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# Ethnomedicinal Potential of Plants: A Detailed Study Around District Chamba, Himachal Pradesh

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## Abstract

Chamba is situated in northwestern Himalayas in the confluence of Ravi River. Due to its topography and geographical location, it serves as the habitat for different floral species. It includes rural and tribal populations dependent on the forest and natural resources for their day today necessities. Traditional health care system is the key to the modern health care system. Traditional indigenous knowledge of medicinal plants passing from ages provides a good health care system to the folk. The study deals with the documentation of Ethnomedicinal data of the medicinal plants used by the local communities of Chamba district of Himachal Pradesh. Study highlights the list of traditionally used medicinal plants, their utilization pattern, nativity, occurrence status and distribution in the study area. These high valued medicinal plants are used to cure health problems and have aphrodisiac, immunity boosting and anti- cancerous properties etc.; about 100 species of plants have been documented. The study provides recommendations for the sustainable use and further ethno- pharmacological study of the plants for the conservation of these species.

**Key Words:** Chamba, Traditional Knowledge, Ethnomedicinal, Conservation.

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## Introduction

The continuation of traditional knowledge is endangering as the transmission between the older and younger generations no longer exists (Kargioğlu Mustafa, 2008). From ancient times, the local communities mainly depended on the vegetation for their necessities like food, fodder and medicines for the different ailments. Traditional knowledge has provided many important drugs for the modern world. Therefore, documentation of the traditional knowledge through ethnobotanical survey plays key role in the conservation of biological resources. Chamba district of Himachal Pradesh is situated between north latitude 32° 11' 30" to 33° 13' 06", and east longitude 75° 49' 00" to 77° 03' 30" with an estimated area of 6,528 km<sup>2</sup> in the western Himalayas. The area is completely mountainous with altitude ranging from 600 to 6,400 m. The major mountain includes Mani-Mahesh, Karan Khal, Dhauladhar, Dhan Kanda, Tikkar, Gaj pass, Pir Panjal etc. Most of the population of Chamba resides in rural areas and therefore has a mutual relationship with forests. Tribal communities of the district include Gaddis the sheep and goat rearers and Gujjars tribe rearing cattle inhabiting in high altitude regions of the area including Pangi and Bharmour. These nomads climb up the hills during summers and return to the plains in winters. These native people are the house of knowledge of indigenous traditional knowledge associated with native flora. They have been using these resources for various purposes in their

daily life for ages. The area includes around 2,000 species of flowering plants (Singh and Sharma, 2006). Because of varied altitudinal gradients area is having different climatic conditions favoring the growth of different plant species, harboring rich plant diversity, along with exploring floristic diversity of plant resources of the district (Sharma and Singh, 1990, 1997), the documentation of traditional knowledge of the plants was also carried out by several workers (Dutt, Shilpee, 2011; Singh and Banyal, 2012). The current study deals with documentation of traditional indigenous use of medicinal plants and their utilization pattern and the different issues impacting the diversity of flora in the regions along with the conservation strategies for the conservation of flora.

### **Materials and Methods**

The study on the ethnobotanical study of indigenous medicinal plants of the district Chamba is based on primary data. Field survey was carried out during September 2023 to July 2024. Extensive field surveys were conducted to different localities covering major regions of Chamba district including Bhattiyat, Shunita, Holi, Bharmour Dalhousie, Pangi, Chamba, etc. A questionnaire survey was conducted and prepared to as a tool for the collection of information. It consists of demographic data and ethnobotanical data. The demographic part includes the details of the local folk interviewed during the survey including name, age and occupation and the ethnographic part consists of the utilization pattern of medicinal plant resources and their role in traditional health care system of the area. Prior to survey of study sites, the questionnaire was prepared and pre-tested to find out. Local informants were interviewed from the villages in the district. Focus groups discussions were held with key informants and others in each household. The information about traditional medicinal and other uses of plant resources were generated with the questionnaire survey mainly including participatory techniques of the local folk. Participation focused on collection method of plant materials and utilization pattern. Informants were asked about their local uses of plants including their medicinal and traditional values and the local trade and market values. Information on the market value of the plants was collected from local collectors, hakims and shopkeepers. For each plant species, the informants mentioned, were also asked about its abundance, distribution and population size. This was judged by comparing 15 years old records with the current situation. In addition, personal observations were made in the field to note any pertinent events which could help to explain the presence, and relative abundance based on the ecological characteristics of the species. The effect of current harvest on the status of each commercially valuable plant species was also studied by comparing 15 years old records with respect to the present population size and status. The effect of the current harvest on the population size was finally considered based on the distance that local collectors travelled in the past as compared to the present.

**Questionnaire for the conducting the ethnobotanical study**

## (A) Demographic Data

Name of Tehsil ..... Name of village ..... Tribe .....

Sr.no	Name	Age	sex (Male/Female)	Occupation
1				
2				
3				
4				

**Results**

The study shows that 100 plant species belonging to 57 plant families were recorded during the survey, and they have been used for their medicinal values since ancient periods of time. The details of the plant used, its local name, plant part used, and their cure and other uses, like how they obtain the knowledge about a particular plant through traditional knowledge, religious belief, or personal experience, and we are also showing the native plants of that plant and their occurrence status in nature. In fig. (1) we are showing the distribution of Ethnomedicinal plants based on availability in villages and in fig. (2) represent number of individuals have knowledge regarding Ethnomedicinal plants.

Based on the plant part, use of leaves (28%) is most common, use of roots is (19%), and the whole plant is (9%). used Fruit is (8%) and flower is also (8%) available seed is also (8%) used bark is (7%) used rhizome (5%) used Stem (4%) used branches is (3%) used bulb is (1%) used showing in Fig. (4) in pie chart, and similarly we showing how many families of plants are discovered showing with help of pie chart in Fig. (5). In Fig. (3), we show the map of district Chamba and the pin that areas where we gather the information from the native people about that plant, and they told us which part is used as medicine for that disease and how we use that part as medicine, and time of collection of plants. One of the most important parts is how to collect the plant in the field.

The survey shows that the marketing of medicinal and aromatic plants in that particular area is in the hands of local healers. The studies show that many plant species have high market value and are collected in large amounts for sale. Among these plants, the highest market value is *Trillium govanianum*, one of the highly traded species, and the dried roots are sold at Rs 4,000,000 per kilogram. *Morchella esculanta* is sold at Rs 10000 per kilogram.

