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1. INTRODUCTION

Ethnobotany is a broad term referring to the study of direct interrelations between humans and plants. The world health organization (WHO) (2001) defined traditional medicine as the total combination of knowledge and practices that can be formally explained or used in prevention and elimination of physical, mental or social imbalance and relying exclusively on practical experience and observation handed down from generation to generation, whether verbally or in writing. According to Fassil (2001),
about 75-90% of the rural population in the world (excluding western countries) relies on traditional medicines as their only health care system. This is not only because of poverty where people cannot afford to buy expensive modern drugs, but traditional systems are also more culturally acceptable and meet the psychological needs in a way modern medicine does not.

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 (Jansen, 1981). Their 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 (WHO, 1998). 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 (Asfaw et al., 1999). The secret of information retained by traditional healers is relatively less susceptible to distortion but less accessible to the public.

2. LITERATURE REVIEW

2.1. Traditional Medicinal Plants in Ethiopia

The various climatic and topographic conditions of the country contributed to a rich biological diversity. Ethiopia is believed to be home for about 6,000 species of higher plants with approximately 10% endemism (Vivero et al., 2006). Similarly as it was reported by IBC (2005), the flora of Ethiopia consists of an estimated number of 6000 species of higher plants with 10-12% endemism. Medicinal plants species are also part of those many plant species of the country. Like all other parts of the world, plants are used as a source of medicine in Ethiopia.

According to Dawit (1986), 95% of traditional medicinal preparations are of plant origin. Ethiopia is also a country with many languages, beliefs and highly diversified culture. This diversification contributes to the people of the different localities of the country to develop their own specific knowledge of plant resource uses, management and conservation (Pankhurst, 1990). Ethiopia has a long history of using traditional medicines from plants and has developed ways to combat diseases through it (Asfaw et al., 1999). Although a significant number of people in Ethiopian societies use traditional medicinal plants for their primary health care. Much of the earliest knowledge was not written down due to the secrete kept by priest and other knowledgeable persons, as a source of power since ancient times (Mirutse et al., 2003). It is not easy to get traditional medicinal knowledge of the healers because they claim that the knowledge is their own and wanted to transfer their knowledge only to a person they want to pass, mostly to the eldest son. This becomes practical when they approach death (Jansen, 1981).

2.2. Integration of Traditional Medicines with Modern Medicines

In Ethiopia health care coverage, management of disease and disorders is believed to be improved by the integration of modern and traditional medicines. According to Kebu et al. (2004), the adaptability base for the development of modern drugs is facilitated by keeping the efficacy, and quality of traditional medicines. This promotes its integration to the modern health system of the country.

Integration in this case is an increase of health coverage through collaboration, communication, harmonization of the modern system with that of the traditional one while ensuring intellectual property, right and protection of traditional medicinal knowledge. Integration of the two systems is believed to be crucial due to the fact that people with different cultures, beliefs and locality have their own unique knowledge of traditional medicines and this helps for the development of modern health system (Bekele, 2004).
2.3. Status of Medicinal Plants in Ethiopia

About eighty percent of Ethiopia depends on medicinal plants for primary health care. Although the contribution of medicinal plant species to modern health system and the poor society who live mainly in the rural area is very high, lack of detailed descriptions of the medicinal plants has made it difficult for the researchers to decide the identity of these plants universally with the only reference being the local names of the plants and there is very little attention in modern research and development and the effort made to upgrade is not satisfactory. One of the reasons is that the traditional medicinal plant species are not well described (Mesfin and Sebsebe, 1992).

According to Sebsebe and Ermias (2001), when research is conducted on the medicinal plant species, it must target on the fact that the providers of the indigenous knowledge should get a fair share on the benefits of the development of medicines. According to Tesfaye Awas (2007), detailed information on medicinal plants of Ethiopia could only be obtained when studies are under taken in various parts of the country where little or no botanical and ethnobotanical studies have been conducted.

Scientific research on medicinal plants provides additional evidence to the present knowledge of medicinal plants which has been handed down from generation to generation (WHO 1998). As it has already been stated by Cunningham (1993) and Alexiades (1996), it is better to involve traditionally medical practitioners in pharmaceutical companies. The modern health professionals and some of the consumers ask for scientific based evidence. This encourages for better and more research work. According to Kannon (2004), research on medicinal plants should direct for quality control and the research should examine active herbal constitute for efficacy and toxicity of the herbs.

