



Threat Categorization and Conservation Prioritization of Medicinal Plants in Banjar Valley, Kullu District of Himachal Pradesh

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ABSTRACT: The value of medicinal plants in habitual healthcare practices provides clues to latest areas of research and in biodiversity conservation is now glowing. However, information on the uses of plants for medicine is deficient from interior areas of Himalaya. Keeping this in view the present study has been conducted to study the diversity, indigenous uses, threat categorization and conservation prioritization of medicinal plants in Banjar Valley of Kullu district in Himachal Pradesh, North Western Himalaya. A total of 357 species of medicinal plants belonging to 98 families and 237 genera were recorded and used by the inhabitants of the area. These medicinal plants comprise of 27 trees, 269 herbs, 54 shrubs, 02 climber and 05 ferns. From the total, 193 medicinal plants were native, 03 endemic and 43 were near endemic. Highest medicinal plants were reported in the altitudinal zone, 2801-3600 and decreased with increasing or decreasing altitude in the study area. These species have been also analyze for their nativity, endemism and rarity, and are prioritized for cultivation. An area-specific threat categorization of species is very essential for squat or long term management planning. In present study such an effort in the study area, using information on different attributes was initiated. The presence of critically endangered, endangered and vulnerable medicinal plants indicates high anthropogenic stress on these species. The over-exploitation, habitat degradation and changing environmental conditions may lead to the extinction within a few years. Therefore, regular monitoring of population and habitats, development of conventional protocol, establishment of species *in-situ* conditions and associated habitats and replication of this approach in other parts of Indian Himalayan Region have been recommended.

Keywords: Indigenous uses, threat categorization, prioritization, Indian Himalayan Region (IHR)

INTRODUCTION

The Indian Himalayan Region (IHR) is bestowed with varied natural resources and rich biodiversity. It comprises of five biogeographic provinces, covers approximately an area of 591 thousand km² (Rodgers and Panwar 1988) and extending from Jammu & Kashmir in the North-West to the Arunachal Pradesh in the East. IHR one of the mega hot spot of biological diversity (Myers, 2000) is a source of a great diversity of food, fuel, fodder, timber, dye and medicinal plants. It comprises about 18% of India and is more than 2,800 km long and 220 to 300 km wide, with altitudes from 200–

8000 m (Anonymous 1992). The IHR alone supports about 8,000 species of angiosperms (40% endemics), 44 species of gymnosperms (15.91% endemics), 600 species of pteridophytes (25% endemics), 1,737 species of bryophytes (32.53% endemics), 1,159 species of lichens (11.22% endemics) and 6,900 species of fungi (27.39% endemics) (Singh and Hajra 1996; Samant *et al.*, 2007 a). There are more than 816 tree species and 675 edibles species. 118 species of medicinal plants yields essential oils, 279 species of fodder, 155 sacred plants (Samant and Pant 2003) and 121 rare-endangered plants (Samant *et al.*, 2007).

Inhabitants of IHR rely on plants for staying healthy and extending the worth of their lives. According to the World Health Organization (WHO) estimates, 3.5 billion populations in the developing countries rely on plant based medicine for primary health care. In Asia, approximately 6500 species of plants are used as household based medicines (Ghimire and Bastakoti 2009). However, over 2,500 species are used in India for traditional therapeutic purposes (Jain, 1991). With the increasing world plea and renewed global interest in increasing preference for natural substances in the health care system, the natural stock of medicinal plants of the IHR is under terrific pressure (Samant *et al.*, 1998; Kala *et al.*, 2006; Singh *et al.*, 2009; Rana and Samant 2011). The very survival of these resources is now under threat from rapidly expanding human population and concomitant environmental degradation occurring at a fast pace.

A number of studies have been carried out on medicinal plants of the IHR (Jain, 1991; Samant *et al.*, 1998, 2000, 2007 a; Rai *et al.* 2000; Samant and Pal 2003; Kala 2000; Rana and Samant 2009, 2010, 2011). However, in Himachal Pradesh studies of medicinal plants are scrappy and usually emphasis on inventory (Bhattacharya and Uniyal 1982; Chauhan 1988, 1999; Kapahi 1990; Badola 2001; Sood *et al.*, 2001; Badola and Pal 2003; Kala, 2006; Uniyal *et al.*, 2006), although a few studies have addressed diversity, distribution patterns, nativity, endemism, rarity and conservation prioritization of medicinal plants (Samant *et al.*, 2007 a). Himachal Pradesh has 643 medicinal plants, out of which 269 are native, 374 non-native, 17 endemic, 131 near endemic, 12 critically endangered, 21 endangered, 27 vulnerable, two near threatened and three data deficient (Samant *et al.*, 2007a). The Kullu district of the State is rich in medicinal plant diversity. There is plenty scope for the promotion of medicinal plant cultivation and conservation and as such an integrated study on diverse parameters of the medicinal plants has not been carried out so far. Therefore, the study conducted in Banjar valley in Kullu district of the State.

Medicinal plants are worn in the Ayurvedic, Unani and other traditional systems of medicine and in plant based pharmaceutical industries. The Tibetan system of medicine is also depending on Himalayan species (Samant *et al.*, 1998). Estimates indicate that at least 90% of medicinal plant species are extracted from the wild (Anonymous 2000); and that 69% of the material is collected through destructive harvesting, which suggests that medicinal plants are significantly threatened (Dhar *et al.*, 2000). Undue anthropogenic pressures have been identified as the main causes of demur in the population and accessibility of the medicinal plants in the Himalayan region (Samant *et al.*, 1998). With the increasing demand and renewed global interest in the healthcare system, the natural stock of

medicinal plants of Himachal Pradesh is under tremendous pressure (Samant *et al.*, 1998). To provide the information essential to shore up further action, this paper brings together existing information with results from current field surveys.

Study Area. Banjar valley is a unique ecological landscape situated in the South of Kullu district of Himachal Pradesh which harbours a variety of ecologically diversified landscape elements and supports an array of alpine flowering plants. This area is 50 km from the district headquarters, Kullu and comes under the Seraj Forest Division. The valley has a large altitudinal range (*i.e.*, 1200-3600m). The area is very well known for their diverse habitats, microclimatic conditions and rich biodiversity including flora and fauna. These are mainly dominated by temperate and subalpine broad leaved and coniferous forests, alpine scrubs and alpine herbaceous vegetation, and support a large number of sensitive biodiversity elements including medicinal, wild edible, rare endangered, native, endemic and wild relatives of crop plants. Climatically the area is unique, the temperature ranges between -4°C to 30°C. The Hirb and Shoja streams confluence at Ghyagi and form the Ghyagi stream, which at Jibhi confluences with other stream and form the Jibi Gad a tributary of Tirthan. The Great Himalayan National Park bounds the H&SCs on the eastern side. Eastern side has the highest peak of catchments *i.e.*, Chhera Top at 3600m. On the western side of the Catchments lies the Garagusheni valley which is a part of Kamrunag Hills of Distict Mandi. On this side, a famous tourist tracking place, Raghupur Garh is located at the height of 3350m. Both catchments confluence on the Northern side near Ghyagi. On this side lies the Sainj Valley of Kullu district. On the southern side outer Seraj area of Kullu district bounds the area. The inhabitants depend on the forests for medicinal and wild edible plants, fuel, fodder, timber, making agricultural tools, fiber, religious, livestock grazing and various other purposes. The forests and thatches have been facing high pressure of grazing and over exploitation of the economically important species. The climate of the area is typically temperate, sub-alpine and alpine types and consists of mainly three distinct seasons- summer season (April-June), rainy season (mid-June-September) and winter season (October-March). However, the autumn (October) and spring (mid-March - mid-April) seasons also prevail in the area. Study area receives precipitation both in the form of snowfall and rainfall. Average annual rainfall was about 1103.2 mm year⁻¹ in 2007; July and August months receive maximum rainfall. The area witnesses heavy snow fall during December to March. The vegetation mainly comprises of temperate, sub-alpine and alpine types. Temperate and sub-alpine forests are mainly dominated by broad leaved deciduous, evergreen and evergreen coniferous species, and alpine meadows are

dominated by alpine scrubs and herbaceous species (Fig. 1).

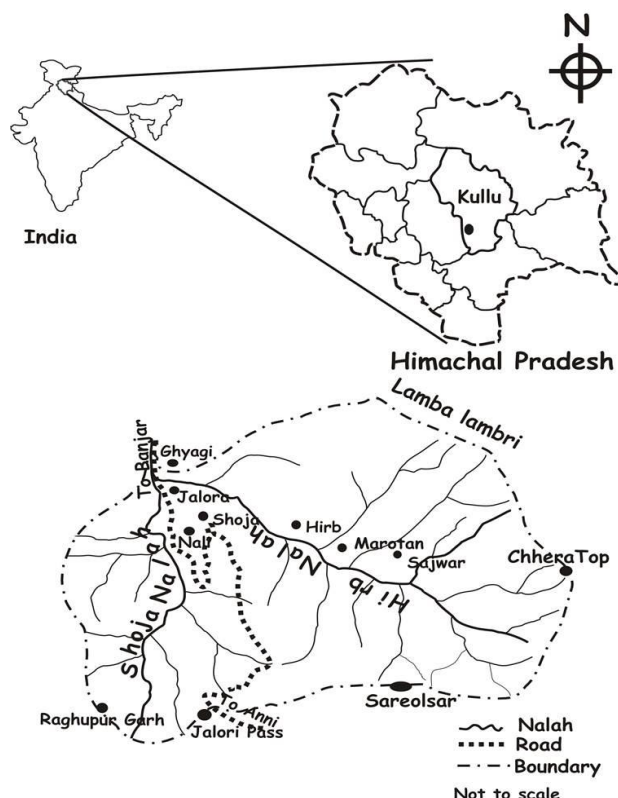


Fig. 1. Location map of Study area.

METHODS

Surveys, data collection and analysis. The nine villages namely (Banjar, Gayagi, Jalora, Nali, Shoja, Hirb, Sidhwain, Marotan, Sajwar) and surrounding areas of the Banjar valley (1200-3600m) were surveyed in different seasons, i.e. winter, summer and rainy for three years (2007-2010) to assess the medicinal plant diversity and generate information on utilization of medicinal plants by the inhabitants of the area. Participatory Rural Appraisal (PRA) followed for information

generation on medicinal plants. Also, local knowledgeable persons including *Vaidhyas* were interviewed. Information generated on the indigenous uses and commercial values. Among the knowledgeable persons, one person was hired to collect medicinal plants from the natural habitat(s). The specimens of each species were collected and identified with the help of floras, and research papers (Collett 1902; Polunin and Stainton 1984, 1987; Aswal & Mehrotra 1994; Dhaliwal and Sharma 1999, 1997; Singh and Rawat 2000; Khullar 1994, 2000). Information on locality, altitudinal range, life form, habitat and other morphological characters was collected for each species. The data were compiled and analyzed for diversity and distribution pattern of the species following Samant and Dhar (1997); Samant *et al.* (1998).

Nativity, endemism, threat categorization and conservation prioritization. The nativity of species represents the primary evidence or origin, following Anonymous (1883-1970); Samant *et al.* (1998). Endemism of a species was identified on distribution range of the species and following Dhar and Samant (1993); Samant *et al.* (1998). Species confined to the IHR were considered as endemic, and those with a distribution extending to neighbouring countries (Himalayan region of Afghanistan, Pakistan, Tibet, Nepal, Bhutan and adjacent states of the IHR) were considered as near endemics. The threat categories of the medicinal plants were identified using seven attributes (i.e. habitat preference, distribution range, availability, use value, trade value, extraction and nativity and endemic species) and following (Samant *et al.*, 1998; Ved *et al.*, 2003) and IUCN criteria. Species with a combination of these criteria (serial number 1, 2 and 3) were given marks accordingly. Species with score >55 were identified as critically endangered; 51-54 as endangered; 46-50 as vulnerable; 40-45 as near threatened; and <40 as least concern (Table 1).

Table 1: Criteria used for prioritization of medicinal plants for conservation in Banjar Valley of Himachal Pradesh, India.

