 1 | 45 | Simaroubaceae | 1 | 1 |
| 20. | Hypericaceae | 1 | 1 | 46 | Solanaceae | 5 | 6 |
| 21. | Lamiaceae | 4 | 5 | 47 | Sterculiaceae | 1 | 1 |
| 22. | Lineaceae | 1 | 1 | 48 | Urticaceae | 2 | 2 |
| 23. | Lobeliaceae | 1 | 1 | 49 | Verbenaceae | 1 | 1 |
| 24. | Loganiaceae | 1 | 1 | 50 | Vitaceae | 1 | 1 |
| 25. | Malvaceae | 2 | 2 | 51 | Zingiberaceae | 1 | 1 |
| 26. | Meliaceae | 1 | 1 | | | | |
| | | | | | | | |

Appendix 4: List of human diseases in the study area

Table 16

| No | Disease treated | Total of plant species used | Total percentage [%] |
|-----|---|-----------------------------|----------------------|
| 1. | Wound | 25 | 26.88 |
| 2. | Malaria | 14 | 15.05 |
| 3. | Stomach-ache | 13 | 13.97 |
| 4. | Body swelling and Evil eye | 10 | 10.75 |
| 5. | Tonsillitis | 9 | 9.68 |
| 6. | Fibril illness, Scabies[itches] and Skin rash | 7 | 7.52 |
| 7. | Cough,dandruff, diarrhea and headache | 6 | 6.45 |
| 8. | Eye disease ,gonorrhea ,intestinal parasites and tape worm | 5 | 5.38 |
| 9. | Snake bite | 4 | 4.30 |
| 10. | Amoeba,bone fracture, fire burn, hypertension, impotency, rabies,skin cut, sudden sickness and toothache | 3 | 3.22 |
| 11. | Asthma, cancer ,heart disease, hemorrhoids ,nasal bleeding, pneumonia, ring worms ,urination problem and vomit | 2 | 2.15 |
| 12. | Abortion[To stop pregnancy],back pain, bilharzia, ear defect, goiter,infertility, retained placenta and syphilis | 1 | 1.07 |

Appendix 5: List of livestock diseases in the study area

Table 17

| No. | Disease treated | Local name[Afaan oromoo] | No. of plant species used | Percent [%] |
|-----|---|---|---------------------------|-------------|
| 1 | Bloating | Dhitahuu garraa | 10 | 10.75 |
| 2 | Anthrax and Leech | Abasanga Alekit | 6 | 6.45 |
| 4 | Ectoparasite [lice] | Ye wech tegegna | 5 | 5.38 |
| 5 | Rabies | Dhukkubaa sarre | 3 | 3.22 |
| 6 | Erythroblasts, horse disease, retained placenta , cocoidiosis | Machangaf ,Dhukkuba fardaa,yengdelej sizegey and Dhukubaa indaqoo | 2 | 2.15 |
| 7 | Blackleg ,horse itch,pasturolosis and eye disease | Abagorba, Epizootic lymphagities,Gororsa, Aynebesheta | 1 | 1.07 |

Appendix 6: Some of the cultivated and wild grown medicinal plants widely traded in the market for different uses in addition to medicinal values in Wonch district.

Table 18

| No | Scientific Name of the medicinal plant | Local name[Afan oromo] | Used for |
|-----|--|------------------------|--------------------------------------|
| 1. | Allium cepa | Shinkurt dimma | Spice, food |
| 2. | Allium sativum | Nech shinkurt | Spice,food |
| 3. | Artemisia abyssinica | Harit | spice |
| 4. | Brassica carinata | Gomenzer | food |
| 5. | Brassica nigra | Senafich | food |
| 6. | Capsicum annum | Berbere | food |
| 7. | Carica papaya | Papaya | food |
| 8. | Citrus limon | Lomi | Food, |
| 9. | Coffea Arabica | Buna | stimulant |
| 10. | Cordia africana | Wanza | Timber,live fence, fire wood |
| 11. | Coriandrum sativum | Denbelal | Food |
| 12. | Croton macrostchyus | Bakanisaa[bisana] | Fire wood, |
| 13. | Cucurbita pepo | Duba | Food |
| 14. | Echinops kebericho | Kerebicho | Smell |
| 15. | Eucalyptus globulus | Bahirzaf Addii. | Construction,fire wood, live fence |
| 16. | Guizotia abyssinica | Nug | Food |
| 17. | Linum usitatissimum | Telba | Food |
| 18. | Lepidium sativum | Feto | Food |
| 19. | Nigella sativa | Tikur azmud | Food |
| 20. | Ocimum basilicum | Zikakibe | Spice |
| 21. | Olea europaea L. subsp. cuspidata | Weyra | Fire wood,construction, farming tool |
| 22. | Otostegia integrifolia | Tunjit | Fumigate |
| 23. | Prunus persica | Kok | Food |
| 24. | Rhamnus prinoides | Gesho | Bevarage |
| 25. | Ruta chalepensis | Tenadam | Spice |
| 26. | Schinus molle | Kundo berbere | Spice |
| 27. | Sesamum indicum | Seli | Food |
| 28. | Trigonella foenum-Graecum | [Sunqoo]Abish | Food |
| 29. | Thymus schimperi | Tosign | Stimulant |
| 30. | Zingiber officinale | Jinjiblaa | Spice |