2.4. The Role of Medicinal Plants and Practitioners

2.4.1. Traditional medical practitioners

WHO (1978) defines traditional practitioner as a person who is recognized by the community in which he/she lives as a component to provide health care by using plant, animal and mineral substances who serve as a nurse, physician, dentist, pharmacist, midwife, dispenser, etc; and those knowledgeable people include bone setters, birth attendants, tooth extract, herbalists and spiritual healers. It is noted that cooperation and negotiation of the modern health professionals and the traditional health practitioners is crucial especially for those people who have no adequate access for modern health facilities (Jansen, 1981).

In Ethiopia, the traditional healers are generally highly regarded for their valuable knowledge regarding therapeutic properties of plants. The high numbers of developing countries consult the professional traditional healers for most of their health problems (Dawit and Ahadu, 1993). Traditional medical practitioners are valuable health resources in communities where the health facility is underserved. They are important and influential member of their communities. This is fundamental to the primary health approach.

2.4.2. Medicinal plants and human health care

Traditional medicine is the sum total of knowledge and practices, whether applicable or not, used in diagnosis, prevention and elimination of physical, mental or social imbalance and relying exclusively on practical experience and observation handed down from generation to generation whether verbally or in writing (WHO, 1978). It is said that the use of medicinal plant species as a medicine is as old as man and this makes traditional medicine an integral part of the different cultures of Ethiopian people who are especially vulnerable to underserved health facilities.

It was reported that the traditional medicines serve mainly for those people living in the rural area as they have no access to modern medical health services due to shortage of modern drugs, health professionals, much more cost of the medicines, uneven distribution that is most of the facilities are found in towns but a few or no health facilities are in rural areas (Jansen, 1981). Despite the high value of
traditional medicine to Ethiopia societies especially to rural communities, the plant species along with the associated knowledge is lost due to factors such as deforestation and expansion of modern education (Pankhurst, 2001).

2.5. Transfer of Knowledge of Traditional Health Practitioners

In many counties one of which is Ethiopia, the use of traditional healing systems has evolved over a long period of time and the knowledge of selection of plant species for their medicinal value is not obtained overnight but after many practices that is after a long trial and error, people distinguish plant species which have medical value. Even though people have almost equal access to those plants, a few people are lucky in having the remedial knowledge. Such persons include priests, witch doctors, expert herbalists, and the like. Those knowledgeable people don’t easily transfer their knowledge to community where they live. Instead, they want their knowledge to be secreted and the knowledge of plant remedies remained in their hands (Mirutse et al., 2003).

Poor people living in urban centers and others who have interest in using plant remedies also use them for their primarily health care. Abbink (1995) noted that 80% of people in Africa depend on traditional medicine for their health care practices. The dependence of majority of Africans including Ethiopia on traditional medicine will continue side by side with that of modern medicine due to cultural and economic factors (WHO, 1998). Similarly Dawit (2001) indicated that 80% of the population in Ethiopia use traditional medicines as their major health care system due to their accessibility, affordability and acceptability.

According to Fassil (2001); Mirtuse et al. (2003); Pankhurst, (2001) much of the earliest knowledge of plant remedies was not written down which makes the knowledge difficult to obtain easily.

People who have knowledge of plant remedies pass their knowledge to the person to whom they trust. The person who has knowledge on the identities and use of medicinal plant species transmits his expertise mostly to first born son in an incomplete way. Some of the knowledgeable people take their sons to the field and show the plants with medical value, tell the time when and the place where they are collected and the son is told not to share the skills of healing to anybody. These persons pass their knowledge when they approach death and is transferred by oral communication.

When the knowledge and skill of healing by traditional medicinal plants is passed from generation to generation, the original and valuable information passed in an incomplete fashion or even the medical healer may die without passing his knowledge of healing. In this way the traditional healing knowledge using plant, animal or mineral materials or spiritual system passes from one generation to the next. This and other facts of the nature of traditional medicines, traditional healers and the associated knowledge were also studied by different researchers including (Fikadu, 2001; Pankhurst, 1990).

