

# Ethnobotanical Studies of Traditional Plants Used for the Treatment of Common Diseases by the Local People of Saharanpur, Uttar Pradesh, India

\*Yogendra Kumar<sup>1</sup>, Arvind Kumar Singh<sup>2</sup>

<sup>1</sup> Department of Botany, Government Degree College Nanauta, Saharanpur-247452, U.P (India)

<sup>2</sup> Department of Botany, Maharishi University of Information Technology, Lucknow-226013, U.P, (India)

\*Author for Correspondance: ykpanchal4ever@gmail.com

**Abstract** An ethnobotanical study focused on medicinal utilization of plants was carried out among the ethnic communities of Saharanpur district of Uttar Pradesh, India with the objective to document the traditional knowledge of the medicinal plants used in various ailments. The ethnobotanical information was obtained through open interviews with local people of study area. The ethnic community still depends upon their indigenous knowledge to heal their ailments. A total of 92 medicinal plants were documented along with local name, family, habit, useful part and ethnomedicinal significance. These 92 plant species belongs to 79 genera and 40 families of angiosperms. The main emphasis was to include studies about the plants which are mainly used for medicinal purpose. It was observed that these plants are widely used for the treatment of various ailments for instance gastro-intestinal disorders, respiratory troubles, skin diseases, urinary problems, fever, gynaecological disorders, muscular problems, cuts and wounds, piles, nervous disorders, dental problems, diabetes, blood impurities, eye troubles and snake bite by the local people of the study area. The most cited family was Asteraceae, the most widely used plant part was the leaf and the most common mode of administration was decoction. The claims emanating from the present study need to be subjected to pharmaco-chemical studies in order to explore their true potential.

**Keywords** Ethnobotanical, ethnic communities, traditional knowledge, ailments, Saharanpur

## Introduction

From the time immemorial human being have used the plant species for the treatment of different types of diseases. History reveals the extensive use of medicinal plants in different ways by the people of those times in the treatment of even dreadful diseases. Plants have been used as a medicinal agent since ancient times, first only on a folklore basis and later developed on a scientific way into a single agent drug [1]. The present century has witnessed the drastic development of science and technology in all fields. Although people have become habituated to the modern powerful drugs, but even then a large

number of people still believe and use the local herbs. Majority of the world's population is still dependent on the traditional herbal medicine for their healthcare needs [2]. The World Health Organization has estimated that over 80% of the global populations rely chiefly on traditional medicine [3]. Several investigations have been carried out by different workers at times on the use of plants for medicinal purposes by people. It was officially recognized that 2500 plant sp. have medicinal value while over 6000 plants are estimated to be explored in traditional, folk and herbal medicine[4]. At present about 64% of the Indian population is chiefly dependent on the traditional system of medicine [5]. Documenting the indigenous knowledge through ethno-botanical studies is important for the conservation and utilization of biological resources. Ethnobotanical survey has been found to be one of the reliable approaches to drug discovery [6].

In recent years, as the modern civilization has spread to most parts of the world, it has made most of the primitive societies to break away from their social, cultural and traditional belief. This slow detachment from culture and tradition has brought about a destruction of knowledge and practices of plants in their daily life. Therefore, before these people completely lose their knowledge of medicinal value of plants, there is an urgent need to record such valuable information for the benefit of mankind at large scale. The presence of large number of ethno medicinal plant species in Saharanpur district of Uttar Pradesh indicates that this area has high diversity of medicinal plants and is a site with indigenous traditional knowledge. In present study an attempt has been made to conserve and document this vanishing traditional knowledge of the medicinal properties of the plants used by the different communities of the study area.

