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Ethno botanical studies of Neelam Valley, Azad Kashmir, Pakistan

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Abstract: The study was carried to document of medicinally important plants with their economic importance to local community and investigation of problems regarding conservation of medicinal plants including poverty, lack of awareness of alternatives, lack of marketing opportunities, educational level , level of treatment, selling, common plants used and reasons for not collecting Neelam valley located on 73-75^0 N and 32-35^{0}E, 260 kilometer long Neelam river running along with Neelam Valley and situated to the north and north east of Muzaffarabad. The information were gathered from the local people of the area, through questionnaires and interview of local names ,parts of plants used ,ailment treated ,method of preparation. This paper was also aim to collect indigenous knowledge of local inhabitants about use of medicinal plants. Total 81 medicinal plants were recorded belonging to different families (Appendix-1) and revealed that these plants are used by for treatments of several routine diseases of wide range of ailments furthermore there is need to find ways to harvest medicinal plants sustainably from the wild .The plant parts most common used for the preparations of remedies were leaves, aerial parts and fruits. It was concluded that lack of awareness is main problem for the conservation of these medicinal plants.
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[Key words: Ethno botanical Study, Neelam Valley, Indigenous, Medicinal Plants, Awareness]

Introduction

Medicinal plants have biological, economic and cultural relationship with people; indigenous knowledge of medicinal plants is as old as human civilization. The term ethno botany was first time used by an American botanist John. W. Harsh Bereger in 1896. Hamayun *et al* (2003) Pakistan is endowed with rich and diversified vegetation by the nature. Mehmood *et al*., (2011) worked on medicinal plants from Neelam valley, Azad Jammu and Kashmir and reported 40 plant species were found to be valuable for medicinal, food, fodder, fuel, timber, shelter and agriculture purpose. According to WHO 80% of the population in the developing countries rely on medicinal plants healthcare. The present paper documents the ethno botanical values of most commonly used plants of Neelam valley, AJK Pakistan. Paper reports on the indigenous knowledge of different community of study area used plants for their treatments of various ailments. Population of the study area is mostly dependent on farming, rearing livestock and associated products of forests and wild plants. Authors agreed that ethno botanical research also helps in establishments of priorities of local community to ensure that the local values are translated into rational uses of resources with effective biological and cultural diversity. Indeed Pakistan owing to its diverse geo climatic conditions with many plants which are traditionally used. Furthermore efforts are required for their photochemical and pharmalogical evaluation that would be as promising precursors for developing potent medicines of plant origin. Now days ethno medicine have gained popularity in many countries and indigenous people living in different parts of the world use medicinal plants as source of medicines for the treatments of various ailments Raju GS, Moghal MMR, Dewan SMR, Amin MN, Billahm (2013) WHO (2013). A study by Teklehaymanot and Giday indicated that documentation of the traditional uses of the medicinal plants needs immediate attention, increasing global demands of herbal medicines and policy issues are also major issues in pertaining to medicinal plants cultivation, conservation and income generation in Pakistan. According to Chaudary and Qureshi (1991) nearly 37% (266 species) of the total of 709 endangered species are endemic to Pakistan. Alone in Lakhnow (India) medicinal plants worth Rs.90 million are grown annually .as such cultivation becomes necessary when there is demand but unfortunately in Pakistan not enough emphasis to cultivation of medicinal plants.

Materials and methods:

Area was visited and plants specimen were collected and identified with help of flora Pakistan. The informants were interview using questionnaire related

with the educational level ,occupational status ,treatment level , Collection of medicinal plants, level of common use ,sell of medicinal plants, sell of medicinal plants ,plants collection source , level suggestion. Level of impact and level of problems the age of inhabitants were ranged between 27 to 80, who had knowledge about the plants.