2.6. Uses of Medicinal Plants Other Than Their Medicinal Values

As it has already reported, medicinal plants are used for different purposes namely, as food, charcoal, fire wood, construction, fodder, forage, ornamental, spices, etc. many medicinal plants are used as a food. For instance plants like Allium sativum (Alliaceae), Capsicum annum (Solanaceae), Carissa spinarum (Apocynaceae), Citrus limon (Rutaceae), Coffea arabica (Rubiaceae), Cordia africana (Boraginaceae), Dovyalis abyssinica (Flacourtiaaceae), Embelia schimperi (Myrsinaceae), Ensete ventricosum (Musaceae), Ficus sur (Moraceae), linum usitatissimum (linaceae), Trigonella foenumgraecum (Fabaceae), Urtica simensis (Urticaceae), Ximenia americana (Olacaceae) (Tigist et al., 2006).

The pharmacologically active constituents in plants used as food would likely have a great impact on medicinal plant species than those in plants used as medicine which are taken only in small amounts (Etkin, 1988). Other medicinal plants like Eucalyptus globulus, Prunus africana, Hagenia abyssinica, Acacia abyssinica, Allophyllus abyssinicus, Cordia africana, Juniperus procera, Millettia ferruginea, Olea europaea subsp. cuspidata and Vernonia amygdalina are used as a fire wood, constructing and charcoal.
Others like *Zingiber officinale* and *Coriandrum sativum* are used as a spice (Amare, 1976). Adding to this WHO (1998) and *traditional* medicinal plants are also used as raw materials for the manufacture of modern drugs.

2.7. Sources of Medicinal Plants

According to Frankel *et al.* (1995) medicinal plants species are grown in the natural ecosystem. Similarly, the work of Tesfaye and Sebsebe (2009) indicated that most of the medicinal plants in Ethiopia are collected from the wild, some are cultivated and some others are grown in home gardens either purposely for medicinal use or non-medical purpose. According to Zemede (1997), plant species cultivated in Ethiopian home gardens for the purpose of medicine is about 6%. This figure indicates that a large number of medicinal plant species that are used by the herbalists are collected from the natural vegetation. Local forests are sources of plant processes into therapies used in traditional medical system (Balick and Cox, 1996). The natural ecosystems of the forests, grass lands, wood lands, wet lands, field margins, contain a significant number of medicinal plants species. These are places where traditional healers and other members of the community collect medicinal plant species and use it.

2.8. Medicinal Plant Diversity and Distribution in Ethiopia

Ethiopia is a country with a great range of ecological edaphic and climatic conditions (Dawit and Ahadu, 1993; Dawit *et al.*, 2003). The number of plant species in each corner of the country and the vegetation type is also varied ranging from arid low land to Afroalpine vegetation (Abebe, 2001). Similarly, it was reported that the variation in vegetation type of the country is due to the country’s significant geographical diversity.

As it was reported by Edwards (2001), the wood lands, montane vegetation including grassland, forests and the evergreen scrubs and rocky areas contain more medicinal plants which indicated that traditional medicinal plant species are not equally distributed throughout the country similar to the distribution of the total plant species. According to this report the vegetation types found in the wood lands contain more medicinal plant species while the Afroalpine vegetation consists of the least medicinal plants of all the vegetation types (Edwards, 2001).

2.9. Threats and Conservation of Medicinal Plant Species

2.9.1. Threats to medicinal plant species

As medicinal plants are part of the total plant of the different ecosystems of the earth, they are affected by anthropogenic and natural forces. Apart from other species of plants, medicinal plant species can also be exploited for their medicinal value and leads to a serious threat to the biodiversity in the area, as a result, several plant species have been exploited to such an extent that they are seldom found in unprotected areas (Cunningham, 1991; Williams, 2004). People who have some traditional knowledge of healing in general and those professional healers in particular harvest medicinal plant mainly from the wild habitat (Tesfaye and Sebsebe, 2009).