Sr. No.	Habitat	Distribution	Availability	Use Value	Trade Value	Extraction	Nativity & Endemism	Score
1.	2	<500	Low	> 10	High	Commercial	Native & Endemic	10
2.	3-4	500-1000	Moderate	5-10	Medium	Self use	Native/ Endemic	6
3.	5	>1000	High	<5	Low	No use	Non-native	2

RESULTS

Diversity and distribution patterns. In total, 357 species of medicinal plants belonging to 237 genera and 98 families were recorded. Of these, 27 species were trees, 54 shrubs, 269 herbs, climbers 02 and ferns 05 each (Fig. 2). The families Asteraceae (39 spp.), Lamiaceae, Ranunculaceae and Rosaceae (20 spp. each), Polygonaceae and Apiaceae (15 spp. each), Gentianaceae and Fabaceae (10 spp. each), Scrophulariaceae and

Orchidaceae (08 spp. each), Ericaceae and Liliaceae (07 spp. each), Brassicaceae (06 spp.), Berberidaceae, Boraginaceae, Caryophyllaceae, Geraniaceae, Rubiaceae and Poaceae (05 spp. each), Amaranthaceae, Alliaceae, Araceae, Balsaminaceae, Euphorbiaceae, Saxifragaceae, Pinaceae, Plantaginaceae, Oleaceae and Urticaceae (04 spp. each) were rich in medicinal plants. A total of 39 families were monotypic. Among the genera, *Berberis*, *Swertia* and *Nepeta* (5 spp. each), *Anaphalis*, *Anemone*, *Geranium*,

Impatiens, *Rubus*, *Plantago*, *Rhododendron*, *Polygonum*, *Galium* and *Thalictrum* (4 spp. each), *Allium*, *Arisaema*, *Bupleurum*, *Pleurospermum*, *Chenopodium*, *Euphorbia*, *Hypericum*, *Salvia*, *Polygonatum*, *Oxalis*, *Rheum*, *Rosa*, *Clematis*, *Pedicularis*, *Urtica* and *Viola* (3 spp. each) were dominant and these medicinal plants were recorded from 15 different habitats such as forests, open/alpine slopes, glacial moraines, boulders, cultivated fields, shady moist, shrubberies, riverine, grassland, damp soil/marshy, waste places, dry, epiphytic, rocky and degraded respectively (Appendix 1).

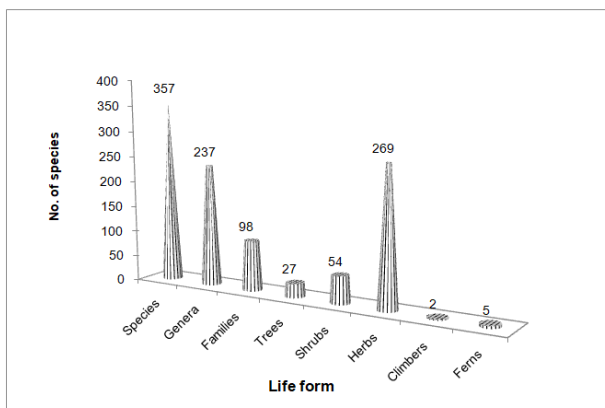


Fig. 2. Distribution of medicinal plants in Banjar Valley of Himachal Pradesh, India.

Maximum richness of medicinal plants (228 spp.: herbs: 192; shrubs: 27; trees: 6; ferns: 2 and climber: 1) were reported in the altitudinal zone, 2801-3600 followed by (95 spp.: herbs: 57; shrubs: 22; trees: 13 and fern: 3) altitudinal zone, 1801-2800 and decreased with decreasing altitude (Fig. 3).

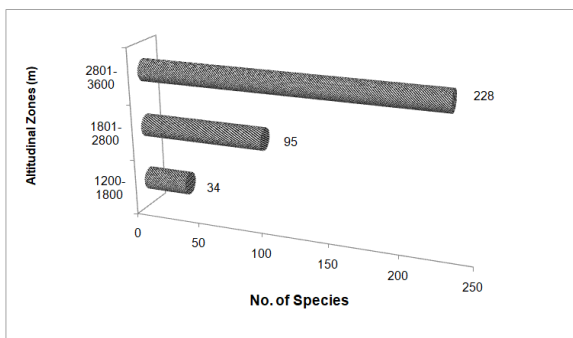


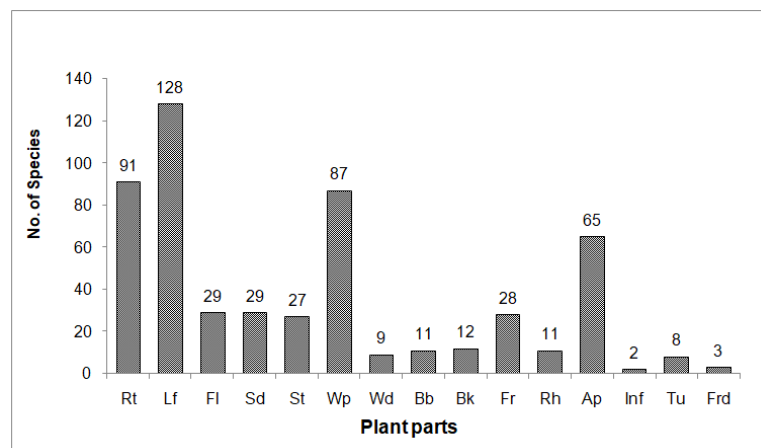
Fig. 3. Altitudinal distribution of threatened species in Banjar Valley of Himachal Pradesh, India.

Utilization pattern. Among the parts used of medicinal plants, roots (91 spp.), leaves (128 spp.), flower (29 spp.), seeds (29 spp.), stems (27 spp.), whole plants (87 spp.), wood (09 spp.), bulb (11 spp.), bark (12 spp.), fruits (28 spp.), rhizomes (11

spp.), aerial part (65 spp.), inflorescences (02 spp.), tubers (08 spp.), fronds (03 spp.) were used by the inhabitants of the Banjar valley for their own use or in trade (Fig. 4). These parts of the medicinal plants were used in the treatment of different disease categories as gastro-intestinal problems, dermatological problems, respiratory problems, skeletal-muscular pain problems, reproductive/urinary systems problems, blood related problems, hepatic problems, ENT problems, anti-poisonous, oral/dental problems, nervous related problems and some miscellaneous problems (Fig. 5). Maximum species were used for fever (65 spp.), followed by stomach problems (58 spp.), cough (52 spp.), gastric complaints (45 spp.), skin problems (43 spp.) and rheumatism (33 spp.) (Table 3). From these medicinal plants, roots of *Angelica glauca* were used in dysentery, gastric complaints, menorrhoea, stomach disorder, vomiting and bronchitis; *Aconitum heterophyllum* were used in cold, cough, diarrhoea, fever, gall bladder, abdominal pain, gastric, piles; *Picrorhiza kurroa* in anaemia, arthritis, asthma, cold, diarrhoea, diuretic, fever, jaundice, liver trouble, stomach; *Podophyllum hexandrum* in cancer, cough, constipation, tuberculosis, gynecological disorder, skin diseases, tumors, cuts, wounds, diarrhoea, gastric ulcer; *Rheum australe* in abdominal pain, appetite, asthma, bronchitis, fever, cuts, dysentery, eye disorder, sprain, swelling, ulcer, wounds; tubers of *Dactylorhiza hatagirea* used as anti-biotic, wound healing, bone fracture, cough, cold, cuts, sexual disability, rheumatism, blood purifier, tonic, expectorant; bark of *Taxus baccata* subsp. *wallichiana* used as anti-cancerous, blood purifier, swelling, fever, asthma, contraceptive, etc. (Appendix 1).

Nativity and endemism. Of the total species recorded, 193 species were native to the Himalayan region, while 164 species were non-native, from different domains of the world. 3 species were endemic restricted to the IHR (*Angelica glauca*, *Elsholtzia flava* and *Wikstroemia canescens*) and 43 species were identified as near-endemics (Appendix 1). The number of native, endemic and near-endemic species appears to increase along an altitudinal gradient irrespective of the total species richness.

Threat categorization and conservation prioritization. 12 species were identified as critically endangered, 13 as endangered, 20 as vulnerable, 14 species as near threatened and 298 as of least concern (Table 2). The species identified as critically endangered, endangered and vulnerable have been prioritized for conservation. Among these 45 prioritized medicinal plants 28 species were highly scored and possess high prioritization score, based on their demand and market potential (Table 3).



Abbreviations used: Rt=Root; Lf= Leaf; Fl= Flower; Sd= Seed; St= Stem; Wp= Whole Plant; Wd= Wood; Bb= Bulb; Bk= Bark; Fr= Fruit; Rh= Rhizome; Ap=Aerial part; Inf=Inflorescence; Tu=Tuber; Frd=Frond; Ashes=Ashes of twig.

Fig. 4. Parts used in different ailments/diseases by the inhabitants of Banjar Valley in Himachal Pradesh, India.

The healing plants prioritized for conservation were critically endangered, endangered and vulnerable categories species as *Corydalis govaniana*, *Trillidium govanianum*, *Rhododendron campanulatum*, *Plantago himalaica*, *Valeriana hardwickii*, *Angelica glauca*, *Saussurea albescens*, *Pistacia integerrima*, *Podophyllum hexandrum*, *Rheum australe*, *Meconopsis aculeata*, *Taxus*

baccata subsp. *wallichiana*, *Allium wallichii*, *Acorus calamus*, *Gentiana kurroo*, *Inula grandiflora*, *Dactylorhiza hatagirea*, *Paeonia emodi*, *Zanthoxylum armatum*, *A. violaceum*, *Betula utilis*, *Lilium polyphyllum*, *Jurinella macrocephala*, *Paris polyphylla*, *Skimmia laureola*, *Aconitum heterophyllum*, *Picrorhiza kurrooa* were recommended for commercial cultivation in the Banjarvalley (Table 2).

Table 2: Threat Categorization of medicinal plants in Banjar Valley of Himachal Pradesh, India.

Threat Categorization	Critically Endangered	Endangered	Vulnerable	Near Threatened
Banjar Valley	<i>Aconitum heterophyllum</i> , <i>A. violaceum</i> , <i>Allium wallichii</i> , <i>Betula utilis</i> , <i>Dactylorhiza hatagirea</i> , <i>Jurinella macrocephala</i> , <i>Lilium polyphyllum</i> , <i>Paris polyphylla</i> , <i>Paeonia emodi</i> , <i>Picrorhiza kurrooa</i> , <i>Skimmia laureola</i> , <i>Zanthoxylum armatum</i> ,	<i>Acorus calamus</i> , <i>Angelica glauca</i> , <i>Allium humile</i> , <i>Bergenia stracheyi</i> , <i>Corydalis govaniana</i> , <i>Gentiana kurroo</i> , <i>Saussurea albescens</i> , <i>Pistacia integerrima</i> , <i>Podophyllum hexandrum</i> , <i>Rheum webbianum</i> , <i>Rhododendron campanulatum</i> , <i>Taxus baccata</i> subsp. <i>wallichiana</i> , <i>Delphinium denudatum</i>	<i>Rheum australe</i> , <i>Heracleum candicans</i> , <i>Arctium lappa</i> , <i>Saussurea heteromalla</i> , <i>Berberis asiatica</i> , <i>B. chitria</i> , <i>B. jaeschkeana</i> , <i>Rhododendron anthopogon</i> , <i>Corydalis cornuta</i> , <i>Swertia cordata</i> , <i>Polygonatum multiflorum</i> , <i>P. cirrhifolium</i> , <i>Plantago himalaica</i> , <i>Primula rosea</i> , <i>Bergenia ligulata</i> , <i>Viola pilosa</i> , <i>Valeriana jatamansi</i> , <i>V. hardwickii</i> , <i>Hedychium spicatum</i> , <i>Rosa sericea</i>	<i>Hypericum perforatum</i> , <i>H. oblongifolium</i> , <i>Allium victorialis</i> , <i>Bupleurum lanceolatum</i> , <i>Selinum tenuifolium</i> , <i>Berberis lyceum</i> , <i>Viburnum cotinifolium</i> , <i>Cassiope fastigiata</i> , <i>Hypericum uralum</i> , <i>Juglans regia</i> , <i>Nepeta discolor</i> , <i>N. longibracteata</i> , <i>Thymus linearis</i> , <i>Viscum album</i>

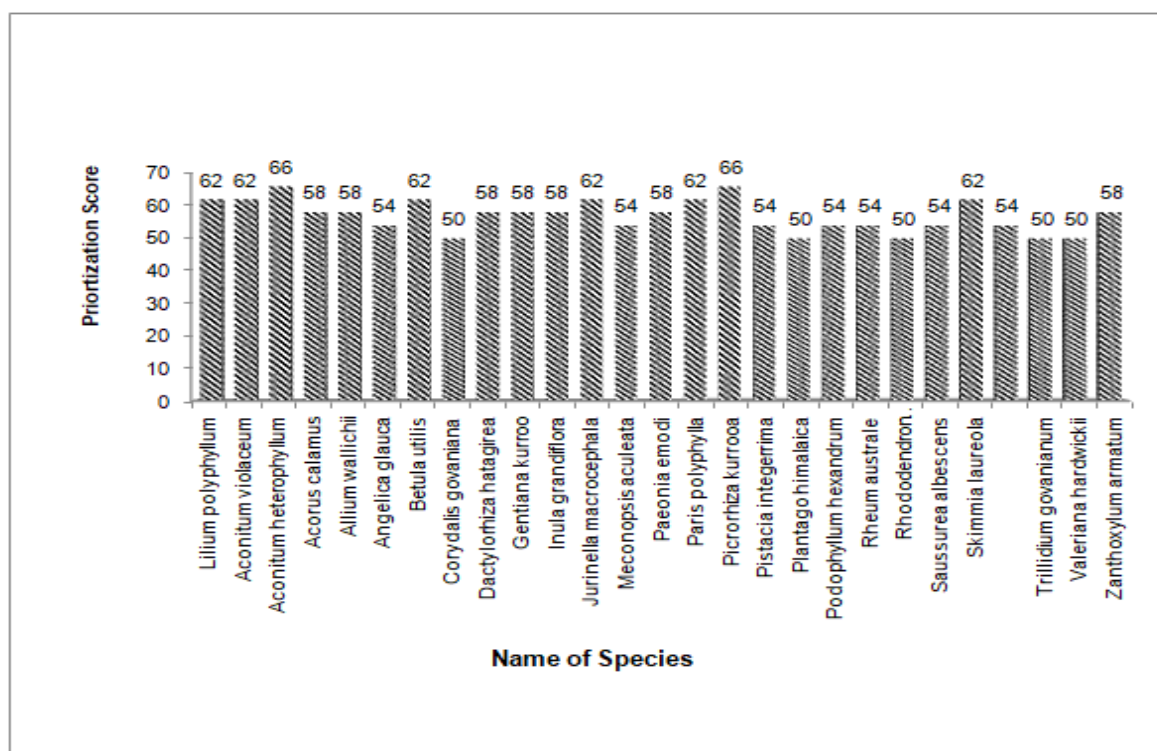


Fig. 5. Prioritization score of different prioritized medicinal plant species for the Banjar Valley of Himachal Pradesh, India.