Results and discussion

The study area is blessed with natural resources .the area is rich in medicinal plants .Total 81 medicinal plants were recorded(Appendix-1)used for various ailments including stomach, diarrhea, cough, cold, piles, asthma, diabetics, jaundice, tooth ache, gastric problems, allergies, hepatics ,liver and gastric problems. Common Plants used, reasons for not collecting and selling were studied. The various anthropogenic activities were noted, recommendations were given to protect and conserve theses medicinal plants, in addition forest department should come forward to carryout research and development studies on medicinal plants. The checklist and ethno medicinal inventory was developed. The detail of plants and their medicinal uses for different diseases are studied. It was obvious that leaves are main parts used followed by stem, fruit, seed, roots, flower. Medicinal plants are good source of income, but if not properly managed this may cause return extinction of species.

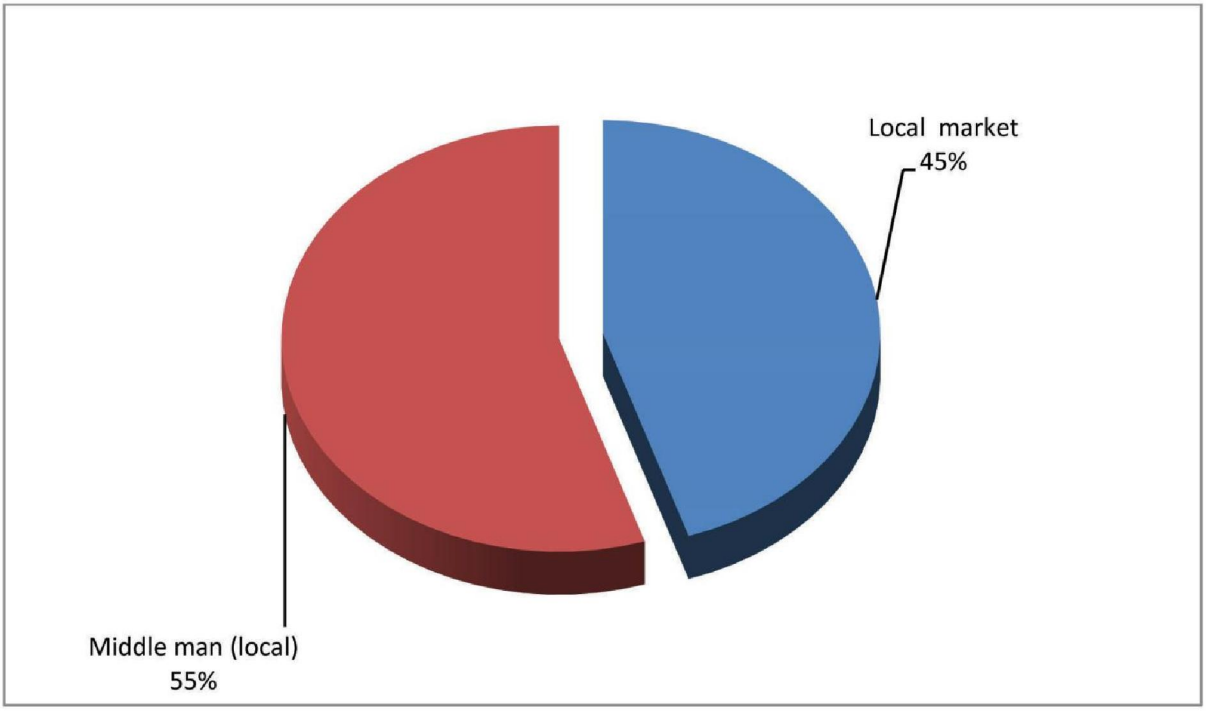

Figure 1 : Where sell the Medicinal plants

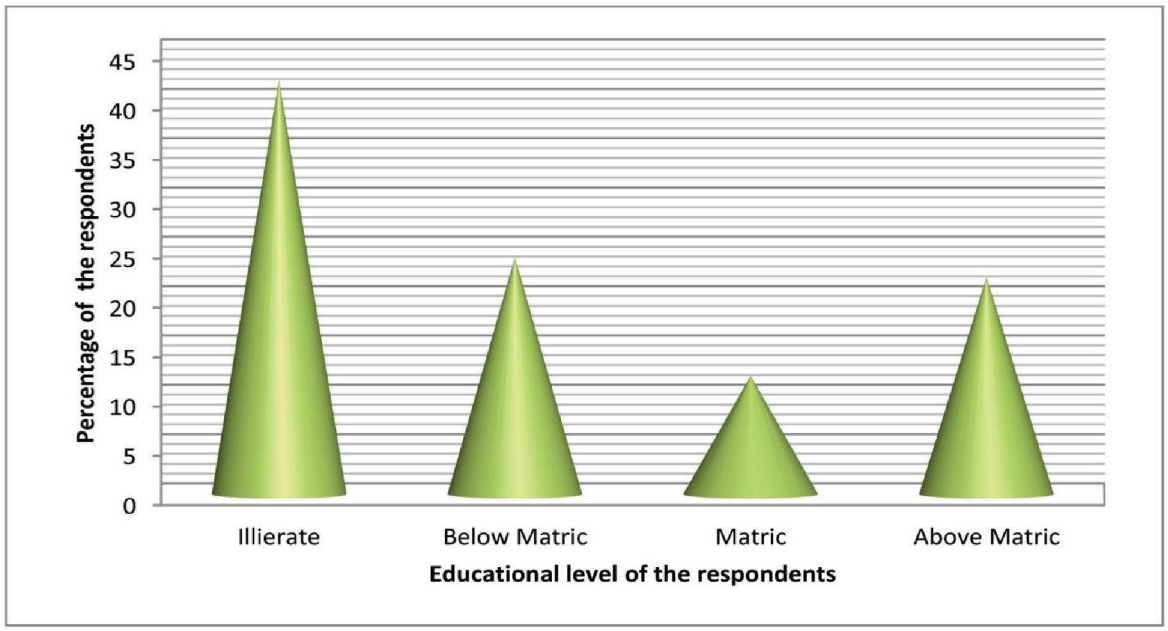