Table 1 provides a brief overview of the Ethnomedicinal plants cultivated and found in District Chamba, Himachal Pradesh. This study will provide information regarding vernacular names (native names). It will also aid in the exploration of more medical uses for plants, such as their effectiveness on human body parts. We shall demonstrate the diverse character of the plant in which it is produced or developed. This study also indicates which parts of the plant will be

employed medicinally to cure diseases, as well as the type of disease. This study demonstrates its medical properties, the plant's origin, and how to use it. This will reveal whether the researched plant holds any religious, traditional, or personal beliefs.

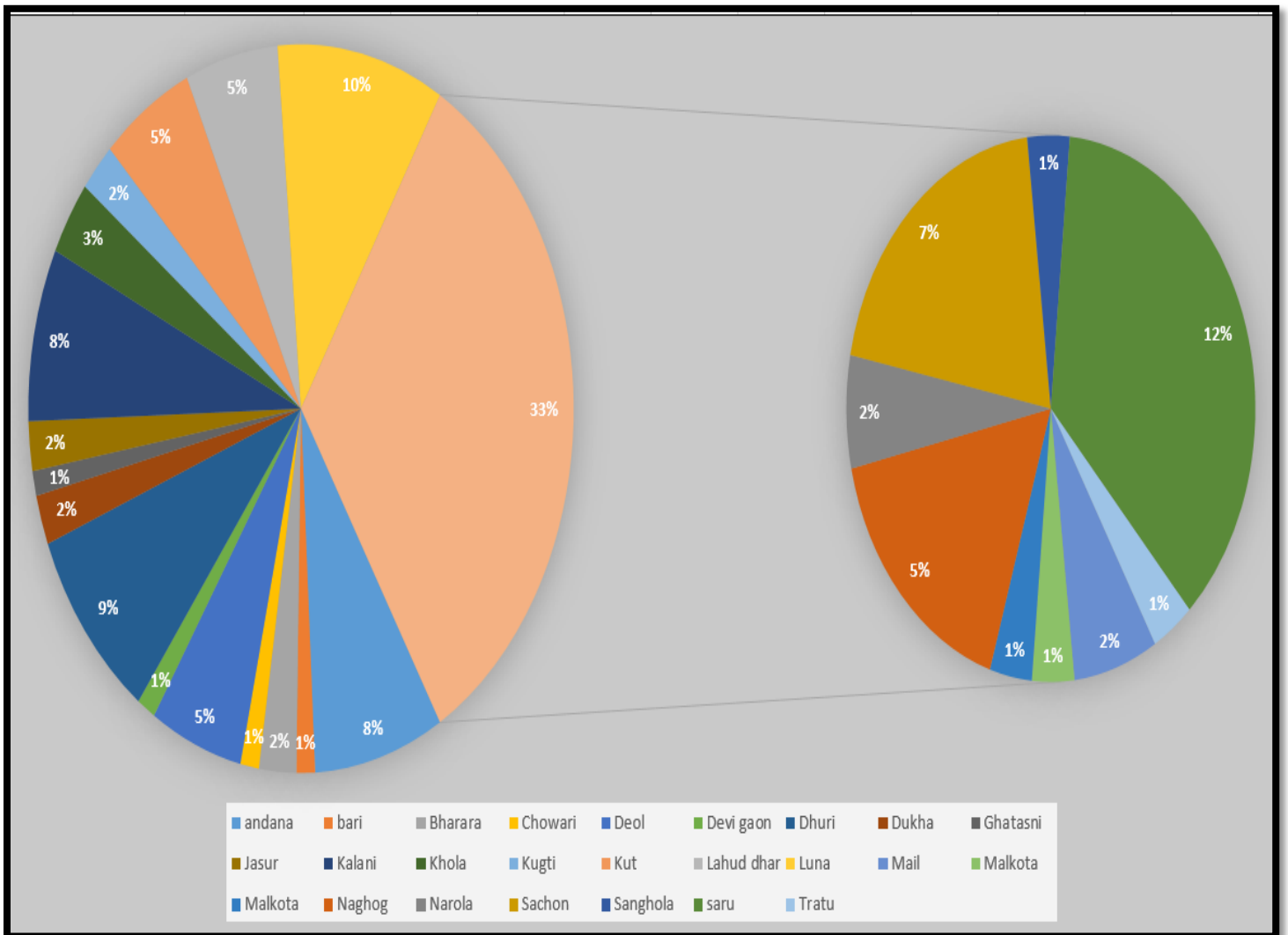


Figure.1 Percent distribution of Ethnomedicinal plants in villages.