Table 3: Utilization pattern of medicinal plant species in different ailments/diseases in Banjar Valley of Himachal Pradesh, India.

Ailments/Diseases	No. of Species	Ailments/Diseases	No. of Species
Abcesses	4	Ear and eye complaints	22
Abdominal disease	8	Eczema	9
Abortifacient	2	Epilepsy	5
Acidity	2	Febrifuge	11
Anaemia	3	Fever	65
Analgesic	4	Gastric complaints	45
Anti-helminthic	17	Gonorrhoea	7
Anti-bacterial	5	Haemorrhoids	17
Anti-biotic	4	Headache	24
Anti-cancerous	4	Heart disease	2
Anti-fertility	8	Hepatic	6
Anti-fungal	7	Hysteria	6
Anti-inflammatory	2	Inflammation	3
Anti-septic	13	Insecticidal	7
Anti-spasmodic	6	Intestinal complaints	2
Aphrodisiac	9	Itching	4
Appetizer	14	Jaundice	16
Arthritis	2	Kidney	10
Asthma	16	Laxative	13
Astringent	15	Leprosy	6
Backache	4	Leucoderma	6
Blood pressure	2	Leucorrhoea	2
Blood purifier	22	Liver	14
Bodyache	8	Liver complaints	7
Boils	20	Malaria	11
Bone fracture	12	Menorrhoea	8
Bronchitis	24	Menstrual complaints	7
Burns	9	Nervous disorder	10
Carminative	6	Pain	20

Chest pain	2	Pimples	6
Cholera	4	Pneumonia	4
Cold	34	Poultice	7
Colic	13	Purgative	10
Constipation	5	Renal disorder	7
Contraceptive	3	Rheumatism	33
Cough	52	Ring worm infection	8
Cuts	32	Rodents killing	8
Diabetes	2	Scorpion/Snake bite	25
Diaphoretic	6	Skin ailments	43
Diarrhoea	36	Veterinary diseases	9
Diuretic	24	Sores	12
Dysentery	32	Stimulant	7
Dyspepsia	7	Stomach disorders	58
Swelling	10	Toothache	14
As tonic	34	Ulcer	14
Urinary complaints	19	Wounds	54

DISCUSSION

The IHR is well known for its diversity of Medicinal plants (Jain, 1991; Samant *et al.*, 1998, 2001, 2007, 2009; Singh *et al.*, 2009; Pant *et al.*, 2009; Rana & Samant 2011). However, studies on medicinal plants at catchment, watershed and valley specific are not available. Therefore, the present study provides comprehensive baseline catalogue on diversity, distribution pattern, nativity, endemism, rarity, utilization patterns, indigenous uses and part/s used of medicinal plants in Banjar valley of Himachal Pradesh, Northwestern Himalaya.

The occurrence of 357 species of medicinal plants in the area indicates that its environmental conditions, particularly, shady moist and forest habitats, are suitable for growth and development of such species. The habitats require regular monitoring to categorize the dynamics of the flora. The altitudinal range 2801-3600m has the most vegetation of medicinal plants. The occurrence of 54.1% of native species, 12.1% of near endemic species and 0.8% of endemic species shows the high significance of the area. Habitat degradation and over exploitation of these species may lead to their early extinction in the area. The over exploitation of medicinal plants parts such as roots,

rhizomes, tubers, inflorescences, fruits, oils, bark, seeds, etc. may lead to poor regeneration and extinction of these species in near future.

An area specific threat categorization of species is most important for short or long term management planning. The present study represents such an approach in this area, using information on different attributes. Cultivation of such medicinal plants in the surrounding villages and other private lands may condense the extinction pressure on the wild habitats. Identification of active ingredients would help identifying the potential species for marketing. Regular populations and habitats monitoring of native, endemic and threatened medicinal plants using ecological methods and notification of key areas as medicinal plants conservation areas (MPCAs) for *in-situ* conservation, with the involvement of the State Forest Department and inhabitants of the area have been suggested. Besides these, mass reproduction using conventional methods, establishment and maintenance of herbal gardens and medicinal plant nurseries for *ex situ* conservation and ensuring the availability of quality planting material for cultivation, together with education and awareness programmes for large scale cultivation area recommended.

Appendix 1. Diversity, distribution, status, nativity, endemism and indigenous uses of the medicinal plants in Banjar Valley.

Family/Taxa	Local Name	Habitat	Altitudinal range (m)	Life Form	Nativity	Part/s used	Indigenous uses
Acanthaceae							
<i>Barleria cristata</i> L.	-	4,6,12,15	1500-1800	H	Ind Or Burma	Rt, Lf, Sd	Antidote to snake bite, bronchitis, pneumonia, wounds, headache, swelling
Achyranthaceae							
<i>Achyranthes aspera</i> L.	Puthkanda	8,15	1500-2600	H	Geront Trop	Rt, Lf, WP	Blisters in mouth, hemicrania, scrophula, scorpion sting,

							whooping cough, swelling
<i>A.bidentata</i> Bl.	Puthkanda	6,8	1800-2800	H	As Trop	Rt, Lf	Antifertility in woman, dysenrery, ear and eye complaints, leucoderma, skin disorder, stomachache, toothache
Alliaceae							
<i>Allium humile</i> Kunth.	Forn, Jangli Pyaz	2,4,14	3000-3600	H	Ind Or	Lf, Bb	Indigestion
<i>A. victorialis</i> L.	Gokpa	8	3200-3600	H	Europe Caucas Sibir	Lf, Bb	Cuts, wounds, Antidiarrhoea
<i>A. wallichii</i> Kunth		4	3200-3600	H	Reg Himal	Bb, Lf	Indigestion
<i>Narcissus tazetta</i> L.	Bodi	1,2,3,10	1500-2000	H	Reg Mediter	Bb	Anaemia, boils
Araceae							
<i>Acorus calamus</i> L.	Boj	6,10	1500-2200	H	Reg Bor Temp	Rt, Rh	Abdominal pain, asthma, bodyache, bronchitis, cold, cough, constipation, cuts, dysentery, epilepsy, fever, headache, hysteria, indigestion, malaria, pain in neck, skin disease, snake bite, stomachache, tonic, insecticide
<i>Arisaema tortuosum</i> (Wall.) Schott.	Birbanka	2,6,7,8,14	1500-2600	H	Reg Himal	Bb, Sd	Veterinary diseases
<i>A. flavum</i> (Wall.) Schott.	-	2,4,6,7,14	2000-3500	H	Reg Himal	Bb, Sd	Veterinary diseases
<i>A. jacquemontii</i> Bl. *	Kira aloo	2,4,6,12	2000-3200	H	Reg Himal	Bb	Ringworm, skin disease
Araliaceae							
<i>Aralia cachemiriana</i> Dcne.	Bailchora	2,4,6,7,8,14	2500-3500	H	Reg Himal	Lf, Rh	Stomach disorders
<i>Hedera nepalensis</i> K. Koch	-	1,4,6,7,8	1500-3100	Sh	Europe Afr Bor As Temp	Fr, Lf	Cold, cough, Stimulant, diaphoretic, cathartic, rheumatism
Amaranthaceae							
<i>Amaranthus viridis</i> L.	Sariyara	4,6,8	1500-2000	H	Reg Trop	AP	Digestion, snake bite
<i>A. hybridus</i> L.	Sariyara	4,6,11	1800-2400	H	Am Bor	Rt, Lf, Sd	Diarrhoea, leucorrhoea, pain
<i>Cyathula capitata</i> Moq.	Litra	6,11	2000-2600	H	Reg Himal	Rt, Lf	Rodents killing
<i>C. tomentosa</i> Roth.	Litra	6,11	1500-1800	H	Reg Himal	Rt, Lf	Skin disease
Apiaceae							
<i>Angelica glauca</i> Edgew.**	Ganderaya (Chora)	6,7,8	2000-3800	H	Reg Himal	Rt,Sd	Dysentery, gastric complaints, menorrhea, stomach disorder, vomiting, bronchitis
<i>Bupleurum candollii</i> Wall. ex DC.	-	2,4,6,7	3200-3600	H	Reg Himal	Rt, Sd	Headache, insanity, leprosy, liver complaints, memory, nervine disease, post natal tonic, respiratory disease, skin

							disease, stomachache
<i>B. falcatum</i> L.	Jangli jeera	15,10	2000-3500	H	Europe Oriens As Bor Reg Himal	Rt	Abdominal inflammation, fever, liver complaints
<i>B. lanceolatum</i> Wall. ex DC.	Nimla	2,6,7,8	1800-2500	H	Reg Himal	Rt	Diarrhoea, diuretic, dysentery, eczema, eye complaints, fever, gastric disease, headache, insanity, leprosy, liver complaints
<i>Chaerophyllum villosum</i> Wall. ex DC. *	-	6,7,8,14,2	2500-3500	H	Reg Himal	WP	Indigestion
<i>Cortia depressa</i> (Don) Norm. *	-	6,8,7,11	3000-3600	H	Reg Himal	WP	Abdominal disease, anti-inflammatory, rheumatism, sedative, stomachache,
<i>Heracleum candicans</i> Wall.	Padiyala	6,15	2000-3300	H	Reg Himal Ind Or As Trop	AP, St,Rt	Eczema, ring worm infection, leucoderma, menstrual disorder, piles
<i>Hydrocotyle javanica</i>	Aulijhar	6,8	1500-2600	H		WP	Dysentery, indigestion, fever
<i>Pimpinella diversifolia</i> DC.		6,8,11,7,15	1800-3500	H	Ind Or	WP	Carminative, stomach disorder, cold, cough
<i>P. acuminata</i> (Edgew.) Cl.	-	2,4,6,7,14	2000-3300	H	Reg Himal	WP	Aphrodisiac, diarrhoea, dysentery
<i>Pleurospermum angelicoides</i> (DC.) Cl.		6,14	2500-3600	H	Reg Himal	Rt	Antihelminthic, gastric, stomachache
<i>P. brunonis</i> (DC.) Benth. ex Cl.	Losur	2,4,6,14	3400-3600	H	Reg Himal	Lf	Antihelminthic
<i>P. candollii</i> (DC.) Benth. ex Cl.		2,4	3500-3600	H	Reg Himal	Lf	Bodyache
<i>Selinum tenuifolium</i> Wall. ex DC. *	Bhutkesi	2,4,7,14	3000-3600	H	Reg Himal	WP	Incense, insecticidal, nervine, sedative
<i>S. vaginatum</i> (Edgew.) Cl.	Matoila	4,6,2,7,10	2700-3600	H	Reg Himal	Rh, AP	Nervine sedative, hysteria, dysmenorrheal, liquor preparation, skin disease
Asteraceae							
<i>Achillea millefolium</i> L.	Chabu, Shugumentog	6,7,15,10	2700-3600	H	Europe As Am	Fl, WP	Carminative, tonic, stimulant, toothache, cough, cold, insect repellent, aromatic, diaphoretic
<i>Ainsliaea aptera</i> DC. *	Karu-buti	6,8,12,4	1500-2200	H	Reg Himal	Rt, Lf	Stomachache, urinary problems, fever
<i>A. latifolia</i> D. Don	Sath jalari	6,8,12	2000-2700	H	Reg Himal	Rt	Stomachache
<i>Anaphalis busua</i> (Buch. -Ham. ex Don) DC.		6,8,15,4,14	3000-3600	H	Reg Himal	Fl,Lf	Antibacterial, checks bleeding, Wounds, cuts
<i>A. contorta</i> (D.Don) Hk.	Telgang	6,15	3200-3600	H	Reg Himal	Fl, Lf	Antibacterial, stop bleeding
<i>A. nepalensis</i> (Spreng.) Hand.	Tawa	2,6,14	2900-3600	H	Reg Himal	Fl, Lf	Antibacterial, stop bleeding
<i>A. triplinervis</i> (Sims.) Cl.	Bukki	1,6,8,12,4,7	1800-3500	H	Reg Himal	WP	Diuretic, dressing wounds
<i>Arctium lappa</i> L.	Pichawag	6,8,15,4	3200-3500	H	Europ	Rt	Gastric, burns