Figure 2: Educational level of the respondents

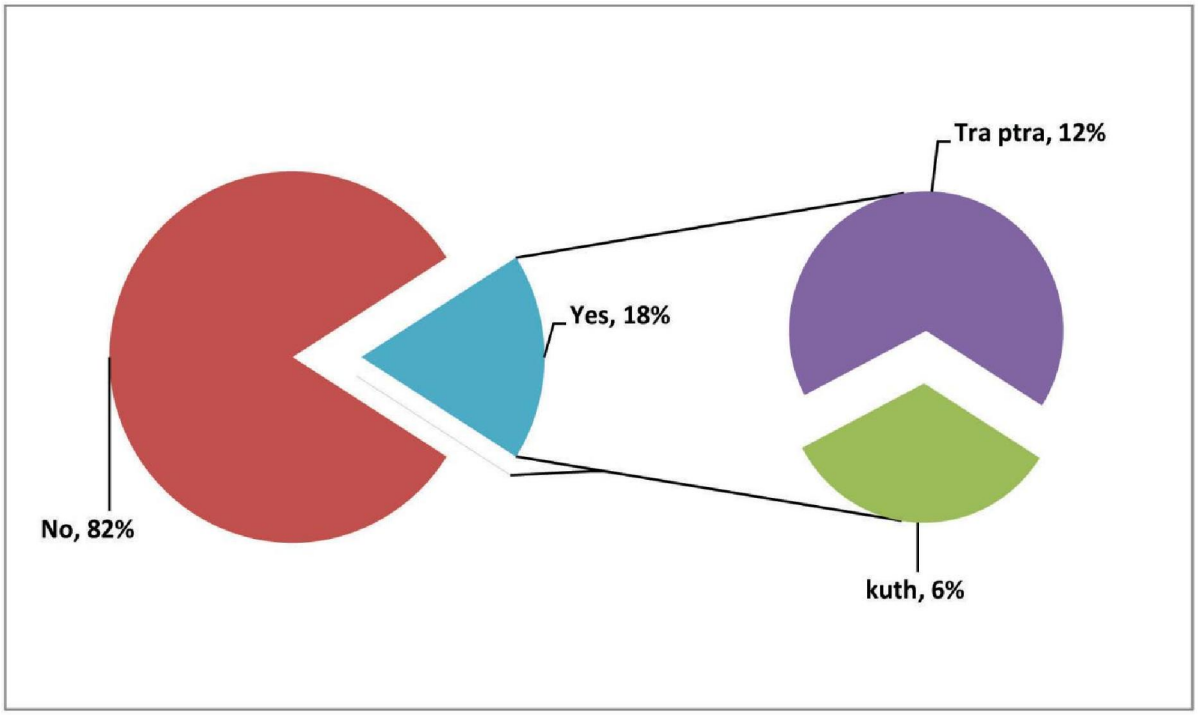

Figure 3 : Sell of Medicinal plants

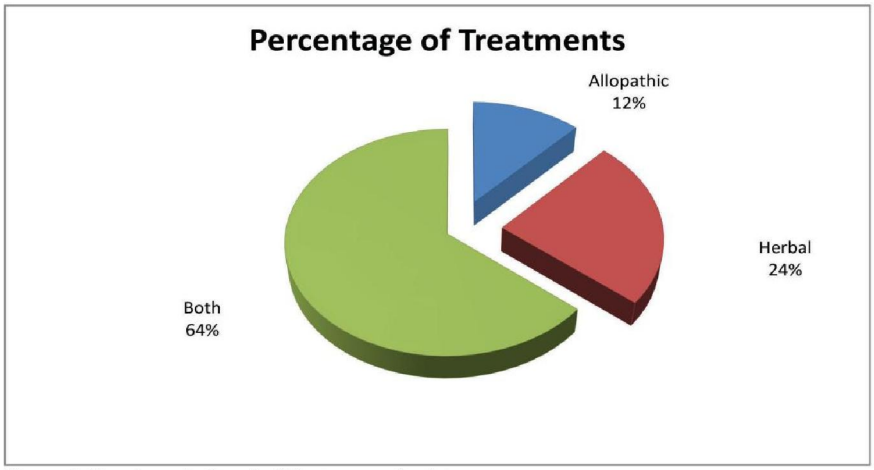

Figure **4**: Treatments Level of the respondents

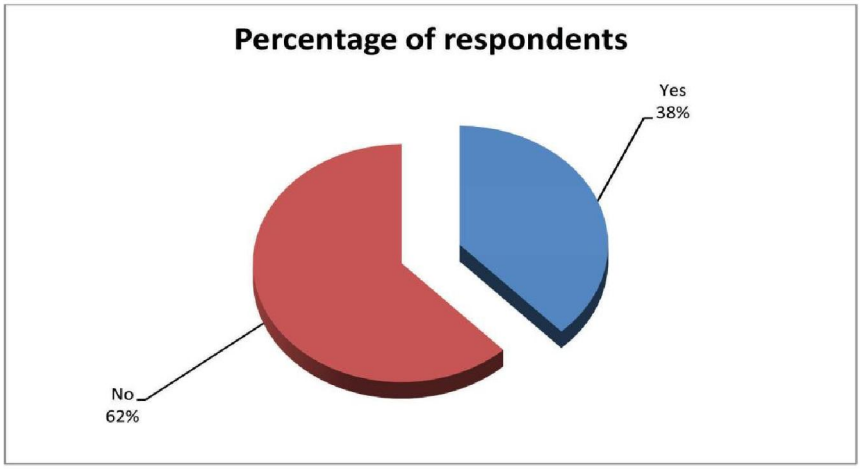

Figure **5**: Collection of Medicinal plants

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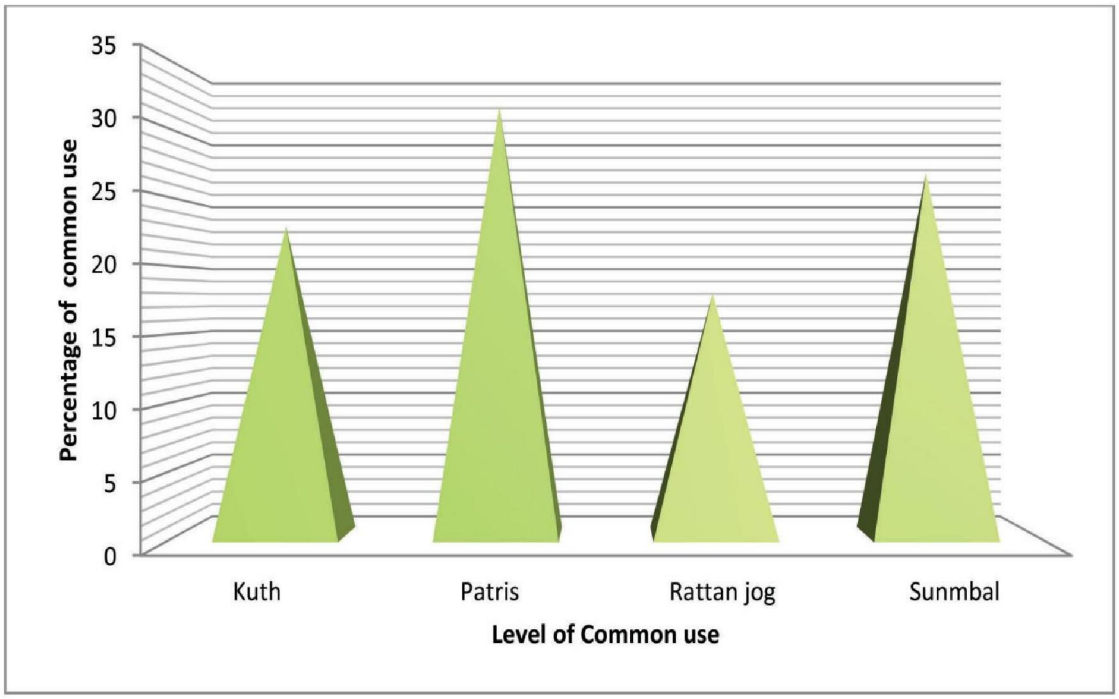