## Materials and Methods

The district Saharanpur is selected as site for ethnobotanical investigation (Figure 1). The district is located in the North-West edge of Uttar Pradesh. In the North of the district lies district Dehradun of Uttarakhand state and districts Yamuna Nagar and Karnal of Haryana state in the west, district Muzaffarnagar and Shamli in the south and district Haridwar of Uttarakhand state in the east. Saharanpur is situated in the foothills of Shiwalik that constitute the outer Himalaya. The

district is characterized with the Shiwalik, Bhabar, Tarai, Khadar and the plain. Hilly tract of the Shiwalik, range along the northern border is stretching from west to east directions. Lying immediately below the Shiwaliks is the Bhabar tract intersected by numerous torrents that drain rainy water into the Yamuna river and its numerous tributaries. The southern part of the district consists of plain and constitute major part of Saharanpur district. The region is composed of alluvial soil. Hindon, Katha, Krishna, Dhamola and Panvdhoi are other important rivers of the district.

For the collection of plants, extensive survey of the study area was carried out in the year 2020. In order to get first-hand ethnomedicinal information regarding the use of different plants as medicines, interviews were organized with rural people of the study area. All possible efforts were made to collect the specimens in their flowering and fruiting stages. Plant specimens were photographed at site for

## Result

The data obtained from the survey is compiled in Table 1. A total of 92 ethnomedicinally important plant species belonging to 79 genera and 40 families of angiosperms were documented along with their scientific name, local name, family, habit and parts used. Out of these 92 plant species, 78 species belongs to 67 genera and 33 families of dicotyledons whereas 14 species belongs to 12 genera and 7 families of monocotyledons. The statistical analysis of families, genera and species as shown in Figure 2 revealed that dicotyledons constitute the dominant forms over the monocotyledons in this area. The dominant families of study area were Asteraceae (10 species) followed by Amaranthaceae and Papilionaceae (7 species each), Acanthaceae (5 species), Cyperaceae, Lamiaceae, Malvaceae, Moraceae and Poaceae (4 species each). Rest 31 families were represented by less than 4 species each.

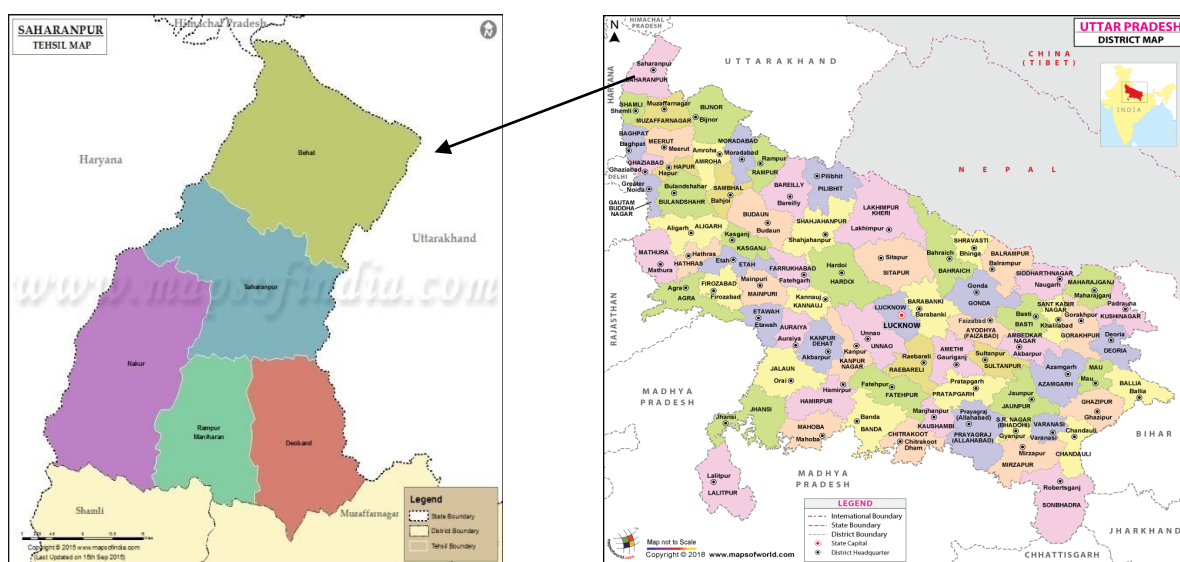


Figure 1. Map of the Study Area (Saharanpur District of Uttar Pradesh)

describing basic details. All the data of collected specimens were maintained in field note book. Collected plant samples were further processed following the Standard method of collection, preservation and maintenance of specimens in the herbarium [7-8].