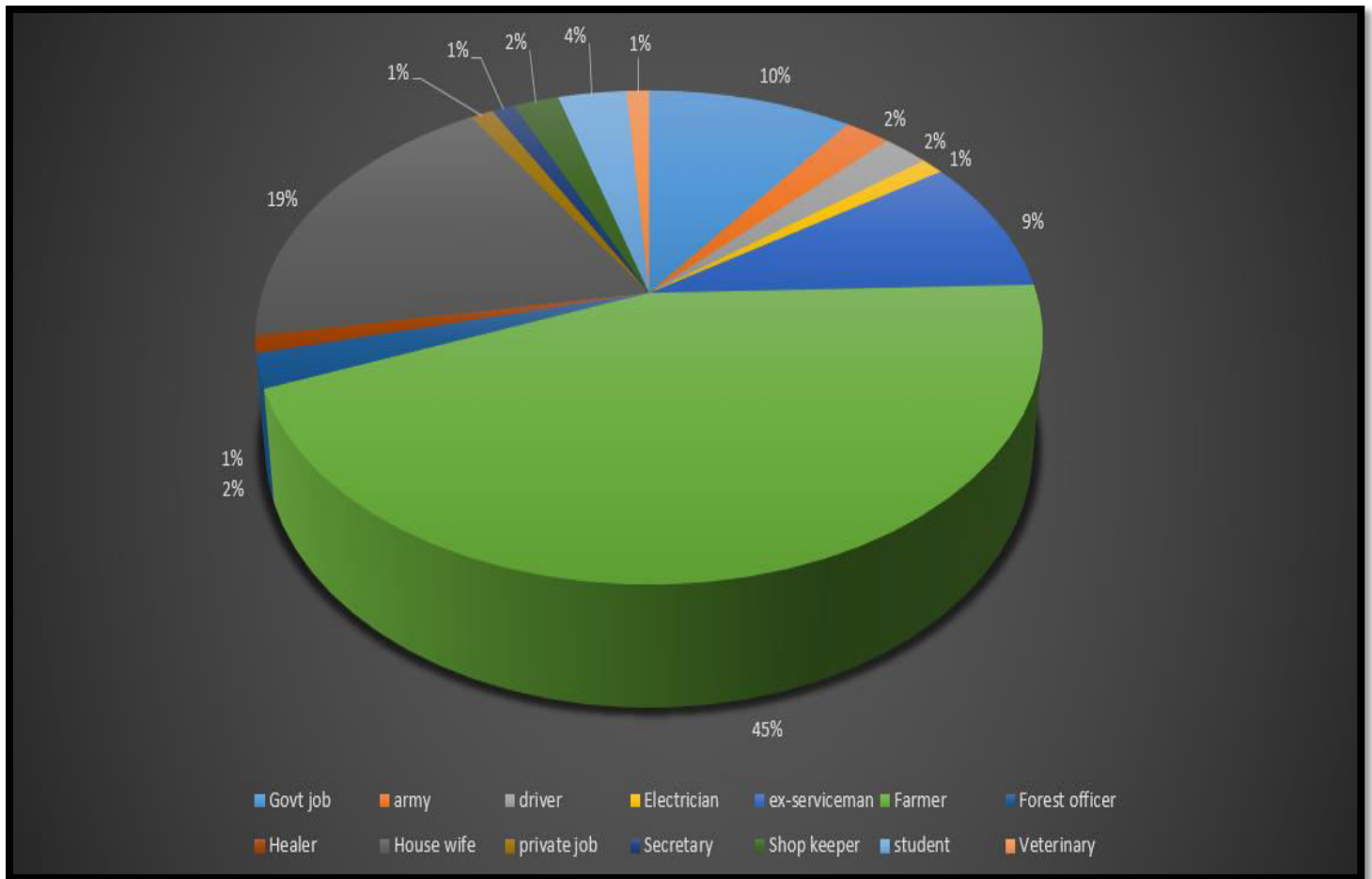


Figure.2 distribution of profession used by the tribal and local communities from Chamba District

Table 1 List of ethnomedicinal plants used by the tribal and local communities from Chamba District, Himachal Pradesh

S. NO	BOTANICAL NAME	VERNACULAR NAME	FAMILY	PART USED	USAGE/CURE	OTHER USES			NATIVE PLANTS	OCCURRENCE STATUS
						TRADITIONAL KNOWLEDGE	RELIGIOUS BELIEF	PERSONAL EXPERIENCE		
1	<i>Abrus precatorius</i>	Chadanu	Fabaceae	Seed	Tetanus and Wounds caused by Dogs, mice, cats	Yes	Yes	Yes	Weds	Wild
2	<i>Achyranthes</i>	Puthkanda	Amaranthaceae	Whole plant	Abdominal pain	Yes	Yes	Yes	Wed	Wild

	<i>bidentata blume</i>		ae						s	
3	<i>Aconitum heterophyllum</i>	Patis	Ranunculaceae	Whole plant	Urinary infection/Diarrhea	Yes	No	Yes	Weeds	Wild
4	<i>Aconitum villaceum</i>	Tilla	Ranunculaceae	Flower	Urinary infection/Poisoning	Yes	No	Yes	Weeds	Wild
5	<i>Aegelmarmelos</i>	Bilpatar	Rutaceae	Bark/leaves/Flower/Fruit	Heart diseases/Blood sugars/Inflammation	Yes	Yes	Yes	Dhaman	Both
6	<i>Ajuga parviflora</i>	Neelkanthi	Lamiaceae	Leaves	Diabetes	Yes	No	Yes	Weeds	Wild
7	<i>Alkanna tinctoria</i>	Ratanjot	Boraginaceae	Root/Leaves	Burns/Wound healing	Yes	Yes	Yes	Weeds	Wild
8	<i>Allium cepa</i>	Pyaj	Amaryllidaceae	Bulb/Leaves	Hair/Cholesterol	Yes	No	Yes	Weeds	Cultivated
9	<i>Allium sativum</i>	Lasn	Amaryllidaceae	Bulb/Leaves	Skin/cholesterol/Cold	Yes	No	Yes	Weeds	Cultivated
10	<i>Angelica glauca</i>	Choru	Apiceae	Roots	Ulcer/Rinderpest/Dysentery	Yes	No	Yes	Weeds	Wild
11	<i>Angelica glauca</i>	Chura	Apiceae	Roots	Arthritis	Yes	No	Yes	Weeds	Wild
12	<i>Arisaema ringens</i>	Srangiri	Araceae	Rhizome	Sake bite	Yes	No	Yes	Weeds	Wild
13	<i>Artemisia maritima</i>	Gandhala	Compositae	Leaves	Jaundice/Muscle Weakness	Yes	No	Yes	Weeds	Wild
14	<i>Asparagus racemosus</i>	Saapaya	Asparagaceae	Branches/Roots	Stomach Problems	Yes	NO	Yes	Weeds	Wild

15	<i>Asparagus racemosus</i>	Sansarpod	Asparagaceae	Roots	Gastric pain/Indigestion	Yes	No	Yes	Aam	Wild
16	<i>Asplenium dalhousiae</i>	Aafjari	Aspleniaceae	Whole plant	Cold and cough	Yes	No	Yes	Aamrud	Wild
17	<i>Begerakoenigii</i>	Gandhala	Rutaceae	Leaves/Bark	Digestion/Skin/Hair	Yes	No	Yes	Basuti	Both
18	<i>Berberis aristata</i>	Banhalidi	Berberidaceae	Roots	Piles	Yes	No	Yes	Weeds	Wild
19	<i>Berberis lyceum</i>	Kasambal	Berberidaceae	Stem/Bark/Rhizome/Leaves	Diarrhes/Jaundice/Wound healing	Yes	No	Yes	Simbal	Wild
20	<i>Bergenia ciliate</i>	Phooldei	Saxifragaceae	Whole plant	Pulmonary infection/Leucorrhoea/Kidney stone	Yes	No	Yes	Dhaman	Wild
21	<i>Betula utilis</i>	Bhojpatar	Betulaceae	Bark	Earache/Diarrhea/Bleeding	Yes	Yes	Yes	Weeds	Wild
22	<i>Bidens pilosa</i>	Lamb	Asteraceae	Shoot/Leaves	Wound healing/malaria	Yes	No	Yes	Weeds	Wild
23	<i>Bombax ceiba</i>	Simbal	Malvaceae	Leaves/Flowers	Scabies/Diarrhoea/Coughs/Fatigue	Yes	No	Yes	Krkarin	Wild
24	<i>Buddlejacerispa</i>	Budheta	Sacrophulariaceae	Leaves	Fever/Diarrhoea	Yes	No	Yes	Weeds	Wild
25	<i>Carissacarandas</i>	Garana	Apocynaceae	Fruit/leaves/Bark/Roots	Leprosy/Cough/Fever	Yes	No	Yes	Khajur	Wild
26	<i>Carum carvi</i>	BanZeera	Umbelliferae	Fruit/Seed	Used as loastion and preservatives	Yes	No	Yes	Weeds	Wild
27	<i>Centellaasiatica</i>	Bharami	Apiceae	Leaves	Brain health/Skin/Inflammation	Yes	No	Yes	Weeds	Both