Figure **6** : Most common medicinal plants used in daily life

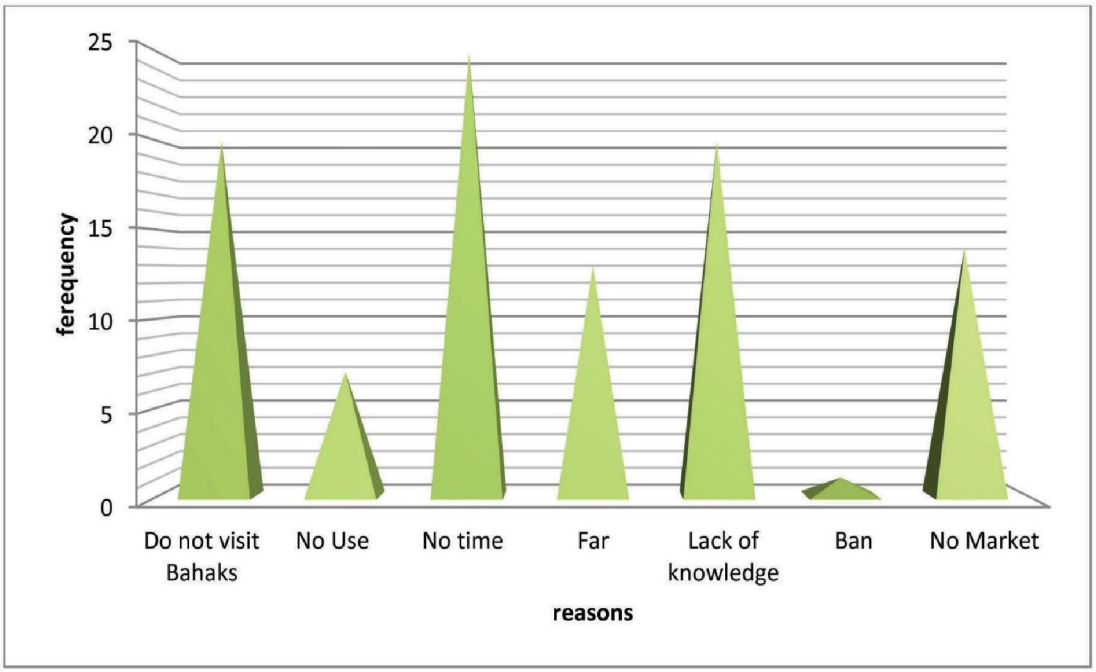

Figure **7**: Reasons for not collecting Medicinal plants

Conclusion and Recommendation:

It is concluded that the area is full of medicinal plants, deforestation and grazing are also posing threats to the conservation to the medicinal plants, there is dire need of awareness for the local people to know proper collection, uses, plantation and the said area should be further explored for the search of new medicinal Plants, in addition establishment of nursery and local market for medicinal plant may be confirmed. The availability of energy plantation and kerosene oil, LPG should be confirmed to discourage use of medicinal plants and seed of medicinal plants should be provided to the farmers.

Appendix -I

Medicinal plants used locally in the study area along with local names and their families.

S.No	*Scientific name*	Local name	Family
1.	*Saussurea lappa*	Kuth	Asteraceae
2.	*Menthe arvensis*	Podina	Lamiaceae
3.	*Podophylum emodi*	Bankakri	Berberidaceae
4.	*Inula roylrana*	Poahgar	Asteraceae
5.	*Potentilla argyrophylla*	Malay di jari	Rosaceae
6.	*Portulaca oleracta*	Loonsaloni	Portulacaceae
7.	*Dryopteris ramose(Hop)C.Chr.*	Langrow/nanoor	lomariopsidaceae
8.	*Malva neglecta*	Sonchal	Malvaceae
9.	*Indegofera gerardiana*	Kainthi	Fabaceae
10.	*Verbascum thapsus*	Gaddi Kan	Scrophulariaceae
11.	*Bergeia ciliate*	Budpawah	Saxifragaceae
12.	*Caltha alba Jacb*	Kalaripatra	Ranunculaceae
13.	*Solanum indicum*	Mirchula	Solanaceae
14.	*Solanum surattense*	Kandiari	Solanaceae
15.	*Pennisetum orientale*	Muniara	Poaceae
16.	*Rhodiola himalensis(D.Don)*	Bugmasti	Crassulaceae
17.	*Actaea spicata L.*	Rech payz	Ranunculaceae
18.	*Thymus serphyllum*	Ban Ajwain(Bnjamainr	Lamiaceae
19.	*Bombox malabaricum*	Semal	Berberidaceae
20.	*Trillium govanianum t*	Tra pta	Melanthiaceae
21.	*Butea monosperma*	Dakh	Fabaceae
22.	*Vibernum nervosum*	Okloon/ghuch	Caprifoliaceae
23.	*Trigonella foenum-graceum L.*	Methi	Fabaceae
24.	*Solanum nigrum*	Kach mach	Solanaceae
25.	*Picrorhiza kurroa*	koor	Scrophulariaceae