<i>Artemisia nilagarica</i> (Cl.) Pamp.	Chirmara	6,4,10,11,14	1500-2200	Sh	Reg Temp Bor	AP	Abscess, analgesic, anthelmintic, antiseptic, antispasmodic, asthma, ear complaints, epilepsy, haemostat, headache, menstrual complaints, nervous disease, peptic ulcer, skin disease, sores, stomachache, tonic, vermifuge, wounds
<i>A. parviflora</i> Buch. - Ham. ex D.Don	Garprek, Nireha	6,12,15	1800-3600	H	Ind Or Burma	AP	Carminative, vermifuge, throat infection, insecticide, aromatic
<i>Aster peduncularis</i> Wall. ex Nees *		2,4,6,	2300-3300	H	Reg Himal	AP, Rt	Stomach disorder, renal calculi
<i>Bidens pilosa</i> L.		4,6,12,15	2000-2600	H	Reg Trop	AP	Leprosy, cuts
<i>Conyza stricta</i> Willd.	-	6,15	1500-1800	H	Reg Trop	WP	Bone fracture
<i>Gerbera gossypina</i> (Royle) Beauv.	-	7,12	1800-2500	H	Reg Trop	Rt	Blood pressure, gastric disorder
<i>Cousinia thomsonii</i> Cl.	Changchher, Bacha, Chawag, Khibsha	2,4,11	2000-3600	H	Reg Himal	WP, Ft	Cure body pain, swelling due to sprain, diuretic
<i>Cremanthodium arnicoides</i> Good	Rekonpa	2,10	2600-3600	H	Reg Himal	Fl	Peptic ulcer, dysentery, liver diseases
<i>C. decaisnei</i> Cl.	Rhend	2,10	2900-3600	H	Reg Himal	AP	Bodyache
<i>Crepis multicaulis</i> Ledeb.		2,6,4	2900-3600	H	Reg Trop	AP	Dyspepsia, skin ailments, chest pain, tonic
<i>Echinops cornigerus</i> DC.	Chawag	4,6	1500-3000	H	Ind Or	WP	Cold, cough, promote teeth of infants, fever, urinary trouble, tonic, septic, food poisoning
<i>Erigeron alpinus</i> L.	Bashakar	1,15,2	3300-3600	H	Reg Bor et Arct	AP	Cough, cold
<i>E. bonariensis</i> L.	-	6,15	1500-2000	H	Am Austr	Lf	Lumbago, rheumatism, mouth, throat diseases, skin diseases
<i>Galinsoga parviflora</i> Ruiz & Pav.		6,12,15	1400-2500	H	Am Austr	WP	Antidote to snake poison and nettle stings, checks bleeding
<i>Inula grandiflora</i> Willd.	Manu	6	3300-3600	H	Reg Himal et Caucas	WP	Liver complaint, fever, headache, aromatic
<i>Jurinella macrocephala</i> (Royle) Aswal ex Goel.*	Dhoop	2,10	3000-3600	H	Reg Himal	Rt	Antiseptic, colic, fever during child birth, laxative, skin eruption
<i>Lactuca lessertiana</i> (DC.) Cl.	-	6	2600-3600	H	Reg Himal Malaya	AP	Renal colic
<i>Ligularia amplexicaulis</i> DC. *	-	2,4,14	2700-3500	H	Reg Himal	St, Lf, Fl	Digestive, emetic, poultice to sprains and bones
<i>Prenanthes violaeifolia</i> Decne		2,6,7	2500-3500	H	Reg Himal	Sd, Lf	Menorrhoea
<i>Tagetes minuta</i> L.	Jungle gairda	6,8,15	1500-2000	H	Am Trop	WP	Anthelmintic, antispasmodic,

							aromatic, diaphoretic, diuretic, purgative, stomachic, haemorrhoids, skin infections
<i>Taraxacum officinale</i> Weber.	Hand	2,4,6,7,8,14	1500- 3600	H	Reg Temp Bor et Austr	WP	Healing, cuts, headache, fever, liver, kidney, digestive organs, jaundice, inflammation of the liver, appetite, food poisoning, antibiotic, tonic, blood purifier, hepatitis, migraine
<i>Tanacetum dolichophyllum</i> Kitamura	Guggulu	2,7,6	3000- 3600	H	Mexico	WP	Nasal drops, headache, body ache, incense, insecticide
<i>Sonchus oleraceus</i> L.	-	6,15,8	1500- 2000	H	Cosmop	Fl, AP, Lf, Latex	Febrifuge, jaundice, galactagogue, liver complaints, tonic
<i>S. wightianus</i> DC.	Ruzadara	6,8,15	1500- 2500	H	Ind Or	AP	Biols, cuts, wounds
<i>Saussurea heteromalla</i> (D.Don) Hand.Maz.*	Kuth	2,6	1500- 3000	H	Reg Himal	Lf, Rt	Leucoderma, fever, wounds, colic
<i>Saussurea albescens</i> (DC.) Sch.-Bip.	Bacha- Shang, Drapada, Prabachi	6	2800- 3600	H	Reg Himal	Lf	Spasmolytic, bronchitis, skin eruption
<i>Senecio graciliflorus</i> (L.) DC.	Zerjum	6,8,12,7,14	3200- 3600	H	Reg Himal	WP	Antidote against insect bite, ring worm disease, pusse ear, poisonous to cattle
<i>S. chrysanthemoides</i> DC.	-	2,6,7	2500- 3600	H	Reg Himal	WP	Inflammation of mouth, sore throat
<i>Solidago virga- aurea</i> L.	-	6,15,12,14	2800- 3600	H	Reg Bor Temp	Lf	Antiseptic, diuretic
<i>Siegesbeckia orientalis</i> L.	-	6,15,7	1500- 2200	H	Cosmos Trop	WP	Diarrhoea, bowl complaints
<i>Youngia tenuifolia</i> (Willd.) Babcock & Stebbins	-	6,8,2	2400- 3400	H	Reg Himal As Bor	Lf, Fl	Jaundice, Urinary complaints
Asclepiadaceae							
<i>Vincetoxicum hircundinaria</i> Medik.	-	6,15	2480- 3500	H	Europe Reg Caucas	WP	Poisonous to live stock, antitoxic against snake and scorpion poison, emetic
Anacardiaceae							
<i>Pistacia integerrima</i> Stew. ex Brandis	Kakar singhi	1	1500- 1800	T	Reg Himal Aegypt Persia	Fr, Wd	Cough, cold, antiscorpion, snake bite
<i>Rhus javanica</i> L.	-	1,6	1500- 2000	T	Reg Himal China Ins Sandvic	Fr, Wd	Cholera, gastric complaints, indigestion, purgative, skin disease, stomachache
Asparagaceae							
<i>Asparagus filicinus</i> Buch.-Ham ex Roxb.	-	6,8,15,14,7	2000- 3000	Sh	Reg Himal Burma	Fr, Rt	Antihelminthic, aphrodisiac, rheumatism, bleeding from nose, blood in urine, cough, diarrhoea,

							dysentery, febrifuge, gonorrhoea, headache, menstrual, gastric
Balsaminaceae							
<i>Impatiens glandulifera</i> Royle	Mewa	6,12,4,14	2500-3500	H	Reg Himal	Fl, Sd	Cooling, tonic, dye
<i>I. sulcata</i> Wall.		6,8,4,7,10	3100-3600	H	Reg Himal	Sd	Urticaria, itching, eczema, pimples, abortifacient
<i>I. racemosa</i> DC. *	Gadama	6,8	2000-2800	H	Reg Himal	Sd, AP	Cough, cold, rheumatism
<i>I. scabrida</i> DC. *	Gadama	6,4	1500-2000	H	Reg Himal	Sd, AP	Mucilaginous substance of the stem in abortion
Berberidaceae							
<i>Berberis aristata</i> DC.*	Kashmal	6,15,4,7,2	1800-3000	Sh	Ind or	Rt, Fr, Wd	Snake bite, boils, eye complaints
<i>B. asiatica</i> Roxb.	Kashmal	6,8,15	1500-1800	Sh	Ind or	WP	Antidote to snake bite complaints, malaria, piles
<i>B. chitria</i> Lindl.	Kashamal	6,12	2000-3000	Sh	Reg Himal	Rt, Fr, Wd	Snake bite, boils, eye complaints
<i>B. jaeschkeana</i> L.	Kaymali	6,8,15,12	3000-3600	Sh	Reg Himal	Rt, Ft	Eye trouble, ever, stomach disorders, skin diseases, blood purifier, astringent, diuretic, jaundice, menorrhoea
<i>B. lycium</i> Royle*	-	6,8,15,12,4	1500-2000	Sh	Reg Himal	Rt, Fr, Lf, Wd	Dysentery, eye complaints, malaria, stomach diseases
Betulaceae							
<i>Alnus nitida</i> (Spach) Endl. *	Koish	8	1500-2500	T	Reg Himal	Lf, St	Cuts, wounds, stomachache
<i>Betula utilis</i> D. Don	Bhoj patra	6,7	2800-3600	T	Reg Himal	Br, Wd, Lf	Antiseptic, burns, cuts, contraceptive, ear complaints, hysteria, jaundice, wounds, veterinary ailments
Boraginaceae							
<i>Cynoglossum lanceolatum</i> Forssk.		6,8,4,14,7	2000-3000	H	Arabia	WP	Aphrodisiac, cold, cough, wounds
<i>C. glochidiatum</i> Wall. ex Benth.	Kochi Shuwer	8,4,14,7	2500-3000	H	Ind Or Burma	Rt	Dyspepsia, digestive disorders
<i>Eritrichium canum</i> (Benth.) Kitamura	Changser, Tukse	6,15,4,14,2	3400-3600	H	Chili Ind Or	WP	Hasten child birth
<i>Hackelia uncinata</i> (Royle ex Benth.) Fischer	-	6,8,4,14,7,2	2600-3500	H	Reg Himal	Rt	Piles
<i>Lindelofia longiflora</i> (Royle ex Benth.) Baill.		1,2,4,7,12	2500-3600	H	Reg Himal	Lf	The leaves are ground, warmed mixed with flour, fat and borax and applied as poultice remedy for diarrhoea
Brassicaceae							
<i>Arabidopsis thaliana</i> (L.) Heynh.		6,11	2700-3600	H	As Occ	WP	Treatment of sores in mouth
<i>Barbarea intermedia</i> Boreau.	Marchhalam	6,8,12,4	2600-3400	H	Reg Bor Temp	Lf	Stomach pain
<i>Capsella bursa-pastoris</i> L.	Maslam	6,8,12,4	1500-3600	H	Reg Temp	WP	Blood purifier, diarrhoea, dropsy, gonorrhoea, urinary trouble,

							cuts, fever, wounds
<i>Cardamine impatiens</i> L.	-	6,8	1500-3000	H	Europe As Bor Reg Himal	WP	Antirheumatic, stimulant, diuretic, fever
<i>Lepidium apetalum</i> Willd.	-	6,15,8	2000-2600	H	Reg Himal	WP	Skin diseases
<i>Thlaspi arvense</i> L.	Treka, Bulbuli	6,8,7	2000-3400	H	Europe As Bor	WP	Backache, pulmonary, renal disease gonorrhea, swollen testicles, cuts, rheumatism
Campanulaceae							
<i>Cyananthus lobatus</i> Wall.		2,4,10	3000-3600	H	Reg Himal	Fl, Lf	Laxative, stomachache, wounds
Caryophyllaceae							
<i>Cerastium cerastoides</i> (L.) Britton Mem.		6,8,15,4	1500-3400	H	Reg Bor Temp et Arct	WP	Backache, headache, renal pain, cough
<i>Gypsophila cerastioides</i> D.Don		6,8,14,2	2500-3400	H	Reg Himal	WP	Boils, wound
<i>Silene edgeworthii</i> Bocquet	Gandoli	2,4,6,14	2500-3600	H	Reg Himal	AP, Lf	Eye infection
<i>S. vulgaris</i> (Moench) Garcke	Gudhlu	6,15,4,14	1500-2000	H	Europe Oriens	Lf	Asthma, bronchitis
<i>Stellaria media</i> (L.) Vill.	-	6,8,4	1500-3500	H	Reg Temp	AP	Bone fracture, burns, boils, wounds
Chenopodiaceae							
<i>Chenopodium botrys</i> L.	Sokana	15,11	1500-2200	H	Reg Bor	Lf, Fl	Gastric disorder, headache due to gall bladder, liver disease, anthelmintic, diuretic, laxative
<i>C. album</i> L.	Bathua	6,8,11,5	1500-2200	H	Reg Temp et Trop	Lf, Br	Indigestion, constipation
<i>C. ambrosioides</i> L.	Bithu	6,11,5	1500-1800	H	Ind Or	Lf	Anthelmintic, influenza, pneumonia, typhoid, vermifuge
Corylaceae							
<i>Carpinus viminea</i> Lindl.	-	6,8	1600-2200	T	Reg Bor	Lf, St, Br	Stomachache, liver complaints
Convolvulaceae							
<i>Convolvulus arvensis</i> L.	Grachi	6,8,11,5	1500-1800	H	Geront Temp	WP	Laxative, purgative, burns, bruises
Cannabaceae							
<i>Cannabis sativa</i> L.	Bhang	5,15	1500-3000	H	As Centr Himal Bor Occ	Sd, Br, St	Anthelmintic, appetite, bowel complaints, bronchitis, cuts, dyspepsia, ear, eye complaints, gonorrhoea, narcotic, piles, skin disorder, skin eruption, cold, cough, convulsions, cramps, epilepsy, laxative, nerve stimulant, paralysis of tongue, sleeping pills, tetanus
Caprifoliaceae							
<i>Lonicera angustifolia</i> Wall. ex DC.		8,15,12	2500-3200	Sh	Reg Himal	Fr	Relieve gastric troubles
<i>Viburnum cotinifolium</i> D.Don	Tallahna	6,8,12,7	1600-3100	Sh	Reg Himal	Fr, Wd, St	Menorrhoea
<i>V. mullaha</i> Buch.-Ham. ex D.Don	Dabh	6,8,15,7	1600-2800	Sh	Reg Himal	Fr, Wd, St	Stimulant, stomachache

