

# Ethnobotanical notes on flora of Khaptad National Park (KNP), far-western Nepal

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The complex geomorphology, climatic variations and vegetation have made Khaptad National Park (KNP) flourish with diverse flora, which, in turn, has made a treasure home for luxuriant growth of plant resources especially medicinal herbs. This paper aims at highlighting the ethnobotanical account of wild plants, their traditional utilization, chiefly as medicine, food supplements and other economic uses in KNP. Personnel interviews and group discussions with local inhabitants (local healers, traders, women and experienced and aged persons) were consulted for seeking information on local uses of plants, which was further authenticated by crosschecking. Different sites were accessed along altitudinal gradient from Silgadhi to Chhodipatan comprising 1400-3250 masl. Altogether 211 plants species comprising 188 genera belonging to 88 families were recorded. Among them, 81 species were used by local people for various domestic purposes. It has been found that 51 species of them were used for medicinal purposes, 11 species as vegetables, 6 species for ornamental purposes, 18 species for construction, furniture and making agricultural implements and 10 species for miscellaneous purposes. This wide ethnobotanical uses, diverse ecology and its great natural beauty deserve the attraction for researchers, tourists and other people. However, at present, the rich wild flora of KNP is under threat due to habitat destruction, overexploitation, and gradually declining traditional ethnobotanical knowledge, indicating an urgent need for conservation.

**Key words:** Ethnobotanical study, Khaptad, cross-checking, folk name, *Patan* or *Kharka*

## Introduction

Nepal, a small Himalayan kingdom nestled in between two large countries India and China, is a repository of wild flora and fauna. It harbors 2.2% of world's flowering plants while it shares only 0.1% of the total land area of the world. It has a natural gift of over 7,000 species of higher plants out of which over 800 species of medicinal herbs used in tradition medicinal practice, about 100 species for fodder, 70 for fibre and 450 species for food (Manandhar 1995). Recent literature has reported a far higher number (1463 species) of medicinal plants (Tiwari 1999) which represents about 20% of the total country's flora, including 250 indigenous species. This is largely due to diverse topography, climate, altitude and edaphic factors. The country has a rich tradition of folk practices for utilization of wild plants. People have used plants, particularly wild plants for treating disease since time immemorial and they are still doing so. Especially wild plants play an important role in food security and as an income-generating source for the rural community. About 70-80% rural population in the mountainous and hill region depend on traditional medicine for health care (Manandhar 1980). About 100 species are currently exploited for commercial uses (Karki 1999). In fact, in the mountainous region traditional exploitation of plants has its root in the remote past. Thus, the useful plants

are now found growing sporadically in forests as well as in village groves. But due to lack of organized and scientific cultivation, proper management and their sustainability, and awareness of social factors, the number of these plants are decreasing at an alarming rate.

Indigenous knowledge is defined as "cumulative body of knowledge and belief handed down through generations by cultural transmission about the relationship of livings (including humans) with one another and their environment" (Berks 1999). According to Rao (1996), tribal people and forest dwellers throughout the world are the true conservators of forest and indigenous cultures. However, due to changing perception of the forest dwellers, commercialization and socio-economic transformation all over the world, there has been a general observation that the indigenous knowledge on resource use has degraded severely (Gadgil *et al.* 1993; Silori and Rana 2000). Recognizing these facts, although lately, efforts have been made in Nepal to document such knowledge that has accumulated through a long series of observation, interactions and practices with and of local people (primary consumers of forest resources) and thus contains important information relevant to sustainable use of resources.

There are very few scientific researches in Khaptad National Park (KNP). Information on the ethnobotanical plants of the area is lacking and work related to useful plants and ethnic groups, cultures etc. hasn't been conducted so far. Hence, an attempt has been made to collect ethnobotanical information

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and document the indigenous knowledge on useful plants with their habitats and uses by the local communities inhabiting KNP and emphasis has been given to highlighting the account of wild plants, their traditional utilization, chiefly as domestic treatment, food supplements and other economic uses which can contribute to some extent.