Identification of the collected specimens were done with the help of pertinent floras [9-13] as well as with the help of taxonomic expert. On the basis of plant part used and the disease cured, the ethnomedicinal information was documented and was then segregated for different medicinal plants. The plant species were arranged alphabetically with their botanical names, local names, family, habit, plant parts used and ethnomedicinal uses (Table 1).

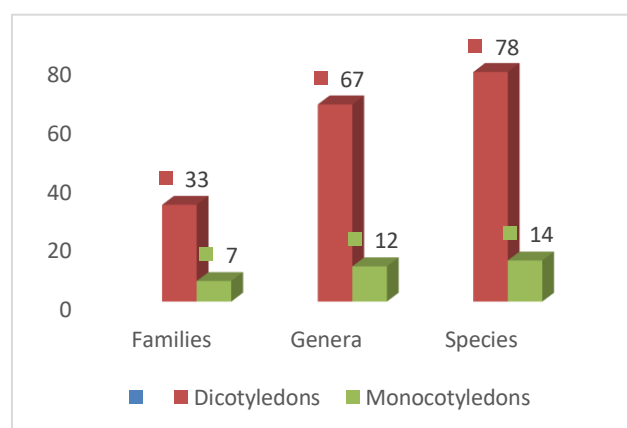


Figure 2. Graphical representation of dicot and monocot families, genera and species

Though, more than 45 different diseases were recorded to be cured by medicinal plants in the area, the most reported use was for diarrhea, dysentery, rheumatism, fever, diabetes and skin infections.

The habit wise distribution of specimens as shown in Figure 3 revealed that herbs constitute the highest proportion (64.13%), followed by trees (16.30%), shrubs (14.13%), climbers (3.27%) and undershrubs (2.17%). The study revealed that the most frequently used plant part for various ailments were leaves (30.99%) followed by roots (22.54%), seeds (11.27%), whole plant (10.56%), fruits (9.86%), bark (4.93%), stem (3.52%), flower (2.11%), latex and wood (1.41% each), rhizome and corm (0.70% each) (Figure 4).

