

ETHNO-MEDICINAL USES OF PLANTS IN PUTALI BAZAR MUNICIPALITY OF SYANGJA DISTRICT, NEPAL

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ABSTRACT

In the several rural areas of Nepal, due to lack of modern health facilities, people still rely on traditional medicine practice. This present research seeks to explore the information of medicinal plants used by the people of Putalibazar municipality of Syangja district. In total of 108 plants species belonging to 100 genera and 60 families were recorded as ethno medicinal plants of Putalibazar Municipality. In which dominant families were Poaceae, Fabaceae, Moraceae, Asteraceae, Lamiaceae, and Euphorbiaceae respectively with 7, 6, 5, 5 and 4 genera. On the basis of their habit, the plants species were climbers 7 spp. (6.48%), herbs 48 spp. (44.44%), shrubs 24 spp. (21.82%) and trees 29 spp. (26.85%). Some of the useful species are under the serious threat due to unsustainable activities. Hence, a proper documentation of useful plants with their present status and local traditional knowledge as well as practices is urgently needed. Effort should also be initiated to implement appropriate conservation measures for preservation and sustainable uses of these useful plants.

Key words: Conservation, disease, ethno-medicine, traditional medicine.

INTRODUCTION

Nepal is the natural botanical garden of floristic biodiversity in the world, because of its geographical, ecological, altitudinal and climatic variations. Despite being small country on the basis of land area, Nepal is fully rich on the basis of bio-diversity with no doubt. The country is the shelter to a large number of medicinal plants which are used as major source of treatment for different kinds of diseases, mainly in rural areas where allopathic treatment is lacking. It has been estimated that approximately 80% of the developing world rely on traditional medicine and 85% of the traditional medicines contain plants and their extract (Sheldon *et al.*, 1997).

In Nepal about 70-80% of population in mountain region depends on the traditional medicines for health care (Manandhar, 1980) and in spite of wide spread use of allopathic

medicine, more than 80% of the rural Nepalese people rely on traditional remedies that involve the use of local plants in various forms and combinations (Rajbhandari and Bajracharya, 1994).

Nepal is a multiethnic and multilingual country and has about 130 different ethnic groups speaking about 120 languages (CBS, 2013). In Nepal, about 80% of the people, mainly of the rural communities, depend on herbal plants as medicine for their primary health care (Ghimire *et al.*, 2000).

Recently updated database revealed a total of 1950 species of medicinal plants used in Nepal and out of which 1906 species are identified under vascular group, comprising 1614 native, 192 introduced or cultivated and 100 naturalized taxa (Ghimire, 2008). According to Bhattarai and Ghimire (2006), 49% of traditional

medicinal plants are herbs, 29% trees, 14% shrubs and 9% climbers. In Nepal, it is reported that traditional healers use 1792 plant species as medicine (Baral and Kurmi, 2006). During the last few decades, there has been an increasing interest in the study of the medicinal plants and their traditional use in different part of the world (Lev, 2006). Documenting the indigenous knowledge through ethno-botanical studies is important for the conservation and utilization of biological resources, and also for future references (Sen, 1993).

In Nepal, because of the rural nature of the country, modern health services and other organized systems of traditional medicine are not available to the bulk of the population. Indigenous knowledge about the use of plants as medicine remains the foundation of primary healthcare in most of the remote parts of Nepal. The majority of Nepal's population rely on traditional herbal therapy as it is cheap, convenient and readily available (Manandhar, 2002). Traditional botanical knowledge of the indigenous communities relating to uses and management of wild plant resources is extensive (Cotton, 1997).

MATERIALS AND METHODS

Study area

The study was conducted in Putalibazar Municipality, Syangja. Putalibazar is the biggest municipality in Syangja district. It was established on 2054 B.S. by merging the five village development committees i.e. Putlikhet, Karendada, Chandikalika, Satupasal and Ganeshpur. It covers an area 146.21 km². It consists mainly the hills and small plateau. The area has a temperate monsoon climate with four different seasons; winter, spring, summer and monsoon.

The present study was conducted over a period of a year between 2016 and 2017.

Method of selecting information depends on the distribution of local people having folk knowledge. Generally, elderly people were given top priority. They were requested to collect specimen of the plants species on site. Those informants were traditional healers themselves or had tradition of healing in their families and had knowledge of the medicinal use of plants. The wealth of medicinal plant knowledge among the people of this area is based on beliefs and observations. The ethno medicinal data were collected through interviews with traditional healers, and observation of plant specimens.