Crassulaceae							
<i>Sedum ewersii</i> Wall.	-	6,4,14,2	2800-3600	H	Reg Himal Sibir Altaic	Lf, St	Toothache, appetite
<i>Rosularia rosulata</i> (Edgew.) H. Ohba	-	6,8,12,4	1500-2200	H	Reg Himal	WP	For milk production, skin disease
<i>Rhodiola heterodonta</i> (Hk. & Th.) A. Boriss.	Churupa	2,6	2800-3600	H	Reg Himal	AP, Rt	Cough, lung infection, sexual potency, stomachache, intestinal discomfort
Cucurbitaceae							
<i>Melothria heterophylla</i> (Lour.) Cong.	Bankakri	6,8,15,12	1500-2200	H	As Trop	Rt, Lf, Fr	Antifertility, cuts, diabetes, fever, stomachache
Coriariaceae							
<i>Coriaria nepalensis</i> Wall.	-	6,8,15	1500-2500	T	Reg Himal	St, Lf, Fr, Wd	Emetic
Cuscutaceae							
<i>Cuscuta reflexa</i> L.	Akash bel	6,8	1500-3000	H	Ind Or	WP	Bodyache, burns, cuts, nervine weekness, swell of legs, body parts, veterinary, kills lice swellings of testicles, headache, wart
Cyperaceae							
<i>Carex obscura</i> Nees		6,12	3000-3600	H	Reg Himal	AP	Insect bite
<i>Carex nubigena</i> D. Don	Krash	6,8,12,4,7	2900-3600	H	Ind Or	AP, Rt	Insect bite
Dioscoreaceae							
<i>Dioscorea deltoidea</i> Wall.	Shingli mingli	6,8,15	1500-3000	Cl	Ind Or	Tu	Source of diosgenin, sapogenin, oral contraceptive pills
Dipsacaceae							
<i>Dipsacus inermis</i>	-	6,8,4,7,2	2000-3000	H	Reg Himal	AP	Indigestion
Ericaceae							
<i>Cassiope fastigiata</i> (Wall.) D. Don	Salu	2,6	3300-3600	Sh	Reg Himal	WP	Itching
<i>Gaultheria trichophylla</i> Royle		6,2	2600-3600	H	Reg Himal	Lf, Fr	Cough, cold
<i>Rhododendron lepidotum</i> Wall.		6,2	2800-3500	Sh	Reg Himal	Lf	Bronchitis, cold, cough
<i>R. campanulatum</i> D. Don*	Shargal	6,8	3000-3600	Sh	Reg Himal	Rt, Lf, Fl	Boils, cold, cough, headache, rheumatism, sciatica, skin disease, syphilis, tonic, fever
<i>R. arboreum</i> Sm.	Brass	6,8,15,12,14	1500-2700	T	Ind Or Reg Himal Zeylan	Fl, Lf	Dysentery, fever, headache, rheumatism, wounds
<i>R. anthopogon</i> D. Don.*	Tarjhipaan	2,6	3000-3600	Sh	As Bor Reg Himal	Lf	Aromatic, bronchitis, cold, cough, gonorrhea, stomach ailment, tea preparation, reduce birth pains, delivery
<i>Lyonia ovalifolia</i> Wall.		6,8,14,12	1500-2800	T	Reg Himal Japan	Ap	Boils, pimples, skin eruptions, worms, wounds
Elaeagnaceae							
<i>Elaeagnus conferta</i> Roxb.	-	6,8,15	1500-2800	Sh	Japon	Fr, AP, Lf, Sd	Cough, bronchitis, febrifuge, expectorant
Euphorbiaceae							

<i>Euphorbia pilosa</i> L.	Dudawaj	6,2,10	2600-3200	H	Europe As Bor	WP	Constipation, emetic, wounds
<i>E. hirta</i> Lam.	Dudhi	6,8,15,12,4	1500-1800	H	Amphig Trop	WP	Abscess, antidote in snake bite, bronchitis infection, burns, colic, cough, cuts, diarrhoea, dysentery, eczema, excess lactation, eye complains, pain, ring worm, scabies, scorpion bite, toothache, vomiting
<i>E. stracheyi</i> Boiss.	Dudhibish	10	3000-3600	H	Reg Himal	AP, Latex	Rheumatism
<i>Ricinus communis</i> L.	Arandi	10,11	1500-1800	H	Europe As Bor	Sd	Asthma, blood purifier, cough, chronic bronchitis, headache, hepatic disease, pneumonia fever, rheumatism, snuff
Fabaceae							
<i>Astragalus chlorostachys</i> Royle ex Benth.		6,14,2	3000-3600	H	Reg Himal	AP	Tonic, febrifuge, tuberculosis
<i>A. himalayanus</i> Klotzsch		6,14,2	2800-3600	H	Reg Himal	Sd, Fl	Colic, leprosy, stangury
<i>Indigofera heterantha</i> Wall. ex Brand.		8,15,12,4,14	2000-2800	Sh	Reg Himal	Lf, St, Br	Diarrhoea, dysentery, cough, wound
<i>Lathyrus aphaca</i> L.		6,15,4	1500-1800	H	Europ Oriens	Sd, AP	Narcotic
<i>Lotus corniculatus</i> L.		1,2	2000-3600	H	Europe	AP	Anti-inflammatory
<i>Medicago lupulina</i> L.	-	1,2,7	2500-3600	H	Geront Bor Temp	AP	Liver, lung disease, jaundice, kidney disorder, pneumonia
<i>Parochetus communis</i> Buch.-Ham. ex D. Don	-	6,8,15,14,7	2000-3000	H	Ind Or Malaya Afr Trop	Lf	Stomach disease of babies, earache, cuts, wounds
<i>Trifolium repens</i> L.	-	6,15,7,2,10	1500-3000	H	Europe As Temp	AP	Cough, bronchitis, venereal disease
<i>Trifolium pratense</i> L.	-	6,8,15,12,4	3000-3500	H	Geront Bor Temp	AP	Astringent, bronchitis, cough
<i>Trigonella emodi</i> Benth.	Tuljima, Kuchona, Buksup, Ampang	6	2500-3600	H	Reg Himal	AP, Inf	Aromatic, insect and pest repellants especially wood borer from bean plants, acts as poison when green shoots are eaten
Fumariaceae							
<i>Corydalis govaniana</i> Wall.*	Bhutkeshi	6,4,14,7,2,8	3000-3600	H	Reg Himal	WP	Antipyretic, diuretic, eye disease, gastric disease, liver, muscle pain, skin disease, syphilis, tonic, leprosy, rheumatism
<i>C. cornuta</i> Royle		6,4,14,2,10	2000-2900	H	Reg Himal	Rt	Reduce body swelling, inflammation, fever
<i>Fumaria indica</i> Pugsley	-		1500-1800	H	Geront Trop	WP	Antihelminthic, blood purifier, bodyache,

							diarrhoea, diuretic
Gentianaceae							
<i>Gentiana carinata</i> (D. Don) Griseb.	-	6,2,10	2800- 3500	H	Reg Himal China	WP	Fever, headache
<i>G. kurroo</i> Royle		1,7	2000- 3000	H	Reg Himal	Rt	Appetite, gastric, secretion, stomachic, fever, urinary complaints, cough, appetizer
<i>Gentianella moorcroftiana</i> (Wall.ex G. Don) Airy Shaw		6,4,2	3400- 3600	H	Reg Himal	AP	Febrifuge, blood purifier, fever, cough, rheumatism, gastric
<i>G. tenella</i> (Rottb.) Borner		2,6,8	3000- 3600	H	Reg Bor et Arct	WP	Gastric, secretion, stomachic, cough, rheumatism
<i>Jaeschkea oligosperma</i> (Griseb.) Knobl.		6,2	3500- 3600	H	Reg Himal	WP, AP	Febrifuge, blood purifier
<i>Swertia alternifolia</i> Royle		6,7	3300- 3600	H	Reg Himal China	Wp	Laxative, stomachic, blood disease
<i>S. angustifolia</i> Buch.-Ham.ex D.Don	Chiraita	6,8,15	1600- 2200	H	Reg Himal China	WP	Malarial fever
<i>S. ciliata</i> (G. Don) Burt		6,4,2,10	3000- 3600	H	Reg Himal	AP, Lf	Malaria fever
<i>S. cordata</i> (G. Don) Cl.		6,8,15,2	2000- 3600	H	Reg Himal	WP	Anthelmintic, antiperid, appetite, laxative, stomachic, blood disease, febrifuge
<i>S. paniculata</i> Wall.	Chiraita	12,4,7,2	1700- 2200	H	Reg Himal	WP	Fever
Geraniaceae							
<i>Geranium wallichianum</i> D. Don	Role	6,15,12,4,14,2,10	2800- 3500	H	Reg Himal	Rt	Astringent, ear and eye diseases, toothache
<i>G. nepalense</i> Sw.	Lalijar	6,12,4,7,2	1500- 3500	H	Reg Himal	Rt	Cuts, jaundice, toothache, ulcer, wounds, stomach complaints
<i>G. himalayense</i> Klotz.	Porlo	1,2,6,7	3000- 3600	H	Europe As Bor	Rt, Fl	Bruises, stomache
<i>G. pratense</i> L.	Porlo	6,8,15,12,4	2800- 3600	H	Europe As Bor	AP	Naksur, poultice to bruises, stomach trouble, cough, jaundice, gastric disorder, headache
<i>Erodium cicutarium</i> L.	-	6,8,11	1500- 2000	H	Reg Meditr As Med	WP	Dropsy, dysentery
Hippocastanaceae							
<i>Aesculus indica</i> Caleb ex Wall.	Khanor	6,8,4	1600- 2800	T	Reg Himal	Lf, St	Anthelmintic, dislocated joints, diuretic, leucorrhoea, skin fissures, cracks, veterinary medicine, wounds
Haemodoraceae							
<i>Ophiopogon intermedius</i> D. Don	-	6,8,15	2000- 2800	H	Ind Or	Fr	Boils, cuts, injuries, rheumatism
Hypericaceae							
<i>Hypericum uralum</i> Buch.	Tumbhul	15,4,14,11	1500- 2600	Sh	Reg Himal	Rt, Lf	Pimples, ringworm, fever, urine complaints, sores