28	<i>Cinnamomum tamala</i>	Tej pata	Lauraceae	Leaves	Asthma/Diabetes	Yes	No	Yes	Garna	Both
29	<i>Clematis connata</i>	Bhatani	Ranunculaceae	Whole plant	Nose bleeding	Yes	No	Yes	Dhaman	Wild
30	<i>Clerodendrum walliichii</i>	Bhrusa	Asteraceae	Whole plant	Toothache/Ulcer	Yes	No	Yes	Weeds	Wild
31	<i>Colebrookea oppositifolia</i>	Dus	Lamiaceae	Leaves	Skin disease/Fever/Headache/Sinusitis	Yes	Yes	Yes	Weeds	Wild
32	<i>Coleus amboinicus</i>	Patrin	Lamiaceae	Leaves/Seed	Sour throat/Skin disorder	Yes	No	Yes	Weeds	Wild
33	<i>Commiphora wightii</i>	Gugal dhup	Burseraceae	Resin	Joint disorder/Heart diseases	Yes	Yes	Yes	Weeds	Wild
34	<i>Coriandrum sativum</i>	Bin	Apiaceae	Seeds/Leaves	Diarrhea/Constipation/Upset stomach	Yes	No	Yes	Weeds	Cultivated
35	<i>Corylus Jacquemontii</i>	Than goli	Corylaceae	Seed	Muscular pain	Yes	No	Yes	Weeds	Wild
36	<i>Curcuma longa</i>	Hardal	Zingiberaceae	Rhizome/Leaves	Skin/Digestion/Arthritis/Infection/Wound healing	Yes	No	Yes	Weeds	Cultivated
37	<i>Cynoglossum amabile</i>	Chic di	Boraginaceae	Whole plant	Hepatitis/Cough/Tuberculosis	Yes	No	Yes	Weeds	Wild
38	<i>Dactyloctenium aegyptium</i>	salampanja	Orchidaceae	Roots	Pyorrhea/Diarrhoea/Burn	Yes	No	Yes	Weeds	Wild
39	<i>Datura seramonium</i>	Dhatu ra	Solanaceae	Seeds	Acne	Yes	NO	Yes	Weeds	Wild
40	<i>Dendrocalamus strictus</i>	Ban ghas	Poaceae	Stem	Diabetes	Yes	No	Yes	Weeds	Wild

	us								s	
41	<i>Dianella longifolia</i>	Sheru	Utricaceae	Leaves	Skin diseases	Yes	Yes	Yes	Aam	Both
42	<i>Diplazium esculentum</i>	Karso d	Woodsiaceae	Stem	Muscular pain	Yes	No	Yes	weds	Wild
43	<i>Diploknema mabutyracea</i>	Nepali patta	Sapotaceae	Bark/Seed/Leaves	iIndigestion/Asthma	Yes	No	Yes	Weeds	Wild
44	<i>Dodonaea viscosa</i>	Mandhu	Sapindaceae	Roots/Leaves	Wound healing/Pain relief/Rheumatism/Skin infection	Yes	No	Yes	weds	Wild
45	<i>Dryopteris juxtaposita</i>	Nachan	Dryopteridaceae	Rizome	Digestive problems	Yes	No	Yes	Dhaman	Wild
46	<i>Duchesnea indica</i>	Kiphaliya	Rosaceae	Roots	Snake bite	Yes	No	Yes	Weeds	Wild
47	<i>Eremurus</i>	Cukri	Asphodelaceae	Root	Anemia/	Yes	No	Yes	Weeds	Wild
48	<i>Fagopyrum esculentum</i>	Phaphra	Polygonaceae	Leaf/Shoot	Skin disease/liver infection	Yes	No	Yes	Weeds	Wild
49	<i>Ficus Palmata</i>	Phakura	Moraceae	Fruit/leaves	Anemia	Yes	NO	Yes	Weeds	Wild
50	<i>Grewia robusta</i>	Dhaman	Tilaceae	Bark/leave	Appetite enhancing	Yes	NO	Yes	Weeds	Wild
51	<i>Hemidesmus indicus</i>	Bhramjeri	Apocynaceae	Roots	Leprosy/skin infection	Yes	No	Yes	Weeds	Wild
52	<i>Hypericum oblongifolium</i>	Phiunli`	Hypericaceae	Roots/Flower	animal diseases	Yes	NO	Yes	Weeds	Wild

53	<i>Indigofera heterantha</i>	Kalikhathi	Fabaceae	Flower	Skin infection	Yes	No	Yes	Wed	Wild
54	<i>Jurinea</i>	Duph	Compositae	Roots	Colic/Puerperal fever	Yes	Yes	Yes	Wed	Wild
55	<i>Justicaadhatoda</i>	Basuti	Acanthaceae	Root/Flowers/Leaves/Bark	Cough/Cold/Asthma/Tuberculosis	Yes	No	Yes	wed	Wild
56	<i>Kalanchoe pinnata</i>	Patharchatta	Crassulaceae	Leaves/Steam	Diabetes/Jaundice/Insect bite	Yes	No	Yes	wed	Cultivated
57	<i>Malva neglecta</i>	Sonchal	Malvaceae	Leaves	Cough/Cold	Yes	NO	Yes	We	Wild
58	<i>Meliazedarach</i>	Bakayan	Meliaceae	Whole plant	Fever/Gum problem/Skin diseases	Yes	No	Yes	Ka	Wild
59	<i>Micromeria abiflora</i>	Banajwain	Lamiaceae	Leaves	Diarrhoea/ Eye infection	Yes	No	Yes	We	Wild
60	<i>Morchella esculenta</i>	Guchhi	Morchellaceae	Whole plant	Purgativr/Body tonic	Yes	No	Yes	We	Wild
61	<i>Nasturtium officinale</i>	Fhararu	Brassicaceae	Leaves/branches	Gum Problems	Yes	NO	Yes	Bs	Wild
62	<i>Olea europea</i>	Jaitun	Oleaceae	Seed/Fruit	Diabetes/Hypertension	Yes	No	Yes	Ak	Wild
63	<i>Oxalis corniculata</i>	Malori	Oxalidaceae	Whole plant	Jaundice/cough/could	Yes	No	Yes	We	Wild
64	<i>Persicaria capitata</i>	Phulu	Polygonaceae	Whole plant	Urinary tract infection	Yes	No	Yes	We	Wild
65	<i>Phyllanthus emblica</i>	Amla	Phyllanthaceae	Fruit/seeds	Diabetes/cough/Asthma/Skin diseases	Yes	Yes	Yes	kar	Both
66	<i>Picorhiza</i>	Kaur	Scroph	Roots/Rhiz	Fever/Allergy	Yes	No	Yes	We	Wild