### Study area

The KNP covers an area of 225 sq. km. and includes vertically distributed ecozones ranging from about 1,000 to 3,276 masl. Still most of its part is unexplored and it is often considered as the naturalist's paradise. The beauty of this park is that it can all be physically traversed and experienced within a short period of time and it can boast of nature, science and religion, all three combined into one (Kunwar 2000). It was established in 1984 and gazetted in 1986 on the advice of the religious remarkable Hindu holy man, Khaptad Baba. He contributed a lot to the promotion and conservation of local culture, civilization, history and biodiversity.

KNP is characterised with very diverse ecology and richness in flora and fauna. It reveals a remarkable fecundity and plentitude of dense ambient forests of *Shorea*, *Pinus* and *Alnus* in subtropical zone; *Quercus* sp., *Aesculus* sp., *Daphniphyllum* sp., *Abies* sp., *Picea* sp. in temperate zone and *Quercus* sp., *Taxus* sp., *Betula* sp., etc. in subalpine zone (HMG 1999). Subalpine meadow, locally called *Patan* or *Kharka*, is the main attraction of this area (Chaudhary 1998). It is endowed with great natural beauty and sprawling plateaus with green grassland, carpet of flowers full of medicinal herbs and teeming with wide varieties of flora and fauna and used by local inhabitants for their sustenance (Duwadee and Kunwar 2001). Rural livelihood rely on their surrounding forests for almost everything. About 42% of the total digestible nutrient to cattle is obtained from the forests (MOPE 1998). Forest products continue to be items of daily requirement of the ordinary people (Dhungana 1999).

The people of Khaptad are heterogeneous, most of them speaking Nepali (Doteli and Khas). Ethnic and so called lower cast people such as Chhetri, Khas, Thakuri, Kami, Sarki etc are major groups in the periphery of the National Park mainly being involved in agriculture, livestock grazing and animal husbandry. They always do their work (cleaning and maintenance of cowshed) in the morning and go for collection of forest products in the day time. They are still using a number of plants growing in the surrounding forests to cure their common ailments and to fulfill their subsistence needs. Rural people residing in the vicinity are greatly relying upon the forest resources. They are engaged in collecting medicinal herbs and raw food items as part of their traditional ventures. Though it is potential in natural resources, the socio-economic condition of nearby villagers is not so good which may be due to lack of the knowledge about proper management of natural resources (Kunwar *et al.* 2000).

### Materials and methods

The complex and sprawling landscape, vegetation and climate have made KNP flourish with diverse flora, which, in turn, has made a treasure home for luxuriantly growing socio-economically important species. Almost the entire population

makes it's living through agriculture. Wild plants mostly supplement their food and agricultural implements. Local people have their own traditional systems of using plants to meet their day-to-day requirements. Among the most basic skills in ethnobotany is plant collecting.

Ethnobotanical notes of wild plants being used by rural inhabitants were taken in trips, observations and collections during June and July 2000. Different sites were accessed across the altitudinal gradient from Silgadhi to Khaptad (Chhodipatan) comprising 1,400–3,250 masl. Collections are valuable because they serve as voucher specimens, records of the plants that are known by community and function as specimens for systematic identification (Martin 1995). A voucher specimen facilitates the identification of species encountered during research and permits colleagues to review the results of the study (Hunn 1992). Personnel interviews and group discussion with local inhabitants revealed some very valuable and specific information about the uses of plants. Local healers and experienced and aged persons were consulted for seeking information on local uses of plants, which was further authenticated by cross-checking. In addition to cross-checking and recording folk names of plants through collecting voucher specimens, it is important to cross-check information with different people and compare the results from different methods (Cunningham 2001).