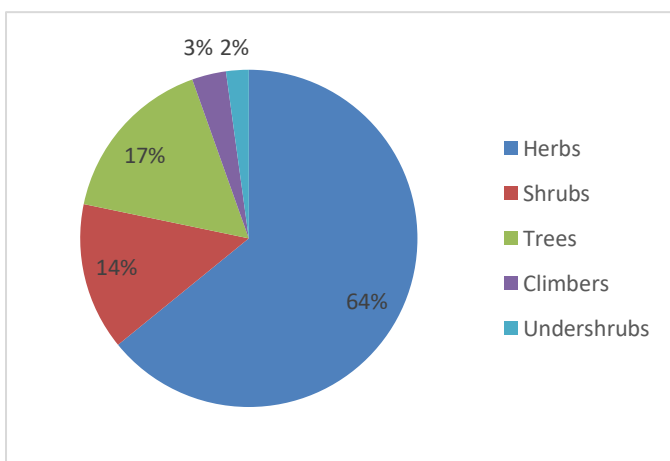


Figure 3. Habit wise distribution of plant species

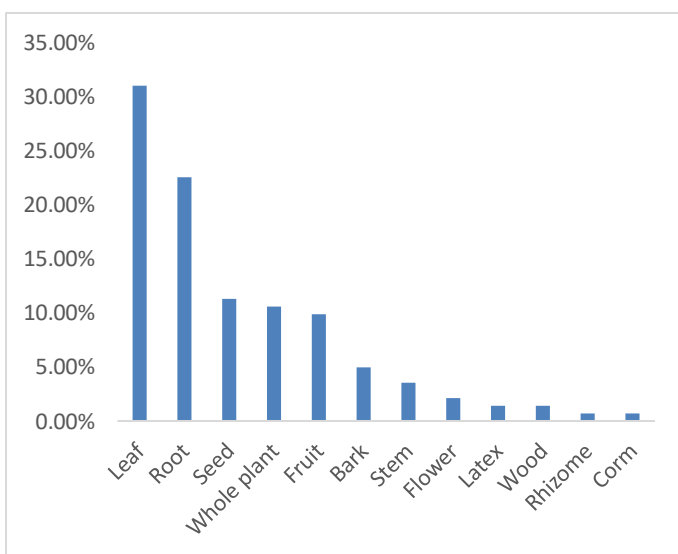


Figure 4. Percentage of plant parts used for medicinal purpose

The present data proves that medicinal plants mostly used in drug preparation with one or two species not more than three species. The largest number of remedies was used to treat gastro-intestinal disorders followed by respiratory troubles,

skin diseases, urinary problems, fever, gynaecological disorders, muscular problems, cuts and wounds, piles, nervous disorders, dental problems, diabetes, blood impurities, eye troubles and snake bite. The proportion of remedies used to treat gastro-intestinal disorders occupies highest percentage (Figure 5).

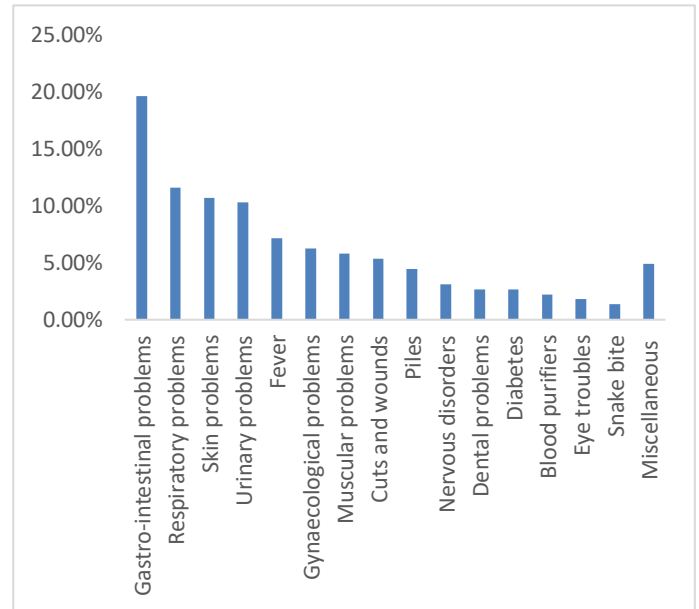


Figure 5. Percentage of plants used for various ailments

## Discussion

The study area has high diversity of medicinal plants and is a site with indigenous traditional knowledge. The study reveals that the ethnic people of the area largely depend on the wild medicinal plants to cure their ailments [14]. Due to the lack of the health facilities in the rural parts of the district, the people are largely dependent on the traditional health care system. This practice would certainly affect the availability of these plants and some of the plants would become threatened in near future. Thus, the study area faces decline of medicinal wealth due to over exploitation of these plants by traditional practitioners.

In present study, an attempt was made to document the information on the traditional medicinal knowledge present with the local people of study area. The ethno medicinal study reveals the therapeutic potential of 92 plant species belonging to 79 genera and 40 families, in which Asteraceae, Amaranthaceae and Papilionaceae families were found dominant. It is evident from the study that many different parts of the medicinal plant species are used as medicine (namely root, stem, leaves, whole plant, flowers, fruits, seeds, bark and wood) but the most commonly used plant part was leaves (used in 44 species), followed by root (32 species), seed (16 species), whole plant (15 species), fruit (14 species), bark (7 species), stem (5 species), flower (3 species), latex and wood (2 species each), rhizome and corm(1 species each).