<i>H. perforatum</i> L.	Basant	6,11,5	1500-2000	H	Europe Pratis	WP	Cuts, imunity, malarial fever, anti-depressant, anti- tumourous, anti-cancerous, anti-viral
<i>H. oblongifolium</i> Choisy	Peol	15,4,14,11	1500-2000	Sh	Reg Himal	Rt, Ft	Boils, wounds
Iridaceae							
<i>Iris kumaonensis</i> D. Don	Lathum	6,15,12	2500-3600	H	Reg Himal	Rt, Lf	Pimples, ringworm, fever, urine complaints sores
Juglandaceae							
<i>Juglans regia</i> L.*	Akhrot	6,8,15,4	1500-2500	T	As Occ Reg Himal	Br, Lf, Fr	Frost bite, rheumatism, sores of toes, toothache
Lamiaceae							
<i>Ajuga bracteosa</i> Wall. ex Benth.	Neelkanthi	6,15,12,4,11	1500-3000	H	Afr Trop Ind Or As Or	Lf, WP	Malarial fever, tonic, astringent, febrifuge
<i>A. parviflora</i> Benth.	Nilkanthi	6,15,12,4,11	1500-2800	H	Reg Himal	Lf, Sd	Ascariasis
<i>Clinopodium vulgare</i> L.		6,15,12	2000-3500	H	Europe Canada	AP	Astringent, carminative, heart tonic
<i>Elsholtzia flava</i> Benth. **	-	6,8,15,12	2000-2600	Sh	Reg Himal	Fl	Skin disease, diarrhoea, stomachache
<i>E. fruticosa</i> D. Don	-	6,8,15,12	2000-2800	Sh	China	Lf, Fr, Sd	Relieve sciatica
<i>Nepeta eriostachya</i> Benth.		4,6,2	3000-3600	H	Reg Himal	WP	Eyes, diuretic
<i>N. discolor</i> Royle ex Benth.		1,2,7	2700-3600	H	Reg Himal	WP	Eyes infection, cold, cough
<i>N. floccosa</i> Benth.		1,7,6	2700-3600	H	Reg Himal	Fl, Lf	Blood purifier, fever, cold
<i>N. longibracteata</i> Benth.		1,7,6	2700-3600	H	Reg Himal	AP	Liver disorder, stomachache, indigestion
<i>N. leucophylla</i> Benth.		15,4,2,7	1800-3200	H	Reg Himal	Lf	Malarial fever
<i>Salvia moorcroftiana</i> Wall.*	-	6,15,12,4	1500-3000	H	Reg Himal	Rt	Astringent, emetic, poultice
<i>S. lanata</i> Roxb.	Thooth	6,15,12	1500-2500	H	Reg Himal	Rt, Lf, Fl	Adulterant, colic, diarrhoea, cold, cough
<i>S. nubicola</i> Wall.	-	6,15,12,4	1500-2500	H	Europe Austr Oriens Reg Himal	Lf, Rt	Wounds, cold, cough
<i>Roylea cinerea</i> D. Don*	Kadu	1,11,7	1500-1800	Sh	Reg Himal	Lf	Blood purifier, fever, pimples, snuff in tonsils
<i>Prunella vulgaris</i> L.	Syangave	2,6	2000-3500	H	Reg Temp	WP	Breathing problem, cerebral complaints, cold, fever, gastric complaints, headache, liver complaints
<i>Phlomis bracteosa</i> Royle	Jamtikle	6,4,14,7,2	2800-3600	H	Reg Himal	Fl, AP	Eye tonic, common in household remedies
<i>Origanum vulgare</i> L.	Ban tulsi	6,8,15,12,2	1500-3500	H	Europe As et Afr Bor	Lf, AP	Antiseptic, bronchitis, colic, diarrhoea, bath to ladies after child birth
<i>Plectranthus rugosus</i> Wall. ex Benth.	Shain	15,12,10	1500-2500	H	Reg Himal	Lf	Abdominal pain, fever, worms, gastric
<i>Mentha longifolia</i> L.	Jangli Pudina	6,8,15	1500-3400	H	Reg Bor Temp	WP	Antiseptic, carminative, digestive, on wound to kill maggots

<i>Thymus linearis</i> Benth.	Ban jawain	6,15,12,4,2	1800-3300	Sh	Pakistan	WP	Antifungal, antibacterial, pain reliever during childbirth to mother, whooping cough, epilepsy, skin eruption, reduce excessive bile secretion, juice, alopecia or hair loss, spices phlegm counter spasmodic pains, stomach complaint, cold, toothache, kill hookworms, liver compliant, heating effect
Liliaceae							
<i>Cardiocrinum giganteum</i> (Wall.) Makino	Bhuj Pokhri	6,8,	2200-3100	H	Japan	Bb, Lf, St	Antiseptic, wounds, bruises
<i>Lilium polyphyllum</i> D.Don ex Royle *	Kakoli	6	2100-3000	H	Reg Himal	Bb	Refrigerant, galactagogue, expectorant, diuretic, aphrodisiac, antipyretic, tonic
<i>Nomocharis oxypetalum</i> (Royle) E. H. Wils. *	Sheerkakoli	14,7,2	3000-3600	H	Reg Himal	Bb	Asthma, antirheumatic, febrifuge, galactagogue, tuberculosis, haemostatic, ophthalmic, oxytocic
<i>Polygonatum verticillatum</i> L..	Salam misari	6,8,4,14,7,2	1500-3500	H	Europe As Bor	Rh, Tu	Appetite, nervine tonic, kidney trouble, wounds
<i>P. multiflorum</i> L.		6,8,14	3200-3600	H	Europe As Bor Afghan	Tu, AP	Tonic, urino-genital disorders
<i>P. cirrhifolium</i> Wall.	Salaam misari	6,7,2	1800-3500	H	Reg Himal As Bor	Tu, Rt, Lf	Aphrodisiac, appetite, blood purifier, nervine tonic, fever, tonic
<i>Paris polyphylla</i> Sm.	Satwa, Kakoli	6,4	1700-2600	H	Reg Himal China	Tu	Diarrhoea, fever, Febrifuge, analgesic, antiphlogistic, antispasmodic, antitussive, depurative, narcotic, snake bite, ulcer, antibacterial
Linaceae							
<i>Reinwardtia indica</i> Dum. *	Piyan	6,8,15,12,4	1500-1700	H	Ind Or	AP	Tongue cleaning
Loranthaceae							
<i>Viscum album</i> L.	Rinni	6,8	1500-2000	Sh	Europe As Temp	Lf, WP	Abortifacient, antifertility, bodyache, piles, ulcer, urine complaints
Malvaceae							
<i>Malva verticillata</i> L.	Chiroti	6,8,14	1500-2500	H	Europe As et Afr Bor	WP	Cough, emollient pectoral complaints, piles, ulcer, urine complaints
<i>M. sylvestris</i> L.	Sotsal	6,8,14	3100-3600	H	Europe As Temp	WP	Stomach cramp, whooping cough, Piles, ulcer, urine complaints
Meliaceae							
<i>Toona serrata</i> (Royle) M. Roem.	Daral	6,8,15,12	1500-2000	T		St, Br	Antiseptic, dysentery,

							bronchitis, fever, gastric trouble
<i>T. ciliata</i> Roem.	Daral	6,8,15,12	1500-1700	T	Malaya Austr	Br, Fr, Lf	Antiseptic, dysentery, bronchitis, fever, gastric trouble
Morinaceae							
<i>Morina longifolia</i> Wall.	Biskandare	6,15,4	2000-3500	H	Reg Himal	Rt	Boils, wounds, burnt, unconsciousness
Moraceae							
<i>Ficus palmata</i> Forssk.	Fegra	6,15,8	1500-1800	T	Afr Trop Arab Ind Or	Fr, Lf	Dysentery, indigestion, laxative
Myrsinaceae							
<i>Myrsine africana</i> L.	-	6,15,4	1500-2200	Sh	Reg Himal Afr Austr et Trop Ins Azor	AP	Cathartic, colic pain, vermifuge
Nyctaginaceae							
<i>Mirabilis jalapa</i> L.	Chandrakanti	8,6,11	1500-1800	H	Amer Trop	Rt, Lf	Blister, boils, cold at child birth, piles
<i>Boerhaavia diffusa</i> L.	-	11,10,15,6	1400-1600	H	Cosmop Trop	WP	Diuretic, laxative, expectorant, asthma, jaundice, oedema
Onagraceae							
<i>Epilobium hirsutum</i> L.		6,15,8,4,7	1600-3000	H	Europe As Bor	AP	Poisonous to cattle
Orchidaceae							
<i>Calanthe carinata</i> Lindl.	-	6,15,8,4,14	2000-3300	H	Reg Himal	Lf, Bb	Sores, eczema, aphrodisiac
<i>Dactylorhiza hatagirea</i> D.Don	Panja	4,2,6	3000-3600	H	Europe Afr Bor Oriens Reg Himal	Tu	Antibiotic, wound healing, bone fracture, cough, cold, cuts, sexual disability, rheumatism, blood purifier, tonic, many ayurvedic and unani medicine preparation, expectorant
<i>Malaxis muscifera</i> (Lindl.) Ktze.		7,2	3000-3600	H	Europe	Rt	General tonic
<i>Epipactis hebeborine</i> (L.) Crantz	-	6,8,2	2500-3600	H	Reg Himal	Lf, Rh	Fever, blood purification, aphrodisiac
<i>E. giganteum</i> Dougl. ex HK		6,8	2200-3500	H	Am Bor As Temp	Lf, Rh	Mood-elevating antispasmodic, sedative
<i>Goodyera repens</i> (L.) R.Br.	-	6,8,7,2	2300-3300	H	Reg Bor Temp	AP	Syphilis, blood purifier
<i>Habenaria edgeworthii</i> Hk.f. ex Collett *	-	6,2	2500-3300	H	Ind	Tu	Blood purifier, rejuvenator
<i>Herminium lanceum</i> Thunb. ex Sw.	-	2,6,8	2400-3200	H	Java	AP	Urinary problems
Oleaceae							
<i>Olea ferruginea</i> Royle	Kahu	4,12,15	1500-1800	T	Ind Or	Rt	Diarrhoea, aphrodisiac
<i>Syringa emodii</i> Wall. ex Royle	-	6,8,15	2800-3300	Sh	Reg Himal	Sd, Fl, Lf	Fever, Stomach disorder
<i>Jasminum humile</i> L.	Sungli	6,8,15,12,4	2000-3000	Sh	As Trop	Br, Rt, Fl	Sinus, skin disorder, blood, heart disease
<i>J. officinale</i> L.	Juhi	6,8,12,4	2000-2700	Sh	Ind Bor Occ China	Fl, Lf, Rt	Ringworm
Oxalidaceae							
<i>Oxalis acetosella</i> L.	Malori	6,8,12,4,2,11	3000-3600	H	Reg Bor Temp	WP	Cooling, cough, cuts, diarrhoea, digestive, dysentery, fever, insect bite, scurvy, skin

							disease, stomachache
<i>O. corniculata</i> L.	Malori	6,8,12,4,11	1500- 2600	H	Amphig Temp et Trop	WP	Appetite, cooling, diarrhoea, digestive, dysentery, scurvy, skin disease, stomachache, swelling, wart
<i>O. latifolia</i> Kunth	Malori	6,8,15	2000- 2500	H	Mexic	WP	Cooling, cough, cuts, diarrhoea, digestive, dysentery, fever, stomachache
Parnassiaceae			1600- 3000				
<i>Parnassia nubicola</i> Hk. f.	-	6,15,4,7,2,8	2800- 3600	H	Reg Himal	Tu	Food poisoning, snake bite
Paeoniaceae							
<i>Paeonia emodi</i> Wall. ex. Royle	Himalayan peony	1,6	1800- 2500	H		WP	Hysteria, convulsions, colic, uterine diseases, obstructions of the bile duct, blood purifier, diarrhoea, haemorrhoids
Podophyllaceae							
<i>Podophyllum</i> <i>hexandrum</i> Royle	Ban kakri	1,2,7	2800- 3600	H	Ind Or As Trop	WP	Cough, purgative, chronic, constipation, tuberculosis, hepatic, stimulant, vermifuge, kill worms, gynecological disorder, skin disease as warts, tumors, cancer, childbirth, cuts, wounds, diarrhoea, gastric ulcer, hepatic disease
Poaceae							
<i>Eragrostis minor</i> Host.		6,8,15,12,4	2500- 3300	H	Reg Trop et Temp	Rt, AP	Stomach complaints
<i>Cymbopogon</i> <i>distans</i> (Nees) Wats.	-	6,15,12,4	1600- 2500	H	Reg Trop	Sd, Inf	Cough, cold
<i>C. martinii</i> (Roxb.) Wats.	-	6,15,12	1500- 1800	H	Reg Trop	Lf, Oil	Biliousness, rheumatism, skin disease
<i>Cyanodon dactylon</i> L.	Durba	6,8,15,12,4	1500- 2000	H		WP	Antifertility, carbuncle, cramps, cooling cramps, dropsy, dysentery, hysteria, headache, menstrual complaints, ophthalmia, piles, snake bite, sores, stop bleed tonic, ulcers in stomach, urinary complaints, vomiting, wounds
<i>Saccharum</i> <i>spontaneum</i> L.	Philoo	8,12	1500- 2000	H	Geront Trop	Lf	Asthma, cholera
Polygalaceae							
<i>Polygala abysinica</i> L.	-	6,15,12	1800- 2500	H	As Temp Et Trop	Rt	Cold, cough, diuretic, bronchitis