Interviews with people out of the village, in fields, pastures or forests were conducted on a systematic basis to know more details about species, their management and distribution. The plants were identified comparing with authentic specimens at Tribhuvan University Central Herbarium (TUCH), Central Department of Botany, TU and National Herbarium Godavari (DPR, HMG/N). The consulted literatures during field time for identification of species were Stainton and Pollunig (1984), Stainton (1988), Haines (1961), Hara *et al.* (1978), Hara and Williams (1979), Hara *et al.* (1982) and for ethnobotanical knowledge were Rajbhandari (2001) and Joshi and Joshi (2001).

Ethnobotany has been practiced since 1895, though definitions and scope has changed since then. Current definitions still vary greatly, but in effect, it is about the study of local people's knowledge and relationships with plants (Wong *et al.* 2001). Ethnobotanical studies have been carried out by different contributors at different places of Nepal, important among them are Sacherer (1979), Manandhar (1980, 1995, 1996), Shrestha (1987), Bhattarai (1989, 1992, 1993), Joshi and Edington (1990), Joshi (1991), Siwakoti and Siwakoti (1998), Bhatta (1999), Parajuli (2000) etc. but complete ethnobotanical notes on flora of Khaptad area has not been carried out so far.

### Results and discussion

Altogether 211 plants species belonging to 188 genera and 88 different families were recorded. Among them, 81 species were reported to be used by the local people for various purposes. It is found that 51 of them were used for medicinal purposes, 11 as vegetables, 6 for ornamental purposes, 18 for construction, furniture and making agricultural implements and ten for miscellaneous purposes (see Table 1-5). Plant species are documented in ascending order of family names for easier access.

**Table 1: Plants used for medicinal purposes. Plant species are documented in ascending order of family names for easier access.**