26.	*Fragaria nubicola Lindle*	Khn merch	Rosaceae
27.	*Ephedra garardiana*	Ephedra	Ephedraceae
28.	*Dioscorea deltoidea Wall ex Kunth*	Kanees	Dioscoreaceae
29.	*Angelica cyclocarpa.*	Chora	*Apiaceae*,
30.	*Dipsacus inermis*	palha	Dipsacaceae
31.	*Taraxacum officinale Weber et Wigg.*	Hand	Asteraceae
32.	*Polygonum aviculare Linn.*	Pancholaw	Polygonaceae
33.	*Polygonatum multiflorum*	Bir gandal	Asparagaceae
34.	*Bistorta amplexicaulis Greene*	Masloon	Polygonaceae
35.	*Equisetum arvense.*	Bankyea	Equisetaceae
36.	*Onosma bracteatum Wall.*	Gaozaban	Broginaceae
37.	*Dryopteris stewartii Fress*	Kungi	Dryopteridaceae
38.	*Canabus sativa L.*	Bhung	Canabinaceae
39.	*Plantago major Linn.*	Camchipater	Plantaginaceae
40.	*Sorbaria tomentosa.*	Muneeri	Ranunculaceae
41.	*Dipsacus inermis.*	Palha	Caprifoliaceae
42.	*Viola spp;*	Banafasha	violaceae
43.	*Aconitum heterophyllum Wall*	Patrees	Ranunculaceae
44.	*Geranium wallichianum*	Ratan Joot	Geraniaceae
45.	*Skimmia laureola*	Neera	Rutaceae
46.	*Ajuga bracteosa Wall. ex Benth.*	Rati buti/jan-e-Adam	Lamiaceae
47.	*Jurinea dolomiaea Boiss.*	Guggal dahoop	Asteraceae
48.	*Polygonum amplexicaule*	Masloon	Polygonaceae
49.	*Rheum emodi*	Chatyal	Polygonaceae
50.	*Valeriana jatamansi*	Mushk Bala	Valerianaceae
51.	*Polygonum alpinum All.*	Chakroon	Polygonaceae
52.	*Arisaema flavum.*	Soorghanda	Araceae
53.	*Juglens regia Linn.*	Khori	Juglandaceae

54.	*Rumax nepalense Spreng.*	Holla	Polygonaceae
55.	*Senecio chrysanthernoides DC*	Bagoo	Asteraceae
56.	*Aesculus indica Colebr.*	Bankhor	Hippocastanaceae
57.	*Phytolacca latbenia.*	Lubar	Solanaceae
58.	*Adiantum incisum Forssk.*	Kakva	Adiantaceae
59.	*Cuscuta reflexa*	Neela dhari	Cuscutacea
60.	*Lavatera cashmiriana*	Dug Sonchal	Malvaceae
61.	*Prunus padus*	kala kath	Rosaceae
62.	*Impatiens spp:*	Bantil	Balsaminaceae
63.	*Allium grieffithianum*	Rich pyyaz	Liliaceae
64.	*Hedera helix*	batkari	Araliaceae
65.	*Vetiveria zizaniodes*	Khas Khas	Poaceae
66.	*Oxalis acetosella*	Khatti Buti	Liliaceae
67.	*Cirsium wallichii DC*	Kan chari	Acanthaceae
68.	*Lonicera quinquelocularis*	phut	Caprifoliaceae
69.	*Amaranthus spinosus L.*	Surukh ghanyar	Amaranthaceae
70.	*Picea smithiana*	spruce	Pinaceae
71.	*Quercus incana A. Camus.*	Reen	Fagaceae
72.	*Acacia nilotica Willd.*	Kiker	Mimosaceae
73.	*Prunus avium L.*	Glass	Rosaceace
74.	*Morus alba L.*	Safed toot	Moraceae
75.	*Morus nigra L.*	Kala toot	Moraceae
76.	*Olea ferruginea Royle*	Rons pattar	Oleaceae
77.	*Prunus persica Stokes.*	Aroo	Rosaceace
78.	*Prunus domestica L.*	Alocha	Rosaceace
79.	*Salix tetrasperma Roxb.*	Beensa	Salicaceae
80.	*Prunus bokharensis Royle*	Alobukhara	Rosaceace
81.	*Vitis vinifera L.*	Dakh	Vitaceae

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