6			ulariac eae	ome					ed s	
6 7	<i>Plumbago zeylanica</i>	Chitr a	Plumba ginace ae	Roots	Broken bones/ Wounds/Piles	Yes	No	Yes	we ed s	Wild
6 8	<i>Podophyll um emodi</i>	Ban kakri	Berberi daceae	Root/Rhizo me	Anti-casncer	Yes	No	Yes	We ed s	Wild
6 9	<i>Polygonat umcirrhif olium</i>	Sala m mishr i	Aspara gaceae	Root	Wounds/Pain relif	Yes	No	Yes	We ed s	Wld
7 0	<i>Rhododen dron ferrugine um</i>	Chyu	Ericace ae	Flower	Diarrhea/inflam ation/ constipation	Yes	No	Yes	kh ar	Wild
7 1	<i>Rhynchost ylis retusa</i>	Suka mani	Orchid ceae	Flowers	Asthma/Tubercu losis/eyea and ear infection	Yes	No	Yes	aa mb	Wild
7 2	<i>Ricinus communis</i>	Aran a	Euphor biacea e	Seed/Leav es	Constipation/ Joint pain/Acne	Yes	No	Yes	We ed s	Wild
7 3	<i>Rubus idaeus</i>	Akha ra	Rosace ae	Fruit/ leaves	Diabetes/Fever/ Flu	Yes	No	Yes	Du s	Wild
7 4	<i>Rumex dentatus</i>	Jangli chaul i	Polygo naceae	Roots/Fruit s	Hypertension/Re living pain	Yes	No	Yes	we ed s	Wild
7 5	<i>Salvia glutinosa</i>	Makh air	Labiata e	Leaves/Ro ots	Digestin/Sore throats	Yes	No	Yes	We ed s	Wild
7 6	<i>Salvia moorcofti ana</i>	Thuth	Labiata e	Leaves/Ro ots/Seeds	Cough/Haemorr hoids	Yes	No	Yes	We ed s	Wild
7 7	<i>Sapindus mukorossi</i>	Doda n	Sapind aceae	Fruit	Hair/Skin infection	Yes	No	Yes	Dh am an	Both
7 8	<i>Saussurea lappa</i>	Kuth	Compo sitae	Roots	Envhance fertility	Yes	No	Yes	We ed s	Wild
7	<i>Saxifraga</i>	Patha	Saxifra	Rhizome/R	Gall bladder	Yes	No	Yes	We	Wild

9	<i>ligulata</i>	rtor	gaceae	oot	stonr /burns				ed s	
8 0	<i>Sidiacardi ofolia</i>	Musk bala	Malvac eae	Roots	Asthma/Nasal congestion	Yes	Yes	Yes	We ed s	Wild
8 1	<i>Solanum nigrum</i>	Mithu	Solana ceae	Leaves/Ber ries	Skin/Ulcers/App etite stimulant	Yes	No	Yes	we ed s	Wild
8 2	<i>solidago virgaaure a</i>	pinjia phool	Asterac eae	Flower/ste m	Diabetes/Asthm a	Yes	No	Yes	We ed s	Wild
8 3	<i>Sphaerant hus indicus</i>	Raat mund i	Asterac eae	Flower/Ro ot/Seed/LL eaves	Stomachies/Scab ies	Yes	No	Yes	We ed s	Wild
8 4	<i>Spiraea tomentosa</i>	Kusth i	Rosace ae	Fruit/Stem	Lung infection	Yes	NO	Yes	We ed s	Wild
8 5	<i>Stachys byzantina</i>	Lamb u	Lamiac eae	Whole plant	Wound/Infection	Yes	No	Yes	We ed s	Wild
8 6	<i>Sterculia urens</i>	Bhut kasri	Malvac eae	Ghum	Swelkling/Infecti on	Yes	No	Yes	We ed s	Wild
8 7	<i>Syzgiumc umini</i>	Jama n	Myrtac eae	Fruit/Seed	Asthma/Diabete s/Stomach pain	Yes	No	Yes	ka ma l	Both
8 8	<i>Taxus contorta</i>	Rakh an	Taxace ae	Barks/Leav es	Fractures/Diarrh oea/Fevers	Yes	No	Yes	we ed s	Wild
8 9	<i>Terminali a arjuna</i>	Arjun	Combr etacea e	Bark	Blood pressure/ Heart diseases	Yes	No	Yes	Aa m	Wild
9 0	<i>Terminali a chebula</i>	Hara d	Combr etacea e	Fruit/Bark	Fevers/Anaemia /polyuria	Yes	No	Yes	ka nth	Wild
9 1	<i>Thymus</i>	Pahar i ajawa in	Labiata e	Flower/Lea ves	Upset stomach/Skin disorder	Yes	No	Yes	We ed s	Wild
9	<i>Trillium</i>	Nag	Melant	Roots/Flow	Antispectic/Infla	Yes	No	Yes	We	Wild