| S. No. | Name of Species (with voucher number)                            | Vernacular Name | Family           | Uses   |
|--------|--|-----------------|------------------|--|
| 1      | <i>Achyranthes aspera</i> L. (564/00)                            | Chirchiri       | Amaranthaceae    | Roots for easy delivery.<br>Leave juice for ear problems.                                |
| 2      | <i>Rhus javanica</i> (L.) Urb. (95/00)                           | Bhakiamilo      | Anacardiaceae    | Fruits for curing dysentery.   |
| 3      | <i>Centella asiatica</i> L. (580/00)                             | Ghodtapre       | Apiaceae         | Leaves extract as blood purifier and to increase memory.                                 |
| 4      | <i>Arisaema jacquemontii</i> Blume (562/00)                      | Sarpako makai   | Araceae          | Rhizome juice for ear pain.  |
| 5      | <i>Panax pseudo-ginseng</i> Wall. (207/00)                       | Mangen          | Araliaceae       | Root and rhizomes as general tonic, remedy for troubles, diseases.                       |
| 6      | <i>Artemisia indica</i> Willd. (561/00)                          | Titepati        | Asteraceae       | Dried flowers and leaves as insecticides. Leaf juice used to cure skin diseases.         |
| 7      | <i>Ligularia fischeri</i> (Ledeb.) Turcz.                        |                 | Asteraceae       | Seed oil used for sprain, rheumatism.  |
| 8      | <i>Impatiens</i> sp. (570/00)                                    |                 | Balsaminaceae    | Plant extract as growth stimulator of hair.  |
| 9      | <i>Berberis asiatica</i> Roxb. Ex DC. (558/00)                   | Chutro          | Berberidaceae    | Root decoction for abdominal pain.   |
| 10     | <i>Podophyllum hexandrum</i> Royle. (583/00)                     | Laghupatra      | Berberidaceae    | Root juice for liver wound.  |
| 11     | <i>Betula utilis</i> D. Don (556/00)                             | Bhoj patra      | Betulaceae       | Bark is scraped for manuscript writing as paper.<br>Decoction of bark for sore throat.   |
| 12     | <i>Maharanga emodi</i> (Wall.) A.DC. (158/00)                    |                 | Boraginaceae     | Whole plant as antihelminth.   |
| 13     | <i>Lobelia pyramidalis</i> Wall. (569/00)                        | Aklebir         | Companulaceae    | Leaves and flower as antispasmodic.  |
| 14     | <i>Cuscuta</i> sp. (509/00)                                      | Janailaharo     | Cuscutaceae      | Seeds are used as antihelminth.  |
| 15     | <i>Drosera peltata</i> (Buch. - Ham. Ex Dc.) C.B Clarke (568/00) |                 | Droseraceae      | Plant decoction for syphilis.  |
| 16     | <i>Equisetum debile</i> Roxb. (555/00)                           | Kurkure ghans   | Equisetaceae     | It is given in gonorrhoea.   |
| 17     | <i>Rhododendron campanulatum</i> D. Don (89/00)                  |                 | Ericaceae        | Seeds for digestive disorders.   |
| 18     | <i>Rhododendron arboreum</i> Sm. (87/00)                         | Lali gurans     | Ericaceae        | Flower employed for throat pain.   |
| 19     | <i>Euphorbia hirta</i> L. (582/00)                               | Dudhe jhar      | Euphorbiaceae    | Whole plant for asthma and diarrhoea.  |
| 20     | <i>Evolvulus alsinoides</i> (L.) L. (581/00)                     | Aakuri phul     | Fabaceae         | Decoction of whole plant to increase memory.   |
| 21     | <i>Corydalis govaniana</i> Wall. (510/00)                        |                 | Fumariaceae      | Decoction of roots valued as tonic and for liver problems. Dried leaves as insecticides. |
| 22     | <i>Swertia petiolata</i> D. Don (554/00)                         | Chiraito        | Gentianaceae     | Decoctions of roots for fever to promptly reduce temperature.                            |
| 23     | <i>Aesculus indica</i> (Colebr. Ex Cambess) Hook (563/00)        | Pangro          | Hippocastanaceae | Seed oil for Rheumatism.   |
| 24     | <i>Anisomeles indica</i> (L.) Kuntze (167/00)                    | Rato charpate   | Lamiaceae        | Plant extract for urinary complaints.  |
| 25     | <i>Leucas</i> sp. (134/00)                                       |                 | Lamiaceae        | Plant decoction is given in fever, asthma and cough.                                     |
| 26     | <i>Asparagus racemosus</i> Willd. (560/00)                       | Kurilo          | Liliaceae        | Powder of tuberous root is employed in acidity and nursing mother.                       |
| 27     | <i>Paris polyphylla</i> Sm. (565/00)                             | Satuwa          | Liliaceae        | Rhizome as antihelminth.   |
| 28     | <i>Polygonatum verticillatum</i> (L.) All. (105/00)              | Keruwa          | Liliaceae        | Green foliage as nutritive items.  |
| 29     | <i>Woodfordia fruticosa</i> (L.) Kurz. (199/00)                  | Dhanyaro        | Lythraceae       | Flower decoction considered in fever.  |
| 30     | <i>Myrica esculenta</i> Buch. -Ham. ex D. Don. (567/00)          | Kafal           | Myricaceae       | Fruits for dysentery and bark for bronchitis.  |

(Table continued)