The rural people of Saharanpur district mostly use these medicinal plants as these are easily available and highly effective against various human ailments such as gastro-intestinal problems, respiratory problems, skin problems, urinary problems, fever, gynaecological problems, muscular problems, cuts and wounds, piles, nervous disorders, dental problems, diabetes, blood impurities, eye troubles, snake bite and other miscellaneous health problems. The reported plants include both wild and cultivated ones. Documentation of traditional knowledge about medicinal plants is really important for enhancement of the existing understanding of indigenous knowledge system.

Several ethno botanical studies were carried out to take record of the species used by the residents contiguous in the different area for health care. The study has also been compared with available published literature [15-20]. The results of the study prove that herbal plants still play a significant role in the lives of these common people who use them for their regular health care. Recent studies revealed that many of these valuable plants are under threat and depleting very fast. Therefore, there is urgent need of community based conservation systems for protection and conservation of biodiversity in this area including medicinal plants.

## Conclusion

In recent years, significant changes within several aspects of ethnomedicine occurred as a result of environmental degradation and tremendous changes in modern social systems. Due to these factors, the traditional knowledge system in India is fast degrading. Hence, there is an urgent need to document all ethnobotanical information among the diverse ethnic communities before the traditional culture vanishes. Policy makers should take forward steps to secure the traditional ethnomedicinal knowledge of rural people, whose socio-economic life is interwoven with the forests from where they derive all their material requirements, including their healthcare needs. These plants have tremendous potentials for the preparation of various pharmaceutical products of commercial importance. The outcome from the present study need to be subjected to pharmacological studies in order to explore their true potential. Creating awareness and motivating local people for cultivation, conservation and sustainable utilization of medicinal plants particularly threatened ones, is deemed necessary for maintaining this wealth.

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**Table-1.** Checklist of ethnomedicinal plants used by local inhabitants of Saharanpur District, Uttar Pradesh