Results and Discussion

During the field survey, ethno-medicinal information of 60 plant families belonging to 100 genera and 108 species were identified. Plant species which are used in traditional medicine are enumerated with their botanical name followed by local name, family and the use of plants parts in the treatment of various diseases. In the present investigation, all the medicinal plants were identified and their number of families (60), genus (98) and species (110) were identified. (Table 1)

Altogether 108 species of medicinal plants, which were identified on the basis of their habit. Among them 44.44% were herbs, 22.23% shrubs, 26.85% trees and 6.48% climbers. Different parts of the medicinal plant used by the people of this area are bark, bud, flower, fruit, latex/ gum, leaves, rhizome, root, seed and whole plant.

Among these parts used for the preparation of medicine, roots of 26 species of plant were found to be most frequently used followed by all part of the plant. i.e. leaves (23 species), buds (19 species), whole plant (13 species), fruit (13 species), seed (10 species), bark (9 species), rhizome (8 species), flower (8 species), latex (6 species) and stem (5 species) of plants.

In the present ethno-medico-botanical survey,

a total of 108 species under 98 genera of 60 families which are used for the treatment of different diseases were documented. Similar findings were reported by Manandhar (1980). The recorded ethno-medicinal plants were used in treatment of various diseases such as cuts and wounds, skin diseases, fever, catarrh, boils, burns, scabies, dogs and insect bites, ringworm, ulcers, allergy, pimples, leukoderma, cholera, diarrhea, dysentery, headache, gastritis etc. Majority of the plants species described in the present investigation frequently used by the people of this area are *Tinospora cordifolia*, *Centella asiatica*, *Eclipta prostrata*, *Mimosa pudica*, *Ocimum sanctum*, *Bahunia purpurea*, *Magnifera indica*, *Azadiracta indica*, *Aloe vera*, *Acorus calamus* and *Zingiber officinale*. Similar findings were reported by

In the present investigation, the dominated families of the medicinal plants on the basis of their uses are Poaceae (7 spp.), followed by Fabaceae (6 spp.), Moraceae (5 spp.) and

Compositae, Euphorbiaceae and Lamiaceae 4 species each. The frequently used plants part for medicinal values, used in present study is root (26 spp.), followed by leaves (23 species), buds (19 species), whole part (13 species), fruit (13 species), seed (10 species), bark (9 species), rhizome (8 species), flower (8 species), latex (6 species) and stem (5 species) of plants. Among the recorded species, herbs (44.55%) were found to be dominating over trees (27.27%), shrubs (21.82%) and 6.36% climbers. The present study emphasized that there is a profound and growing knowledge gap between old and younger generation. People of more than 50 years' age know a lot about wild plant product as compared to younger generation. Our society is changing gradually and their economic status also changing. Government has established some healthcare centre in the rural area. This may gradually change the existing pattern of indigenous knowledge system of healthcare

Table 1: Enumerated list of medicinal plants

Botanical Name	Common name	Family	Parts used
<i>Abelmoschus esculantus</i> (Linnaceus) Moench	Vindi	Malvaceae	Whole plant
<i>Abies spectabilis</i> (D.Don) Mirbel	Salla	Pinaceae	Leaves
<i>Achyranthus aspera</i> L.	Datiwan	Amaranthaceae	Root, stem
<i>Acorus calamus</i> Linn.	Bojho	Araceae	Rhizome
<i>Adhatoda vasica</i> Nees.	Asuro	Acanthaceae	Root, bud
<i>Aegle marmelos</i> (L.) Corr	Bel	Rutaceae	Fruit
<i>Agave cantala</i> (Roxburgh.ex.Salmodyck)	Ketuki	Agavaceae	Root, leaves
<i>Ageratum houstonianum</i> Miller.	Nilo gandhe	Compositae	Leaves
<i>Allium cepa</i> L.	Pyazz	Amaryllidaceae	Rhizome
<i>Aloe vera</i> (L.) Burm.F.	Gheukumari	Asphodelaceae	Whole plant
<i>Amaranthus viridis</i> L.	Seto lunde	Amaranthaceae	Leaves
<i>Amomum aromaticum</i> Roxb.	Alainchi	Typhaceae	Seed
<i>Ananas comosus</i> (L.) Merr.	Darae	Bromilaceae	Fruit, leaves
<i>Artemisia capillaris</i> thumb.	Tite pati	Compositae	Leaves
<i>Artocarpus heterophyllus</i> Lamark.	Rukh katahar	Moraceae	Root, latex, seed