|    |  |             |               |   |
|----|--|-------------|---------------|---|
| 31 | <i>Dactylorhiza hatagirea</i> (D. Don.) Soo (507/00)     | Pachaunle   | Orchidaceae   | Roots are applied on cuts. It stops bleeding and it is considered as a common medicine. |
| 32 | <i>Meconopsis</i> sp. (121/00)                           |             | Papaveraceae  | Fruits are narcotic and poisonous.  |
| 33 | <i>Parnassia nubicola</i> Wall. ex Royle. (205/00)       | Mamira      | Parnassiaceae | Root paste is used for inflammation and Leaf juice for eye problem.                     |
| 34 | <i>Abies spectabilis</i> (D. Don) Mirb. (571/00)         | Bunge Salla | Pinaceae      | Leaf juice is used as expectorant.  |
| 35 | <i>Rumex hastatus</i> D. Don (103/00)                    |             | Polygonaceae  | Crushed roots with water relieves cough.  |
| 36 | <i>Aconitum heterophyllum</i> Wall ex Royle (112/00)     | Bikh        | Ranunculaceae | Dried roots are used to treat fever and stomach pains.                                  |
| 37 | <i>Aconitum spicatum</i> (Bruhl) Stapf. (86/00)          | Bikh        | Ranunculaceae | Poisonous tuberous root.  |
| 38 | <i>Delphinium</i> sp. (508/00)                           | Maure       | Ranunculaceae | Dried roots are chewed as stimulant and are also valued as anti-toothache.              |
| 39 | <i>Cotoneaster microphylla</i> Wall. ex Lindl. (88/00)   |             | Rosaceae      | Fruits are astringent and are frequently eaten by shepherds.                            |
| 40 | <i>Potentilla fulgens</i> Wall. Ex Hook. (93/00)         | Bajradanti  | Rosaceae      | Dried roots are used as dentifrice.   |
| 41 | <i>Prinsepia utilis</i> Royle (91/00)                    | Dhatelo     | Rosaceae      | Root bark is used for stomach disorder.   |
| 42 | <i>Rubia manjith</i> Roxb. ex Flem. (97/00)              | Majitho     | Rubiaceae     | Stem is used in snake and cobra bite.   |
| 43 | <i>Skimmia anquetilia</i> G. Taylor & Air (210/00)       | Narpati     | Rutaceae      | Leaf smoke is used for purifying air.   |
| 44 | <i>Zanthoxylum</i> sp. (305/00)                          | Timur       | Rutaceae      | Fruit paste is given to kill roundworm.   |
| 45 | <i>Osyris quadripartita</i> Salz. Ex Decne. (566/00)     | Nundhiki    | Santalaceae   | Leaf infusion is valued as powerful emetic and use to treat swellings.                  |
| 46 | <i>Astilbe rivularis</i> Buch. – Ham. ex D. Don (559/00) | Thulookhati | Saxifragaceae | Rhizome juice is given to lower fever.  |
| 47 | <i>Bergenia ciliata</i> (Haw.) Sternb. (557/00)          | Pakhan Bed  | Saxifragaceae | Root decoction for fever, diarrhoea etc.  |
| 48 | <i>Smilax microphylla</i> Warb. (101/00)                 |             | Smilacaceae   | Root decoction for venereal diseases.   |
| 49 | <i>Symplocos paniculata</i> (Thunb.) Miq. 190/00)        | Kharane     | Symplocaceae  | Bark is used in menorrhoea.   |
| 50 | <i>Taxus wallichiana</i> Zucc. (99/00)                   | Loth Salla  | Taxaceae      | Leaves juice for bronchitis, cancer.  |
| 51 | <i>Valeriana hardwickii</i> Wall. (122/00)               | Samayo      | Valerianaceae | Dried stems used to provide protection to clothes from insects.                         |