Name of Species	Family	Local Name	Habit	Medicinal Uses
<i>Achyranthes aspera</i> L.	Amaranthaceae	Chirchita, L atjeera	Herb	Root decoction mixed with garlic and ajwain is used to cure asthma. Decoction of leaves is used in cough and abdominal pain.
<i>Aerva javanica</i> (Burm. f.) Juss. & Schult.	Amaranthaceae	Bhuari	Herb	Roots are given in the treatment of headache and jaundice. Seeds are useful in rheumatism. Decoction of plant given in burning micturition.
<i>Ageratum conyzoides</i> L.	Asteraceae	Neela Phool	Herb	Leaf decoction is used in treatment of dysentery, rheumatism and fever. Leaf extract is used as an antidote against snake bite.
<i>Alstonia scholaris</i> (L.) R. Br.	Apocynaceae	Sapt parni	Tree	Bark is used as blood purifier. Decoction of bark is useful in fever to reduce body temperature.
<i>Alternanthera sessilis</i> (L.) R. Br. ex DC.	Amaranthaceae	Garundi	Herb	Leaf poultice is used for boils. Decoction of plant is given to nursing mother to increase the milk.
<i>Amaranthus viridis</i> L.	Amaranthaceae	Kantili Cholai	Herb	Plant is considered as a good source of iron and act as appetizer. Whole plant is given to cure kidney stone.
<i>Anisomeles indica</i> (L.) Kuntze	Lamiaceae	Kala bhangra	Herb	Root paste is applied on rheumatism. Seed oil is used to cure uterine infections. Plant ash with coconut oil is used to remove dandruff.
<i>Argemone mexicana</i> L.	Papaveraceae	Peeli Katili	Herb	Seeds are used as antidote against snake bite. Latex is used to treat eye infection and jaundice. Seed oil is used in the treatment of cutaneous infections.
<i>Asparagus racemosus</i> Willd.	Liliaceae	Satavar	Under shrub	Dried and powdered roots taken with milk as tonic for lactation in women. Roots also used to overcome general debility, also effective in peptic ulcers and piles.
<i>Asphodelus tenuifolius</i> Cav.	Liliaceae	Pyazi	Herb	Plant paste is applied in case of swellings. Plant decoction is useful in kidney stones.
<i>Avena sativa</i> L.	Poaceae	Jayi	Herb	It is a source of <i>Oat meal</i> . Seed powder is used for weight loss.
<i>Barleria prionitis</i> L.	Acanthaceae	Vajradanti	Shrub	Raw leaves are chewed to get relief in tooth ache. Leaf ash is used with honey for cough. Leaves paste is used in boils and cracked heel.
<i>Bauhinia purpurea</i> L.	Caesalpiniaceae	Kachnar	Tree	Bark is used in the treatment of diarrhea. Woody twigs burnt and used as tooth powder to get relief in tooth ache.
<i>Boerhavia chinensis</i> (L.) Rottb.	Nyctaginaceae	Punarnava	Herb	Root paste is applied on swellings, boils and rheumatism. Decoction of root is given in bronchitis, sore throat and general debility.
<i>Boerhavia diffusa</i> L.	Nyctaginaceae	Punarnava	Herb	Root paste is used for easy delivery and to cure boils and dropsy. Leaf juice is used in treatment of jaundice.
<i>Bulbostylis barbata</i> (Rottb) C.B. Clarke	Cyperaceae	Piazza	Herb	Herb is boiled in water and given in treatment of intestinal disorders.
<i>Butea monosperma</i> (Lam.) Taub.	Papilionaceae	Dhak, Palash	Tree	Fresh leaf juice is applied in burning urination. Leaf paste is applied externally for treatment of rheumatic pain. Bark decoction used in diarrhea and dysentery.
<i>Calotropis gigantea</i> (L.) Dryand. R. Br.	Asclepiadaceae	Safed Aak, Madar	Shrub	Milky latex is applied on ring worm, eczema and swelling. Leaves are used in treatment of paralysis. Root bark is used in elephantiasis.
<i>Calotropis procera</i> (Ait.) Dryand. R. Br.	Asclepiadaceae	Aak, Madar	Shrub	Leaves are recommended for the treatment of dysentery. Root and latex are used in treatment of asthma.
<i>Celosia argentea</i> L.	Amaranthaceae	Makhmali	Herb	Flowers are used for the treatment of diarrhea. Seeds are used to cure painful micturition and dysentery.
<i>Centella asiatica</i> L.	Apiaceae	Brahmi Buti	Herb	Powdered leaves with cow's milk is given to improve memory. Leaf decoction is given in treatment of leprosy. Leaves are also used to overcome fatigue and stress.
<i>Cichorium intybus</i> L.	Asteraceae	Kasni	Herb	Roots are used as diuretic and also applied for treatment of gall bladder and liver disorders.
<i>Cleome viscosa</i> L.	Capparidaceae	Hulhul	Herb	Seeds in the form of poultice is applied on painful joints. Seeds are used as carminative and anthelmintic.
<i>Colocasia esculenta</i> (L.) Schott	Araceae	Arvi	Herb	Corn juice is applied on scalp for good growth of hairs. Petiole juice is used as astringent.
<i>Commelina benghalensis</i> L.	Commelinaceae	Buchna	Herb	Used as laxative and refrigerant. Plant juice is recommended in dysentery and leprosy.