Polygonaceae							
<i>Bistorta amplexicaulis</i> (D.Don) Greene	Dori ghash	6,8,12,14	1500-3300	H	Nepal India, Bhutan China	Rt, Rh, Lf	Cough, dysentery, haemostasis, tonic
<i>B. affinis</i> (D.Don) Greene	Roti muhin	6,4,7,2	3000-3600	H	Reg Himal	Rt, Sd	Cold, diarrhoea
<i>Persicaria nepalensis</i> (Meisn.) Gross	Trod	4,2,8	1800-3000	H	As et Afr Trop et Sub Trop	WP	Swelling
<i>P. capitata</i> (D.Don) Gross	Kalovar	14,8,4,2	1500-1800	H	Reg Himal	WP	Antidote in snake bite and insect sting, boils
<i>Polygonum hydropiper</i> L.		6,8,15,4	1500-1800	H	Reg Temp Bor et Austr	Lf	Tongue infection in cattle
<i>P. plebium</i> R.Br.		1,4,12	1500-2200	H	Geront Trop et Temp	AP, Rt	Baldness, lung disease, diarrhoea, dysentery
<i>P. polystachyum</i> Wall. ex Meissn.		1,2,7,6	3000-3600	H	Ind Or (Indian Subcontinent, As Trop)	AP	Acidity, indigestion
<i>P. recumbens</i> Royle ex Bab.		6,12,2	1800-2800	H	Reg Himal	AP	Skin disease, blood purifier, carbuncle, healing
<i>Rumex nepalensis</i> Spreng.	Malora,	6,8,4,7,2	1500-3600	H	As Occ Ind Or Malaya Afr Austr	Lf, Rt	Boils, colic, cooling, diuretic, dymenorrhoea, purgative, scurvey, swelling of muscle, stomachache
<i>R. hastatus</i> D. Don	Bilmora	15,14	1500-1800	H	Reg Himal	Lf	Cuts, wounds, anti-nettle sting
<i>Rheum australe</i> D. Don*	Dolu ,chuche	2,4,14	3000-3600	H	Austr	St, Lf, AP	Abdominal pain, appetite, asthma, bronchitis, fever, cuts, dysentery, laxative, eye disorder, sprain, swelling, ulcer, wounds
<i>R. webbianum</i> Royle*	Pambahac	2,4,14	3000-3600	H	Reg Himal	Rt, Lf	Abdominal disorder, boils, astringent, purgative, wounds
<i>R. spiciforme</i> Royle*	Taturi	2,4,7,14	3000-3600	H	Reg Himal	Rt	Boils, astringent, purgative, wounds
<i>Oxyria digyna</i> L.	Chyakulti	6,8,2	2500-3600	H	Reg Bor Alp et Arct	WP	Appetite, fever, laxative
<i>Fagopyrum dibotrys</i> D. Don	Ban phapar,	6,8,15,11,5	1800-2800	H	Reg Himal China	Rt, Lf	Antibiotic
Plantaginaceae							
<i>Plantago depressa</i> Willd.	Thram	6,4,7,2,	2500-3200	H	Sibir	WP	Cure dysentery, wounds, piles, infant health
<i>P. himalaica</i> Pilger		1,2,7	3000-3500	H	Reg Himal	WP	Diarrhoea, dysentery, sedative, headache, lumber pain, renal colic and backache
<i>P. major</i> L.	Karecha	1,2,7	1800-3000	H	Europe naturalized in Cuba	Sd, Lf	Fever, cough, gastric disorders, stomach disease, wounds
<i>P. lanceolata</i> L.		6,8,14,10	1600-2200	H	Ind Or	Lf	Blood purifier, cuts, wounds
Papaveraceae							
<i>Meconopsis aculeata</i> Royle *	Blue popy	4,14,2	3000-3600	H	Reg Himal	WP	Backache, colic, renal pain tonic
Primulaceae							

<i>Androsace rotundifolia</i> Hardw.	Zigsolo marpo	6,8,2	2000-3400	H	Reg Himal China	AP	Stomachache
<i>Primula denticulata</i> Sm.		6,8,4,7,2,	2800-3600	H	Reg Himal	AP, Fl, Rt	Diabetes, headache, appetizer, liver problem, giddiness, pulmonary disease, urinary ailments, kill lice
<i>P. rosea</i> Royle		6,15,7,2	3400-3600	H	Reg Himal	Rt	Muscular pain
Punicaceae							
<i>Punica granatum</i> L.	Anaar	15,12	1500-1800	T	Europ Austr Maurit	Rt, St, Fr, Lf	Antihelminthic, checks bleeding of child birth and miscarriage, cholera, cooling, dysentery, eye problems, pimples, stomachache
Philadelphaceae							
<i>Deutzia staminea</i> R. Br.	-	6,8,12,4,14	1500-2600	Sh	Reg Himal	AP, Lf	Diuretic
Phytolacaceae							
<i>Phytolacca acinosa</i> Roxb.	Jharka	6,8,15,4	2000-3000	H	Reg Himal China	Lf, Rt	Stomach cramps, dysentery, wounds, cattle pneumonia, local beverages
Rosaceae							
<i>Agrimonia pilosa</i> Ledlb.	Kuri	15,12,14	1800-3000	H	Reg Bor Temp	Ap, Rt	Cough, diarrhoea, urinary problems
<i>Fragaria nubicola</i> Lindl. ex Lacaita	Bumbra	6,8,15,12,4,14,7,2,10	2000-3600	H	Europe California	Fr	Earache
<i>Prinsepia utilis</i> Royle	Bhekal	6,8,15,12,4	1600-2600	Sh	Reg Himal	Sd	Burns, cuts, rheumatic
<i>Potentilla argyrophylla</i> Wall. ex Lehm.		6,8,15,12,4,14,7,2	3200-3600	H	Reg Himal	Rt, Fl	Angina pectoris, toothache, gingivitis, wound as analgesic
<i>P. atosaguinea</i> Lodd. *		6,8,15,4,7,2	2600-3600	H	Reg Himal	Lf	Analgesic
<i>P. fruticosa</i> Lim.	Bhumbal	15,4,14	3000-3600	Sh	Reg Himal	AP	Astringent
<i>Geum elatum</i> Wall.*		6,4,7,2	3000-3600	H	Reg Himal	Rt	Astringent, dysentery, diarrhoea
<i>Rubus ellipticus</i> Sm.	Aakh	6,8,15,4	1500-1600	Sh	Ind. Or	Fr, Rt	Dysentery, malaria, stomachache, worms
<i>R. biflorus</i> Buch.-Ham. ex Sm.	Aachhe	6,4,14	1800-2800	Sh	Reg Himal	Fr, Rt	Diarrhoea
<i>R. paniculatus</i> Sm.	Lal Aachha	6,8,4,14	2000-2800	Sh	Reg Himal	Lf, Fr	Diarrhoea, stomachache
<i>R. niveus</i> Thunb.	Anchha	6,8,14,7	2000-3200	Sh	Reg Himal	Fr, Rt, Lf	Stomachache
<i>Prunus cornuta</i> (Wall. ex Royle) Steud.	Jammu	6,8,7	2200-3000	T	Europ As Bor	Lf, Fr, Wd	Rheumatism, wounds
<i>Pyrus pashia</i> Buch.-Ham. D.Don		6,8,15,12	1500-2000	T	Reg Himal	Lf, Fr	Eye disorder, digestive disorders
<i>Rosa moschata</i> Lindl.	Kuja	6,8,15,4	1500-2400	Sh	Oriens	Lf, Fl, AP	Wounds, ophthalmia, diarrhoea
<i>R. sericea</i> Lindl.	Shami	6,15,4,14	2500-3500	Sh	Reg Himal	Fl, Rt, Fr	Uterine disorders
<i>R. webbiana</i> Wall. ex Royle	Chawag	6,8,4,14,7	2500-3600	Sh	Reg Himal	Fl, Fr, AP	Hepatitis, jaundice, stomachache
<i>Sorbaria tomentosa</i> (Lindl.) Rehder	Chhattayee	6,8,12,4,14	2000-2900	Sh	Reg Himal As Bor	Wd, St	Asthma

<i>Sorbus aucuparia</i> L.		1,2,6	3000-3300	Sh	Europe As Bor	Fr	Cough, cold
<i>Spiraeacanesens</i> D.Don	Kati ,Sagal	6,8,15,12,4	1800-2800	Sh	Reg Himal	Br, St	Sores, wounds
<i>S. bella</i> Sims.	Chakhu	6,8,12,4,7	2500-3500	Sh	Reg Himal	Sd	Sores, wounds
Ranunculaceae							
<i>Anemone obtusiloba</i> D. Don		4,14,7,2,10	2800-3600	H	Reg Himal	Rt, Sd	Menorrhoea, rheumatism, purgative, cooling
<i>A. rivularis</i> Buch.-Ham.	Chutrak	6,12,4,7,2	3100-3600	H	Ind Or	WP	Ear complaints, appetizer, gastric, headache, wounds, sores, veterinary medicine
<i>A. rupicola</i> Camb.	Mangaltuksh i	6,8,4,7,2	3100-3600	H	Reg Himal	AP	Diuretic
<i>A. vitifolia</i> Buch.-Ham. ex DC.	Mimiri	6,8	2000-3300	H	Reg Himal	Rt, Lf	Ringworm, eczema
<i>Aconitum heterophyllum</i> Wall.ex Royle *	Patish	7,2,6	3200-3600	H	Reg Himal	Rt	Anthelmintic, cold, cough, diarrhoea, dyspepsia, fever, gall bladder, abdominal pain, gastric, piles, vomits, worms
<i>A. violaceum</i> Jacq.*	Jhimber	2,6,8	3500-3600	H	Reg Himal	Rt	Cough, gastrointestinal complaints, renal pain, rheumatism, stomachache
<i>Aquilegia pubiflora</i> Wall. ex Royle	-	6,8,12,4,2	2400-3400	H	Ind Or	AP	Febrifuge
<i>Actaea spicata</i> subsp. <i>acuminata</i> L.		6,8	2400-3400	H	Reg Bor Temp	Lf, Fl	Sedative, sciatica, body inflammation
<i>Caltha palustris</i> L.	Shomalap	6,8,2	2500-3200	H	Reg Bor Temp et Arct	Rt, Lf	Gonorrhea, cattle wound, hand clean
<i>Clematis barbellata</i> Edgew.		6,8,12,4	3000-3300	Sh	Reg Himal	Rt, Lf	Itching, skin disorder
<i>C. orientalis</i> L.		1,7	2000-2800	Sh	Reg Himal Oriens	Fl, Lf	Fever
<i>C. buchananiana</i> DC.	Veraphul	6,8,12,4,14	1500-1800	Cl	Reg Himal	Rt, Lf	Skin diseases, sores, tumors
<i>Delphinium denudatum</i> Wall.*	Laskar, Nirbishi	6,8,12,4,7,2	1600-2000	H	Reg Himal	Rt	Abdominal pain, anthelmintic, respiratory complaint, toothache, ulcer, vetlice, ticks
<i>D. vestitum</i> Wall. ex Royle	-	6,8,12,4,7,2	3200-3600	H	Reg Himal	WP	Antidote to snake bite, cuts, wounds, fever, diarrhoea
<i>Ranunculus diffusus</i> DC.		6,4	2000-3000	H	Ind Or Malaya	WP	Boils
<i>R. hirtellus</i> Royle	Goodi	6,8,12,4,7	2800-3300	H	Reg Himal	AP	Counter irritant, anthelmintic, vermicial, cooling, emoll, wounds
<i>Thalictrum alpinum</i> L.		2,14	3000-3600	H	Reg Bor et Arct	Rt, Lf	Fever
<i>T. cultratum</i> Wall.		6,8,12,14	2600-3500	H	Reg Himal	AP, Rt	Urinary infection
<i>T. foliolosum</i> DC.	Mamiri	6,8,15,4	1600-3000	H	Europe	Rt	Abdominal pain, blood purification, boils, earache, eczema, eye disease, fever luecoderma, piles, rheumatism,