**Table 2: Plants used as vegetable**

| S. No. | Name of Species (with voucher number)                 | Vernacular Name | Family          |
|--------|---|-----------------|-----------------|
| 1      | <i>Rhus javanica</i> L. (95/00)                       | Bhakiamilo      | Anacardiaceae   |
| 2      | <i>Rhus parviflora</i> Roxb. (94/00)                  | Sati Bayar      | Anacardiaceae   |
| 3      | <i>Diplazium</i> sp.(574/00)                          | Jire niuro      | Athyriaceae     |
| 4      | <i>Dioscorea</i> sp. (573/00)                         | Bhyakur         | Dioscoreaceae   |
| 5      | <i>Dryopteris cochleata</i> (D. Don) C. Chr. (300/00) | Gheu neuro      | Dryopteridaceae |
| 6      | <i>Rhododendron arboreum</i> Sm. (89/00)              | Lali gurans     | Ericaceae       |
| 7      | <i>Asparagus racemosus</i> Willd. (560/00)            | Kurilo          | Liliaceae       |
| 8      | <i>Ophioglossum reticulatum</i> Hook. (206/00)        | Jibre sag       | Ophioglossaceae |
| 9      | <i>Arundinaria falcata</i> Nees. (572/00)             | Nigalo          | Poaceae         |
| 10     | <i>Smilax aspera</i> L. (92/00)                       | Kukur daino     | Smilacaceae     |
| 11     | <i>Smilax microphylla</i> Warb. (101/00)              | Kukur daino     | Smilacaceae     |

**Table 3: Plants used for ornamental purposes**

| S. No. | Name of Species (with voucher number)              | Vernacular Name | Family        |
|--------|--|-----------------|---------------|
| 1      | <i>Hydrangea sp.</i> (98/00)                       | Hans phul       | Hydrangeaceae |
| 2      | <i>Habenaria pectinata</i> D. Don (96/00)          | Sunpati         | Orchidaceae   |
| 3      | <i>Malaxis muscifera</i> (Lindl.) Kuntze. (100/00) | Sunpati         | Orchidaceae   |
| 4      | <i>Roscoea alpina</i> Royle (208/00)               | Sunpati         | Orchidaceae   |
| 5      | <i>Rosa brunonii</i> Lindl. (303/00)               | Ban Gulab       | Rosaceae      |
| 6      | <i>Rosa macrophylla</i> Lindl. (304/00)            | Bhaise kanda    | Rosaceae      |

**Table 4: Plants used for construction, furniture and agricultural implements**

| S. No. | Name of Species (with voucher number)                          | Vernacular Name | Family           |
|--------|--|-----------------|------------------|
| 1      | <i>Rhus javanica</i> L. (95/00)                                | Bhakiamilo      | Anacardiaceae    |
| 2      | <i>Ilex dipyrena</i> Wall. (202/00)                            | Lekh chutro     | Aquifoliaceae    |
| 3      | <i>Alnus nepalensis</i> D. Don (209/00)                        | Uttis           | Betulaceae       |
| 4      | <i>Alnus nitida</i> (Spach) Endl. (301/00)                     | Uttis           | Betulaceae       |
| 5      | <i>Betula utilis</i> D. Don (556/00)                           | Bhoj patra      | Betulaceae       |
| 6      | <i>Daphniphyllum himalense</i> (Benth.) Mull. (302/00)         | Raktachandan    | Daphniphyllaceae |
| 7      | <i>Lyonia ovalifolia</i> (Wall.) Drude. (113/00)               | Anger           | Ericaceae        |
| 8      | <i>Rhododendron arboreum</i> Sm. (87/00)                       | Lali gurans     | Ericaceae        |
| 9      | <i>Lithocarpus sp.</i> (306/00)                                |                 | Fagaceae         |
| 10     | <i>Quercus sp.</i> (114/00)                                    | Banjh           | Fagaceae         |
| 11     | <i>Aesculus indica</i> (Colebr. ex Cambess) Hook (563/00)      | Pangro          | Hippocastanaceae |
| 12     | <i>Engelhardia sp.</i> (203/00)                                | Mauwa           | Juglandaceae     |
| 13     | <i>Buddleja paniculata</i> Waqll. (204/00)                     | Bhimsen pati    | Loganiaceae      |
| 14     | <i>Myrica esculenta</i> Buch. –Ham. ex D. Don. (567/00)        | Kafal           | Myricaceae       |
| 15     | <i>Abies spectabilis</i> (D. Don) Mirb. (571/00)               | Bunge Salla     | Pinaceae         |
| 16     | <i>Tsuga dumosa</i> (D. Don) Eicher (111/00)                   | Thingre Salla   | Pinaceae         |
| 17     | <i>Schisandra grandiflora</i> (Wall.) Hook f. Thomson (115/00) | Thekifal        | Schisandraceae   |
| 18     | <i>Taxus wallichiana</i> Zucc. (99/00)                         | Loth Salla      | Taxaceae         |