2	<i>govanianum</i>	chatri	hiacese	ers/Leaves	mation				eds	
93	<i>Utrica dioica</i>	Bichubuti	Utricaceae	Leaves/Roots	Skin diseases/insect bite	Yes	No	Yes	Weeds	Wild
94	<i>Valeriana</i>	Smak	Valerianaceae	Root/Rhizome	Insomnia/Fatigue	Yes	No	Yes	Weeds	Wild
95	<i>Verbascum thapus</i>	Tamakhu	Scrophulariaceae	Leaves/Flowers	Typhoid	Yes	No	Yes	Weeds	Wild
96	<i>Vicia Canescens</i>	Banafsha	Violaceae	Whole plant	Asthma	Yes	No	Yes	Weeds	Wild
97	<i>Viola canescens wall</i>	Vanksha	Lamiaceae	Flowers	Cold/Cough/Headache	Yes	No	Yes	Kanth	Wild
98	<i>Vitex negundo</i>	Bana	Violaceae	Breanches/Leaves	Cold/Cough/Headache/Snake bite	Yes	Yes	Yes	Weeds	wild
99	<i>Zanthoxylum aromaticum</i>	Trimiri	Rutaceae	Branches	Gum Problems	Yes	No	Yes	weeds	Wild
100	<i>Zingiber</i>	Aadra	Zingiberaceae	Rhizome/Leaves	Headaches/Colds/Emesis	Yes	No	Yes	Weeds	Wild

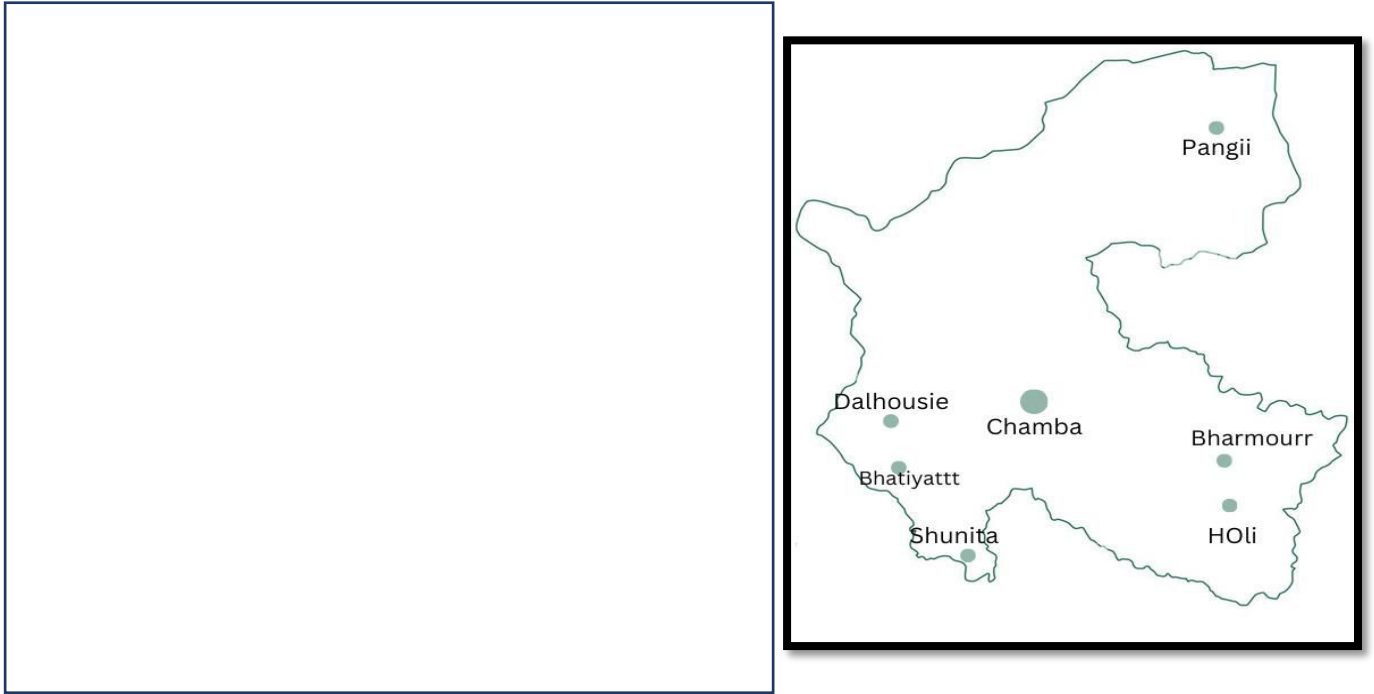


Figure.3 Location of study area.