<i>Artocarpus lakoocha</i> Wallich. Ex.Roxburghii	Badahar	Moraceae	Bark
<i>Asparagus racemosus</i> Willd.	Kurilo	Asparagaceae	Root
<i>Aspidium caryotideum</i> Wall.ex. Hook .andGrev	Kali neuro	Dryopteridaceae	Leaves
<i>Azadiracta indica</i> A. Juss.	Neem	Meliaceae	Leaves
<i>Bahunia purpurea</i> L.	Taki	Fabaceae	Root, flower
<i>Berberis aristata</i> DC.	Chutro	Berberidaceae	Root, bark
<i>Butea monosperma</i> Lam. Taub	Palash	Fabaceae	Latex, flower
<i>Cajanas cajan</i> (L.) mill.sp	Arhar	Fabaceae	Bud
<i>Callicarpa macrophylla</i> vahl.	Daedalo	Verbenaceae	Root, fruit
<i>Calotropis gigantia</i> (L.) W.T.Aiton	Aank	Asclepiadaceae	Latex, leaves
<i>Cannabis sativa</i> L.	Ganja	Cannabaceae	Leaves
<i>Capsicum annum</i> L.	Akabare khursani	Solanaceae	Fruit
<i>Carica papaya</i> L.	Mewa	Caricaceae	Latex
<i>Cassia tora</i> L.	Tapre	Fabaceae	Seed
<i>Castanopsis indica</i> Roxb. Ex. Lindl.	Kadus	Fagaceae	Bud
<i>Catharanthus roseus</i> (L.) G Don,1837	Sadabahar	Apocynaceae	Bud
<i>Celosia argentea</i> L.	Sahasra jari	Amaranthaceae	Root
<i>Centella asiatica</i> (L.)	Ghodtapre	Umbelliferae	Whole plant
<i>Chenopodium album</i> L.	Bethe	Chenopodiaceae	Flower, leaves
<i>Choerospondias axillaris</i> (Roxb.) B.L. Burtt. and A.W. Hill.	Lapsi	Anacardiaceae	Fruit
<i>Cinnamomum tamala</i> Nees and Eberm.	Tejpaat	Lauraceae	Leaves , bark
<i>Circium arvense</i> (L.) Scop.	Thakailo	Asteraceae	Bud
<i>Cissampelos pareira</i> L.	Gudargano	Menispermaceae	Rhizome
<i>Citrus aurantifolia</i> (Christm.) Swingle	Kagati	Rutaceae	Fruit
<i>Cleistocalyx operculatus</i> (Roxburgh). Murrey and Perry.	Kyamuno	Myrtaceae	Bark, leaves
<i>Coffea arabica</i> L.	Kafi	Rubiaceae	Seed
<i>Colocasia esculenta</i> (L.) Schott	Gaabha	Araceae	Root
<i>Colocasia fallax</i> Schott	Jaluko	Araceae	Bud
<i>Crateva religiosa</i> Forst. F	Siplikan	Capperaceae	Bud
<i>Curculigo orchiodes</i> Geertn.	Kalo musli	Hypoxidaceae	Root
<i>Curcuma caesia</i> Roxb	Kalo haledo	Zinziperaceae	Rhizome
<i>Cuscuta europaea</i> L.	Aakashbeli lahara	Convolvulaceae	Whole plant
<i>Cynodon dactylon</i> (L.) Pers.	Dubo	Poaceae	Whole plant

<i>Dendrocalamus hemiltonii</i> Gamble	Baans	Poaceae	Young stem
<i>Desmostachya bipinnata</i> (L.) Stapf.	Kush	Poaceae	Root
<i>Drymaria cordata</i> L. Willd. ex. R and S	Avijalo	Caryophyllaceae	Whole plant
<i>Drynaria propinqua</i> (wall.exmett) J. Smith	B a n g a d i (kammari)	Polypodiaceae	Rhizome
<i>Eclipta prostrata</i> (L.) L.	Bhringe jhar	Compositae	Whole plant
<i>Elaeocarpus ganitrus</i> Roxb.ex.G.Don	Rudrakxya	Tiliaceae	Seed
<i>Euphorbia pulcherrima</i> Willd. Ex.klotzsch	Lalupate	Euphorbiaceae	Latex, leaves
<i>Euphorbia royleana</i> Boiss.	Siudi	Euphorbiaceae	Latex
<i>Ficus racemosa</i> L.	Dumri	Moraceae	Bark
<i>Ficus religiosa</i> L.	Pipal	Moraceae	Bud
<i>Fritillaria cirrhosa</i> D.Don	Ban lasun	Liliaceae	Rhizome
<i>Glycin max</i> (L.) Merr	Bhatmas	Fabaceae	Seed
<i>Gossypium arboretum</i> L.	Kapaas	Malvaceae	Seed, root
<i>Hibiscus rosa-sinensis</i> L.	Ghantiphool	Malvaceae	Leaves, flowers
<i>Imperata cylindrica</i> L.	Siru	Poaceae	Root
<i>Jatropha curcus</i> L.	Sajiwan	Euphorbiaceae	Root, stem
<i>Juniperus indica</i> . Bertol	Dhupi	Cupressaceae	Wood, seed
<i>Leersia hexandra</i> Sw.	Karante jhar	Poaceae	Whole plant
<i>Lyonia ovalifolia</i> (Wall.) Drude	Angeri	Ericaceae	Bud
<i>Magnifera indica</i> L.	Aanp	Anacardiaceae	Bark
<i>Mentha longifolia</i> L. Huds.	Vicks	Lamiaceae	Leaves, bud
<i>Mentha piperita</i> L.	Pudina	Lamiaceae	Whole plant
<i>Mimosa pudica</i> L.	Lajjawati	Fabaceae	Bud
<i>Mirabilis jalapa</i> L.	Malati phool	Nyctaginaceae	Root
<i>Morus australis</i> Poir.	Kew kaphal	Moraceae	Leaves, root
<i>Muklia scabrella</i> (L.f) Arn.	Golkakri	Cucurbitaceae	Root, leaves
<i>Musa paradisiaca</i> L.	Kera	Musaceae	Root, stem, leaves
<i>Mussaendra roxburghii</i> L.	Dhobini	Rubiaceae	Bud , root
<i>Nephrolepis cordifolia</i> (L.) K. Persl.	Pani amala	Nephrolepidaceae	Root
<i>Nyctanthes arbor-tristis</i> L.	Parijat	Oleaceae	Leaves
<i>Ocimum sanctum</i> L.	Tulsi	Lamiaceae	Leaves
<i>Oroxylum indicum</i> (L.) Benth. Ex Kurz	Tatelo	Bignoniaceae	Seed, root
<i>Oxalis corniculata</i> L.	Chariamilo	Oxalidiaceae	Whole plant
<i>Phyllanthus emblica</i> L.	Amala	Euphorbiaceae	Fruit