**Table 5: Plants used for miscellaneous purposes**

| S. No. | Name of Species (with voucher number)                   | Vernacular Name | Family        | Uses          |
|--------|---|-----------------|---------------|---------------|
| 1      | <i>Gaultheria trichophylla</i> Royle. (106/00)          | Kaligedi        | Ericaceae     | Edible fruits |
| 2      | <i>Bauhinia vahlii</i> Wight & Arn (102/00)             | Bhorla          | Fabaceae      | Plate         |
| 3      | <i>Gleichenia sp.</i> (108/00)                          | Hade uneu       | Glecheinaceae | Thatching     |
| 4      | <i>Engelhardia sp.</i> (203/00)                         | Mauwa           | Juglandaceae  | Fish poison   |
| 5      | <i>Myrica esculenta</i> Buch. –Ham. ex D. Don. (567/00) | Kafal           | Myricaceae    | Edible fruits |
| 6      | <i>Arundinaria falcata</i> Nees. (572/00)               | Nigalo          | Poaceae       | Baskets       |
| 7      | <i>Clematis napaulensis</i> Dc. (553/00)                | Junge lahara    | Ranunculaceae | Ropes         |
| 8      | <i>Rubus ellipticus</i> Sm. (90/00)                     | Aiselu          | Rosaceae      | Edible fruits |
| 9      | <i>Daphne bholua</i> Buch. – Ham. ex D. Don. (104/00)   | Loktaa          | Thymellaceae  | Paper         |
| 10     | <i>Girardinia diversifolia</i> (Link) Friis (107/00)    | Allo            | Urticaceae    | Clothes       |

## Conclusions

From this study it is concluded that KNP region is rich in indigenous and ethnobotanical knowledge and important for the scientific study with respect to ethnobotanical study. The diverse ecology, great natural beauty, vast wilderness, sprawling plateaus with green grass land, carpet of flowers full of medicinal herbs and teeming with wide varieties of flora and fauna deserve the attraction for researchers, tourists and other people. Wild plants have not only been used as food, vegetable and household items by the rural communities, but also been proven to be a source of income for the villagers. Mostly the wild plants are restricted to undisturbed and dense forests habitats. An obvious conclusion that can be drawn from the study is that the KNP is rich in wild plants and ethnobotanical knowledge. KNP has given benefits to the local inhabitants and has provided grazing rights to them for their livelihood improvements and enhancement of livestock and its products quality.

The traditional ethnobotanical knowledge has been shrunk due to popularity of allopathic treatment and transformation of rural people's life style. The existing deforestation and habitat fragmentation would pose a serious threat to the growth of wild plants. The declination of traditional ethnobotanical knowledge with over-exploitation and habitat destruction amounts to threatening in the survival of wild plant. Henceforth, documentation of traditional knowledge needs to be given high priority to help conservation of resources and preservation of the disappearing knowledge base. Indigenous knowledge is often complimentary to scientific knowledge; thus, by combining the ecological wisdom of the villagers with scientific knowledge (Millat-e-Mustafa *et al.* 2000), higher productivity of forest resources and sustainability of local approaches over local resources may be achieved without causing substantial environmental degradation. Special attention needs to be focused on highly priced and potential wild plants species like *Aconitum* sp, *Daphne bholuva*, *Dactylorrhiza hatagirea*, *Ligularia fischeri*, *Skimmia anquetilia*, *Taxus wallichiana*, etc. and multiple uses plants like *Myrica esculenta*, *Rhododendron arboreum*, *Rhus javanica*, *Taxus wallichiana*, *Asparagus racemosus* etc.

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