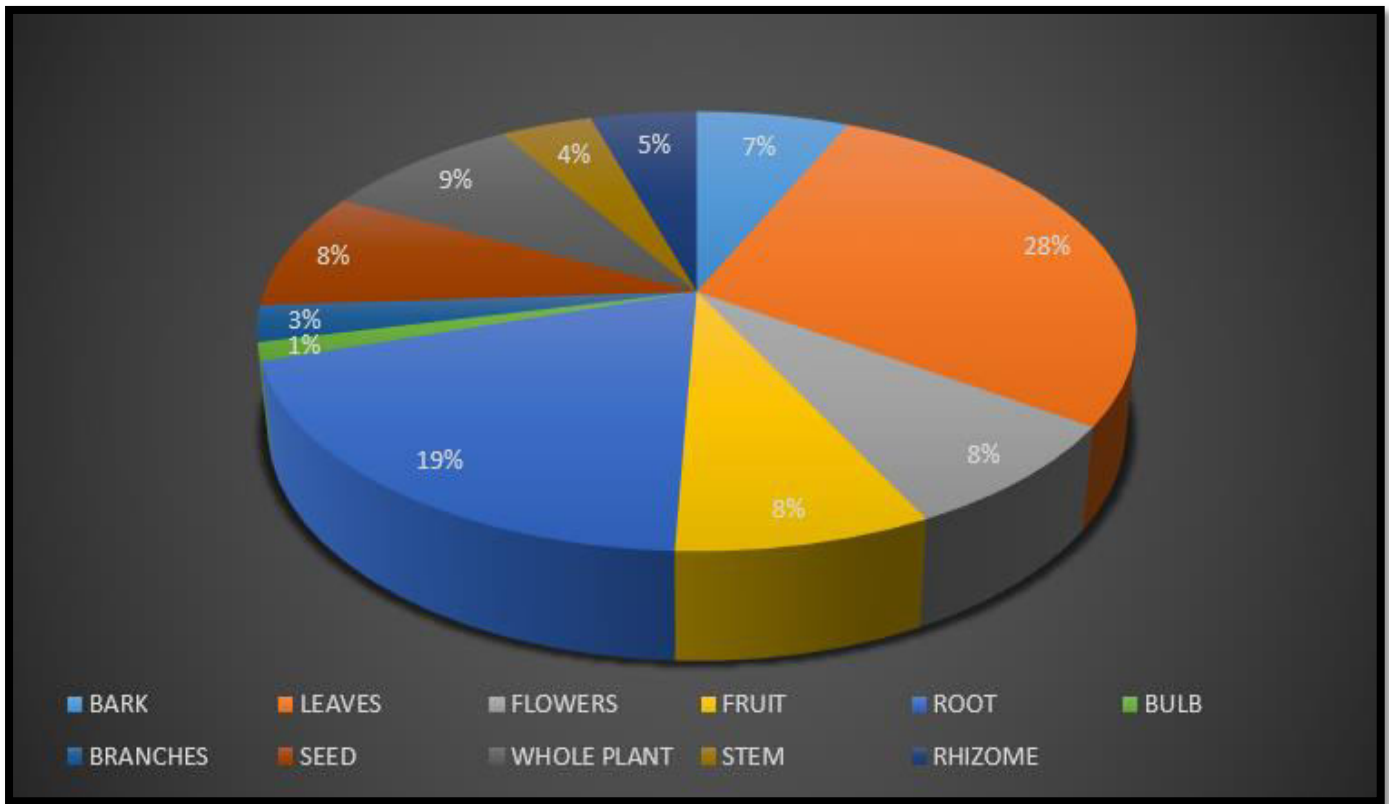


Figure.4 Plant part used in study

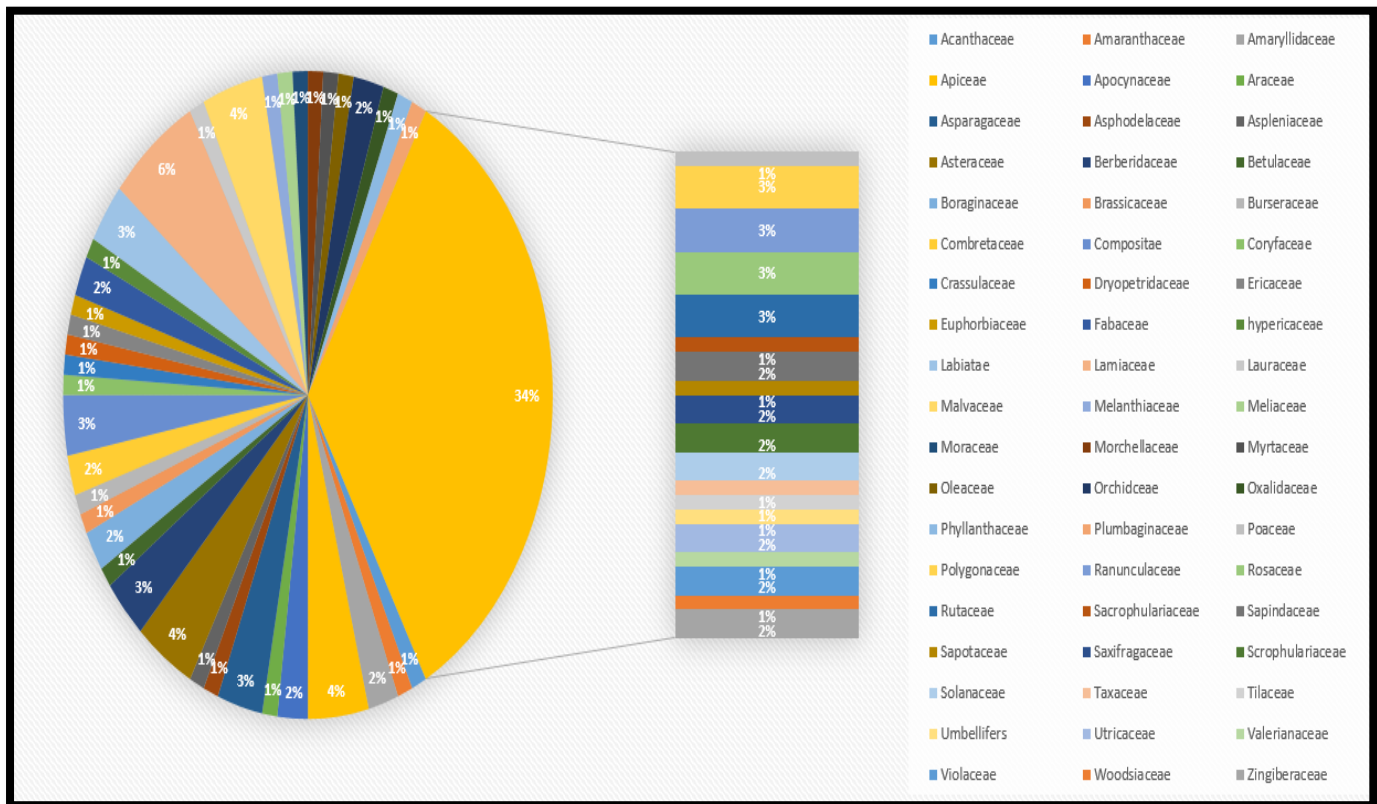


Figure.5 Plant Family used in study area.



## Discussion

The studies have shown that 100 plant species have been used traditionally by the local people of Chamba since ancient times for their medicinal values. Along with the medicinal values, these plants are used for their religious aspects, veterinarian uses, edible uses, etc. These plants are sources of food for the local communities, and with market value, they provide livelihood opportunities. Many of the plant species are sold in local markets because of their high medicinal and nutritional properties. Some of the species serve as the raw material for industries such as herbal medicines. In the previous two-three years, many of the plants were used to make decoctions and tea to boost immunity during the pandemic of COVID-19. As the pressure on some of these plants has increased due to their high market value, such as *Dactlorhizahategirea*, *Trillium govonianum*, *Morchella esculenta* (10,000–15,000 rupees/kg), *Picrorhizakurroa*, and *Aconitum heterphyllum*. Some threatened high-value plants, including *Betula utilis*, *Jurineamacrocephala*, *Angelica glauca*, *Podopjyllumhexandrum*, etc., are also present in the natural habitat in high-altitude regions of Chamba. These plants are facing threats due to overexploitation, unsustainable harvest, climate change, anthropogenic activities, and habitat destruction. These plants need sustainable harvest strategies in order to prevent overexploitation and the participation of local folk for their conservation, ensuring conservation of biological diversity and maintaining ecological balance.