According to Cunningham (1996); Abebe (2001) and Kebu *et al.* (2004), vegetation types where traditional medicinal plant species are collected are declined from time to time. Similar to other countries of Africa, medical plant species of Ethiopia is vulnerable to problems of continuity and sustainability primary due to loss of taxa of medicinal plants and loss of habitats (Ensermu *et al.*, 1992). The threatened factors can be elaborated as lose of cultural diversity including traditional knowledge due to, uncontrolled grazing, drought, agricultural expansion, fire wood, charcoal, urbanization and construction (Mirutse *et al.*, 2003) It has also been reported that medicinal plant species are affected by unsustainable harvesting for export and extraction of pharmaceuticals (Farnsworth, 1985; WHO, 1998). Beside to these known factors which treat medicinal plant species, other condition like the types of the medicinal plant and the part used also affect the medicinal plant.
For example harvesting the roots and barks of medicinal plant possess more of a threat than collecting leaves for medicinal value (Edwards 2001; Haile, 2005). Besides to other factor, the younger generation under estimate the traditional system of healing (Sofowara, 1982) and this is bad fortune for the advancement and the conservation of medicinal plants and associated knowledge.

2. 9.2. Conservation of Medical Plants

Conservation should be aimed at conserving maximum diversity within each species to ensure that its genetic potential will be available in the future Abebe (2001). Sustainable management of traditional medicinal plant resources is important not only because of their value as a potential source of new drugs built also due to reliance on traditional medicine for health. As it was reported by different researchers plant species with medicinal value that are harvested from the wild, especially those which are highly used either for local use or trade are not found in a nearby places rather the professional traditional healers move along distance to harvest. In contrast to this problem of scarcity, the demand and recognition for traditional medicine is increased and this is a good opportunity to the medicinal plants to conserve (Zemede, 2001). The wise use of medicinal plants species needs the involvement of different sectors and greater public support and for this, awareness creation is recommended.

As it was reported, home gardens have a great contribution to conservation of biodiversity in general and at the same time medicinal plants species can also be conserved, thus homegardens are strategies and ideal farming systems for the conservation, production, and enhancement of medicinal plants (Zemede A, 2001). Some traditional medicinal plants are collected on selective days and seasons. An account that have been made by Cunningham (1993) indicated that plant species whether medicinal or non-medicinal plants grown in religious sites like churches, mosques and the like are forbidden to be cut. Moreover, the author reported, harvesting of medicinal plants using pointed wooden digging stick than using metal axes are some of the cultural methods of medicinal plant collection and this has contribution to the conservation strategy.

In the field, medicinal plants conservation goes side by side with conservation of ethnobotanical and ethnopharmacological information. The conservation of medicinal plants is achieved through in-situ and ex-situ conservation Methods. In-situ is a type of conservation where species are conserved in their natural habitats which include the national park and reservoirs. This method is especially preferable for those species where domestication and management is difficult out of their natural and normal habitats and ecosystem (Zemede A, 2001). Ex-situ conservation is another method of conservation where endangered species are protected by removing part of them from a threatened habitat and place them in a new location which may be a wild area or within the care of humans which includes seed gene banks, field gene banks, arboreta, botanic gardens. In situ and ex-situ should be complementarily implanted in Ethiopia to conserve valuable plant species which are threatened due to natural or manmade factors (Abebe, 2001).

3. SUMMARY/ CONCLUSION

Ethnobotany is a broad term referring to the study of direct interrelations between humans and plants. The world health organization defined traditional medicine as the total combination of knowledge and practices that can be formally explained or used in prevention and elimination of physical, mental or social imbalance and relying exclusively on practical experience and observation handed down from generation to generation, whether verbally or in writing.

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since ancient times (Mirutse et al., 2003). In Ethiopia health care coverage, management of disease and disorders is believed to be improved by the integration of modern and traditional medicines.

About eighty percent of Ethiopia depends on medicinal plants for primary health care. Although the contribution of medicinal plant species to modern health system and the poor society who live mainly in the rural area is very high, lack of detailed descriptions of the medicinal plants has made it difficult for the researchers to decide the identity of these plants universally with the only reference being the local names of the plants and there is very little attention in modern research and development and the effort made to upgrade is not satisfactory.

Generally Ethnobotany investigates the relationship between human societies and plants: how humans use plants as food, medicine, technology, and in ritual; how they view and understand them; and their symbolic and spiritual role in a culture.

4. REFERENCES