<i>Piper longum</i> Linn.	Pipla	Piperaceae	Fruits
<i>Pityrogramma calomelanas</i> (L.) link.	Kali sinki (dankerno)	Pteridaceae	Leaves
<i>Pogostemon amarantoides</i> Benth.	Rudilo	Lamiacea	Bud
<i>Prunus persica</i> (L.) Batsch	Aaru	Rosaceae	Bark, fruit
<i>Psidium guajava</i> L.	Belauti	Myrtaceae	Bud
<i>Rhaphidophora glauca</i> (wall.) Schott.	Haddijor	Araceae	Whole plant
<i>Rhododendron arboretum</i> smith.	Laligurans	Ericaceae	Bud, flower, bark
<i>Rhus insignis</i> Hook. F	Bhalayo	Anacardiaceae	Fruit
<i>Rosa alba</i> L.	Gulaaf	Rosaceae	Flower
<i>Rubus ellipticus</i> sm.	Aenselu	Rosaceae	Bud
<i>Saccharum arundianacum</i> Retz.	Ukhu	Poaceae	Roots
<i>Schefflers venulosa</i> Harms	Kursimlo	Araliaceae	Bark
<i>Solanum nigrum</i> L.	Kaligedi	Solanaceae	Fruit
<i>Solanum xanthocarpum</i> L.	Kanthakari	Solanaceae	Whole plant
<i>Stephania elegans</i> .Hook.F andThoms	Batulpate	Menispermiceae	Rhizome
<i>Tegetes erecta</i> L.	Sayapatri	Compositae	Flower, leaves
<i>Terminalia belerica</i> Roxb.	Barro	Combretaceae	Fruit,bark
<i>Terminalia chebula</i> Retz.	Harro	Combretaceae	Fruit
<i>Thysanolaena latifolia</i> (Roxb.ex.Hornem.) Honda	Amriso	Poaceae	Root
<i>Tinospora cordifolia</i> (Thunb.) Miers	Gurjo	Menispermaceae	Whole plant
<i>Urtica dioica</i> L.	Sisnu	Urticaceae	Bud
<i>Vitex negundo</i> L.	Simali	Verbenaceae	Leaves
<i>Woodfordia fruticos</i> (L.) Kurz.	Dhaero	Lythraceae	Bud, flower
<i>Zanthoxylum armatum</i> DC.	Timur	Rutaceae	Seed
<i>Zingiber officinale</i> Rose.	Adhuwa	Zinziberaceae	Rhizome
<i>Zizypus jujube</i> Mill.	Bayer	Rhamnaceae	Root

Conclusions

Most of the inhabitants of Putali Bazar Municipality areas still practice traditional knowledge of medicinal plants. This reveals that the local people possesses good knowledge of herbal medicine but as people are going on modernization their knowledge of traditional uses of the plants may be lost in due course. So,

it is important to study and keep records of the uses of plants by different tribes for studies on scientific basis and this traditional knowledge have to pass from generation to generation for the future preservation.

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