							gout, tonic, toothache
<i>T. reniforme</i> Wall.	Mamiri	6,8	2600- 3400	H	Reg Himal	Rt	Cataract
Rhamnaceae							
<i>Rhamnus purpureus</i> Edgew.*	Chaunsha	6,8,4	1500- 3000	Sh	Reg Himal	St, Fr, Lf, Wd	Digestive disorders
<i>R. virgatus</i> Roxb.		6,15,4,14	3400- 3600	H	Ind Or As Bor	St, Fr, Br	Emetic, purgative, eczema, ringworm, affection of spleen
Rubiaceae							
<i>Rubia cordifolia</i> L.	Jamithi	1,7,11	1500- 1800	H	As Trop et Temp Afr Trop	St, Rt, Lf	Antidote to scorpion bite and snake bite, astringent, chest complaints, leucoderma, inflammation, jaundice, liver complaints, paralysis, menorrhoea, urine complaints, ulcer, stomachache
<i>Galium aparine</i> L.		6,8,12,4,7,2	1800- 3600	H	Reg Bor Temp et Magell	Lf, WP	Astringent, skin disease
<i>G. acutum</i> Edgew.	-	6,4,7,2,10,8	2400- 3500	H	Reg Himal	WP	Antiscorbic, diuretic, skin disease
<i>G. asperifolium</i> Wall.		6,8,12,7,9	3000- 3600	H	Europe As Temp	WP	Skin disease, diuretic, urinary problem
<i>G. rotundifolium</i> L.		8,12,4,7,2	2700- 3500	H	Europ As Temp	WP	Colic, dyspepsia, jaundice
Rutaceae							
<i>Zanthoxylum armatum</i> DC.	Tirmira	15,12,4,14	1500- 1800	Sh	Reg Himal China	Br, St, Lf, Sd	Anthelmintic, carminative, cough, cholera, fever, eczema, itching, leucoderma, piles, rheumatism, small pox, snake bite, stomachache, indigestion, tonic, tooth complaints
<i>Boenninghausenia albiflora</i> (Hk.f.) Reichb. ex Meissn.	Pissumar	6,8,12,14	1800- 2800	H	Reg Himal Japan	Rt	Antiseptic, cuts and wounds, vomiting, dysentery
<i>Skimmia laureola</i> (DC.) Zucc.	Neir	6,8	2500- 3200	Sh	Reg Himal	Lf	Antiseptic, boils, gastric pain, rheumatism, scabies, small pox
Salicaceae							
<i>Populus ciliata</i> Wall. ex Royle	Pak butra	6,15,11	2000- 3500	T	Reg Himal	St, Br, Inf, Lf	Bone fracture, tonic, stimulant, blood purifier
Saxifragaceae							
<i>Astilbe rivularis</i> Buch.-Ham. ex D. Don	Phah	6,8,15,4,2	1800- 3500	H	Reg Himal	Lf	Blood purifier, toothache
<i>Bergenia stracheyi</i> Hook.*	Pashanbhed	6,8,4,14,2	3000- 3600	H	Baja California Sur (Mexico, Northern America)	Rt, Lf	Kidney stone, poultice, stiff joint, diuretic, antiscorbutic, astringent, fever, ophthalmia, tonic, cuts, wounds
<i>B. ligulata</i> (Wall.) Engl.*	Pashanbhed	6,8,4,14,7	1500- 3600	H	Reg Himal	Rt, Lf	Asthma, boils, cuts, wounds,

							burns, fever, liver complaints, ophthalmia, piles, thirst, kidney stones, urine complaints, diarrhoea of cattle
<i>Saxifraga flagellaris</i> Willd. ex Sternb.		1,2,4	3500-3600	H	Reg Bor et Arct	Lf, Fl, St	Poultice, wounds, antiseptic, jaundice, hepatitis
Scrophulariaceae							
<i>Euphrasia himalayica</i> Wettst.		2,3,7	3200-3600	H	Reg Himal	Lf	Eye disorder
<i>Pedicularis bicornuta</i> Klotzsch ex Klotzsch	Lugru serpo	2,6,8	3200-3600	H	Reg Himal	AP	Burns, rheumatism, gout
<i>P. hoffmeisteri</i> Klotzsch		2,6,10	3200-3600	H	Reg Himal	Rt	Cattle flatulence
<i>P. pectinata</i> Wall.ex Benth.		6,4,2	3400-3600	H	Reg Himal	WP	Cold, cough, bodyache, sedative
<i>Picrorhiza kurrooa</i> Royle ex Benth.	Karu	4,14,2	3400-3600	H	Reg Himal	Rt, Rh, Lf, St	Anemia, arthritis, asthma, bitter tonic, cardiotonic, cold, dyspepsia, diarrhoea, influenza, diuretic, fever, hepato protective, indigenous system of medicine, jaundice, liver trouble, stomach, laxative
<i>Scrophularia calycina</i> Benth. & Scroph.		2,7	2000-2800	H	Reg Himal	AP, Lf	Stimulate appetite
<i>S. himalensis</i> Royle ex Benth.		6,8,15,4,14	3000-3500	H	Reg Himal	Lf	Insecticide
<i>Verbascum thapsus</i> L.	Kolomasta, Janglitamak u	15,12,4	1500-3000	H	Reg Himal et Caucas Sibir	Lf, AP, Sd	Asthma, cough, diarrhoea, dyesentry of sheep, poultice, skin disease, narcotic, fish poisoning, ear infection,
Sapindaceae							
<i>Sapindus mukorosii</i> Gaern.	Doda	11	1500-1700	T	As Trop	Fr, Sd	Fever, skin diseases, insecticidal
Selaginaceae							
<i>Lagotis cashmeriana</i> (Royle ex Benth.) Rupr.		6,8,15	3200-3600	H	As et Am Bor et Arct	Rt, Lf	Skin disease
Smilacaceae							
<i>Smilax aspera</i> L.	Kukardara	12,6	1500-1800	Sh	Europe Oriens Ind Or	Rt	Diuretic, diaphoretic, rheumatism, arthritis, skin eruption, sores, wounds
Solanaceae							
<i>Datura stramonium</i> L.	Datura	15,11,5	1500-1800	H	Trapazia	Lf, Sd, Fr	Dislocation of joints, jaundice, rheumatism, stomachache, toothache, veterinary lactation
<i>Solanum nigrum</i> L.	Makoy	15,11,5	1500-2000	H	Ampliga	WP	Antidote to opium toxic, boils, cough, diarrhoea, dysentery, ear and eye problems, fever,

							goiter, testicles, kidney, bladder, piles, rheumatism, sprain, stomachache, swell, throat trouble, ulcer in mouth
Symplocaceae							
<i>Symplocos chinensis</i> (Lour.) Drace	Lash	12,15	1500-2500	T	Reg Himal Burma china Japan	Br	Astringent, diarrhoea
Thymeleaceae							
<i>Wikstroemia canescens</i> Meissn. **	Bhojishel	6,8,15,12	2000-2800	Sh	Reg Himal Zeylan China	Lf, Br	Piscicidal
<i>Daphne papyracea</i> Wall. ex Steud.*	Jangli mirch	6,8,15,12,4	1800-2700	Sh	China	Rt, Lf	Intestinal complaints
Trillidiaceae							
<i>Trillidium govanianum</i> Wall.	Satwa	1,6,2	2500-3000	H	Reg Himal	Tu	Dysentery
Ulmaceae							
<i>Celtis australis</i> DC.	Kharik	6,8,11,5	1500-1800	T	Europe As Temp Ind Or	WP	Bone fracture, pimples, contusions, sprains and joint pain, leprosy
<i>Ulmus wallichiana</i> Planch	Mahani	6,8,11	1500-2000	T	Ind Or	Lf, St	Bone fracture, Bone dislocation
Urticaceae							
<i>Urtica dioica</i> L.	Kungsh, aahan	2,6,12,8,4	1800-2800	H	Reg Bor Temp	Lf	Blood purifier, jaundice, skin eruption, astringent, dog bite wounds, kidney disease, postnatal tonic, throat pain, tonic
<i>U. parviflora</i> Roxb.	Aahan	6,8,14	1500-2800	Sh	Reg Himal	Sd, Lf, Inf, Rt	Fever
<i>U. hyperborea</i> D. Don	-	6,8,15,14,7	3000-3600	Sh	Reg Himal	WP	Rheumatism, stomachache
<i>Girardinia diversifolia</i> Link.	Jarahan	6,8,15,12	1500-3000	H	Ind Or Malaya	Br, Lf	Gonorrhoea, Bone fracture, muscle cramp
Violaceae							
<i>Viola biflora</i> L.	Bunufsha	6,4,14,7,2,8	2800-3400	H	Reg Bor Temp	Lf, Fl, Sd	Antiseptic, antispasmodic, cold, cough, diaphoretic, laxative, leucoderma, skin disease
<i>V. pilosa</i> L.			1200-1600	H	Ind Or Malaya China	WP	Antipyretic, bilious, cold, cough, diaphoretic, fever, headache, lung disorder, purgative
<i>V. canescens</i> Wall.	Banfsa	6,8,12,14,7	1500-2700	H	Ind Or Malaya China	Lf, Fl, Rt	Asthma, bronchitis, cold, cough, eye disorder, malarial fever, emetic, demulcent, cuts, wound
Valerianaceae							
<i>Valeriana hardwickii</i> Wall.	Mushakbala	6,2	2200-3300	H	Reg Himal Malaya	Rt	Antidote to poisonous stings of insects, scorpion, epilepsy, hysteria, neurosis, skin disease,

							insecticides, mental disorder
<i>V. jatamansi</i> Jones	Nihani	6,8,7	1500- 3200	H	Reg Himal	Rt	Aphrodisiac, mental disorder, local beverage, aromatic, insecticide
Zingiberaceae							
<i>Roscoeia procera</i> J.E.Sm.	-	6,8,2	2000- 3200	H	Reg Himal Burma	Rt	Veterinary diseases
<i>R. alpina</i> Royle*	Musli	6,8,2	3000- 3600	H	Reg Himal	WP	Tonic, veterinary wounds, cuts
<i>Hedychium spicatum</i> J.E.Sm.*	Ban haldi	6,8,7	1600- 2500	H	Reg Himal	Rh	Asthma, blood purification, bronchitis, nausea
Gymnosperms							
Cupressaceae							
<i>Juniperus indica</i> L.	Bitaru	4,14,2,6	3000- 3500	Sh	Soongar Reg Himal	WP, AP	Cough and cold, tonsillitis, headache, malarial, neck pain, blood pressure
<i>J. communis</i> L.	Petada, Shukpa, Dhup	4,14,6	2800- 3600	Sh	Reg Bor Temp et Arct	WP, St, Fr	Kidney disorder, malfunctioning of kidney, liver, bladder, heart disease, nervous disorder, oil from barriers inhaled as vapors, or taken in the form of pills, dropsy mucous discharge, antibiotic for animal
Pinaceae							
<i>Cedrus deodara</i> Roxb*	Deodar	1,6,8	1600- 2700	T	Ind Or	WP, St	Skin disease, anthelmintic, rheumatism, ulcer
<i>Pinus wallichiana</i> A. B. Jacks*	Kail	1	1800- 3200	T	Reg Himal	WP, St, Sd, Lf	Abscess, dislocation of joints, rheumatic pain, ulcer, unconsciousness
<i>P. roxburghii</i> Sarg.*	Chil	1,8	1500- 1800	T	Reg Himal	Oil, Wd, Lf	Abscesses, dislocation of joints, ulcer, unconsciousness
<i>Abies pindrow</i> Royle*	Tosh	1	2800- 3500	T	Reg Himal	AP, St, WP	Fever, asthma, bronchitis
Taxaceae							
<i>Taxus baccata</i> L. subsp. <i>wallichiana</i> (Zucc.) Pilger	Rakhal	1,6	2300- 3000	T	Reg Bor Temp	St, Br, AP	Anticancerous, blood purifier, swelling, fever, asthma, contraceptive
Pteridophytes							
Athyriaceae							
<i>Diplazium esculentum</i> (Retz.) Sw.	-	1,6,7	1500- 1800	H	-	Rh, Frd	Constipation
Adiantaceae							
<i>Adiantum capillus- veneris</i> L.	Hansraj	1,6,7	1500- 2800	F	-	Frd	Bronchitis, cold, cough, fever, menstrual complaint, throat disease
<i>A. venustum</i> Don	Raj	1,6,7	2500- 3600	F	-	Frd	Fever, skin eruption
Aspleniaceae							
<i>Asplenium dalhousiae</i> Hk.	-	6,8,4	1500- 2800	F		Rh	Typhoid
Cryptogrammeae							

<i>Onychium contiguum</i> Wall. ex Hope	-	1,2,7	2000-2700	F		Rh	Typhoid, fever
Equisetaceae	-						
<i>Equisetum arvense</i> L.	-	6	2500-3600	F	-	Ashes	Diuretic, haemostatic, haemopoietic, kidney affection, dropsy gravel affection, acidity, dyspepsia

Abbreviations used: T= tree; Sh= shrub; H=Herb; F= Fern; Reg Himal= Himalayan Region; As= Asia; Afr= Africa; Austr= Australia; Amer= America; Trop= Tropical; Bor= Borealis; Occ= Occidental; Argent= Argentina; Temp= Temperate; Cosmo= Cosmopolitan; N. Calid= North Calidonia; Mediter= Mediterranean; Calif=California; Subtropical; Geront= Gerontia; cult= Cultivated; Amphig= Amphigaea; Min= Minnor; Centr= Central; Arct= Arctic; Alp= Alpine; Philipp= Philippin; Afghan= Afghanistan; Turkist= Turkistan; et= And; Polynes= Polynesia; Madag= Madagascar; pacif= Pacific; Lf= Leaf; Br= Bark; Wp= Whole Plant; Fl= Flower; Tu=Tuber; Fr= Fruit; Sd= Seed; Wd= Wood; Inf= Inflorescence; St= Stem; Frd= Frond; AP=Aerial part; Bb=Bulb; Rh= Rhizome; *= Near Endemic; **= Endemic; 1=Forests; 2=Open/alpine slopes; 3=Glacial moraines; 4=Boulders; 5=Cultivated fields; 6= Shady moist; 7=Shrubberies; 8=Riverine; 9=Grassland; 10=Damp soil/Marshy; 11=Waste places; 12=Dry; 13=Epiphytic; 14=Rocky; 15=Degraded.

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