The previous study shows that we use medicinal plants as medicine. Many studies have been done on district Chamaba, and they show that the availability of that plant is decreasing day by day and its market value is getting higher. (Rani Savita., 2013) conducted a comprehensive study on ethnomedical plants. We identified that a mixture of plants is used for curing diseases, such as *Picrohizakurroora*, which is used to cure stomach problems, and Unani, which is used for curing leucoderma and piles. There is a new source of income and treating any diseases in humans and animals. (Dutt,Shilpee, 2014) further study that the plant species were used frequently or occasionally for curing various minor and major diseases occurring among local people of this tribe belt of Chamba district. Local people believe in the efficacy of these herbs along with the tantra and mantra, but knowledge is restricted to very few elderly folks only. In the present day, most of this plant is used in crude form and has been found useful against different ailments like jaundice, fever, dysentery, etc. The tribal community of gaddis in the Kangra valley of Himachal Pradesh also revealed that these people use herbal-based powders, pastes, aqueous solutions, extracts, decoctions, etc. for treating different types of diseases in human beings. The trend in earlier times was to utilize medicinal plants as such in their crude, fresh juice, paste, boiled extract, or dried powder form, but with the advancement of civilization, they have been made more acceptable in easily ingestible forms such as decoctions, herbal tea, tablets, syrups, tinctures, steam distillates, etc., which gradually entered into medical practice. (Thakur Vikas,

2014) conducted a comprehensive study on ethnomedical plant and identified that *Origanum vulgare* has properties of an insect repellent. Present day study Haeracleum, Candican paste is useful for snake bite; including this, the mixture of this paste with sour of lassi is given to the patient. It is also reported that roots are the most used plant parts and leaves are the most frequently used plant parts. The major consensus on the most-used plant part was the root.

### **Conclusion**

It can be concluded from the study that plant species belonging to 57 families have an important role in traditional health care systems. These medicinal plants have high medicinal potential and can be used as raw material for the various herbal medicines. Study provides recommendations for the conservation of these plants in-situ and ex-situ. Study also recommends the further ethnopharmacological studies to validate the pharmacological potential of these plants. Participation of local people is to be ensured to conserve these plants in their natural habitat for the conservation of nature and biological diversity.

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### **References:**

1. Chauhan, N.S. (1999). *Medicinal and Aromatic Plants of Himachal Pradesh*. Indus Publishing Company, New Delhi, India.
2. Devi, T. & Sen V. (2020). Role of wild food plants in culinary tourism development of district Mandi Himachal Pradesh, *International Journal of Scientific Research in Biological Sciences*, 7(6), 14-38.
3. Dhaliwal, D.S. & M. Sharma. (1999). *Flora of Kullu District (Himachal Pradesh)*. Bishen Singh Mahendra Pal Singh, Dehradun.
4. Kaur, N. (2017). Use of some ethnomedicinal herbs by natives of Solang valley, Kullu district, Himachal Pradesh. *International Journal of Pharmacy and Pharmaceutical Sciences*, 9(9), 222-227.
5. Jain, S.K. & Mudgal, V. (1999). *A handbook of Ethnobotany*. Bishen Singh Mahendra Pal Singh, Dehradun, India.
6. Joshi, R. K., Prabodh S., & Setzer William, N. (2016). Himalayan Aromatic Medicinal Plants: A Review of their Ethnopharmacology, Volatile Phytochemistry, and Biological Activities Western Himalayas. *Discovery*; 60, 1-9.
7. Kargıoğlu, M., Süleyman, K., Ahmet, C., Nurcan, S. E., Konuk, M., Kök Samil, M., Bağcı Y. (2008). *Human Ecology*, 36(5): 429-449.

8. Kaur, N. (2017). Use of some ethnomedicinal herbs by natives of Solang valley, Kullu district, Himachal Pradesh, International Journal of Pharmacy and Pharmaceutical Sciences, 9(9), 222-227.
9. Kumar, S. (2019), Wild edible plants consumed by rural communities in District Bilaspur, Himachal Pradesh India, Journal of Biological and Chemical Chronicles, 5(2), 1-11.
10. Majumdar, K. & Datta, B.K. (2007). A study on ethnomedicinal usage of plants among the folklore herbalists and Tripuri medicinal practitioners, Part II, Natural Product Radiance. 6(1), 66-73.
11. Negi, P.S. & Subramani, S.P. (2015). Wild edible plant genetic resources for sustainable food security and livelihood of Kinnaur district, Himachal Pradesh, India. International Journal of Conservation Science, 6(4), 120-125.
12. Negi, S. & Kanwal, K.S. (2024). *Diplazium esculentum* (Retz.) Sw.: A traditionally used vegetable and medicinal pteridophyte of Kullu Valley in the Western Himalayas, Discovery, 60(334), 1-9.
13. Paul, S. (2021). Diversity, distribution and conservation status of raw edible plant resources of the Madgram Watershed, Lahaul Valley, Himachal Pradesh India. Journal of Non-Timber Forest Products, 24(4), 150-156.
14. Pusalkar P.K. & Singh, D.K. (2012). Flora of Gangotri National Park Western Himalaya, Botanical Survey of India, Thiruvananthapuram, India.
15. Rani, S, Rana Jai & Sharma Haresh, (2013). Ethnomedicinal plants of Chamba District, Himachal Pradesh, India, Journal of Medicinal Plants Research, 7(42):3147-3157
16. Samant, S.S. & U. Dhar. (1997). Diversity, endemism and economic potential of wild edible plants of Indian Himalaya. International Journal of Sustainable Development and World Ecology, 4, 179-191.
17. Sharma, P. & Samant, S.S. (2014). Diversity, distribution and indigenous uses of medicinal plants in Parbati valley of Kullu District in Himachal Pradesh, Northwestern Himalaya. Asian Journal of Advance Basic Science, 2(1), 77-98.
18. Sharma, P. and Samant S.S. 2014, Diversity, distribution and indigenous uses of medicinal plants in Parbati valley of Kullu district in Himachal Pradesh, Northwestern Himalaya, Asian J. of Adv. Basic Sc. 2:1, page.no 77-98.
19. Sood, S.K. & Thakur, S. (2004). Ethnobotany of Rewalsar Himalaya: Deep Publication
20. Thakur, S., Jamwal, R. & Negi, S. (2023). Ethnobotanical survey of plants used in magico-religious practices in Kullu district of Himachal Pradesh, India. Ethnobotany Research and Applications, 25:1-18.
21. Thakur, S.D. (2017). Diversity, Distribution and utilization pattern of some Forestry foods (Wild edibles) from Tirthan Wildlife Sanctuary of Distt. Kullu, Himachal Pradesh, International Journal of Advances in Science Engineering and Technology, 5(2), 4-11.
22. Uniyal, M.R. & Chauhan N.S. (1982). Commercially important medicinal plants of Kullu, Himachal Pradesh, Nagarjuna; 4, 28-32.