<i>Cordia dichotoma</i> G.Forst.	Boraginaceae	Lisora	Tree	Bark is employed for cough and chest diseases. Leaf juice and honey is given in foot and mouth disease of cattles.
<i>Cuscuta reflexa</i> Roxb.	Convolvulaceae	Amarbel	Herb	It is utilized in treatment of liver related diseases. Decoction of stem is employed in constipation and flatulence. Stem paste is given with curd to cure diarrhea.
<i>Cynodon dactylon</i> (L.) Pers.	Poaceae	Doob Ghas	Herb	Plant juice is employed to cure piles and to regulate menstrual cycle. Rhizomes are used in urino-genital problems.
<i>Cyperus alopecuroides</i> (C.B. Clarke ) Rottb.	Cyperaceae	Mota Patera	Herb	Leaves paste used in skin diseases.
<i>Cyperus difformis</i> L.	Cyperaceae	--	Herb	Leaves posses antibiotic properties and used in skin disorders.
<i>Cyperus dubius</i> Rottb. Endl.	Cyperaceae	--	Herb	Root oil used for stimulating liver.
<i>Dalbergia sissoo</i> DC.	Papilionaceae	Shisham	Tree	Fresh leaves and dried bark is used in bleeding piles. Leaf decoction is given in gonorrhoea. Wood is useful in leprosy, boils and eruptions.
<i>Datura metel</i> L.	Solanaceae	Kala Dhatura	Herb	Leaves are used as narcotic and anti-spasmodic. Seeds are said to be smoked in asthma. Purified seeds are used for jaundice, fever and anemia.
<i>Delonix regia</i> (Hook.) Raf.	Caesalpiniaceae	Gul Mohar	Tree	The seeds are carminative, and also used to purify the blood. Decoction of bark is useful in fever and diarrhea.
<i>Digera muricata</i> (L.) Mart.	Amaranthaceae	Koundra	Herb	Seeds and flowers are used for the treatment of urinary discharges.
<i>Echinops echinatus</i> Roxb.	Asteraceae	Untkanta	Shrub	Roots in powdered form are used to destroy lice. Paste of root is applied in snake bite. Decoction of root used in impotency and sexual debility.
<i>Eclipta prostrata</i> L.	Asteraceae	Bhringraj	Herb	Plant juice is applied in fever, jaundice, anemia and diabetes. Whole plant is used to treat skin problems and urinary tract infections. Leaf paste mixed with coconut oil is used to prevent hair loss.
<i>Evolvulus alsinoides</i> L.	Convolvulaceae	Phooli	Herb	Leaves are used to prepare tonics and as medicine for fever. Also used in treatment of syphilis, diarrhea, bronchitis and asthma.
<i>Ficus benghalensis</i> L.	Moraceae	Bargad, Bar	Tree	Root paste is applied in leucoderma and ringworm. Fruits are employed in indigestion, sexual debility, piles and general debility. Stem decoction is used for piles and exudation of puss. Bark infusion used as a tonic and in treatment of dysentery and diabetes.
<i>Ficus racemosa</i> L.	Moraceae	Gular	Tree	Unripe fruits are used in jaundice and diarrhea. Root juice is applied in case of mumps and other glandular swellings.
<i>Ficus religiosa</i> L.	Moraceae	Peepal	Tree	Twigs are used as tooth brushes. Unripe fruits are useful in premature ejaculation and general debility. Stem bark is used in skin problems, throat and urinary infections.
<i>Fumaria indica</i> (Haussk.) Sabnis	Fumariaceae	Papra	Herb	Plant decoction is used as a blood purifier. Also used against fever and as anthelmintic.
<i>Gomphrena celosioides</i> Mart.	Amaranthaceae	Kasia	Herb	Plant used for treatment of malaria, jaundice, cough and diarrhoea.
<i>Heliotropim strigosum</i> Willd.	Boraginaceae	Safed bhangra	Herb	Plant juice is applied to sore eyes. Leaf juice is useful in treatment of boils, wounds and ulcers.
<i>Indigofera linifolia</i> (L. f.)Retz.	Papilionaceae	Torki	Herb	Root paste is applied on swellings. Decoction of plant is given in fever. It is also used as a vermifuge.
<i>Indigofera tinctoria</i> L.	Papilionaceae	Neel	Under shrub	Roots used in urinary complaints and jaundice. Leaf juice is useful in epilepsy and nervous disorders.
<i>Ipomoea cairica</i> (L.)Sweet	Convolvulaceae	Morning Glory	Climber	The plant is useful in treatment of cough, asthma and tuberculosis. Leaf paste is applied in skin diseases.
<i>Justicia adhatoda</i> L.	Acanthaceae	Bansa	Shrub	Leaf ash is used for the treatment of cough. Leaf juice is useful in treatment of dysentery, diarrhea and tumors.
<i>Justicia procumbens</i> L.	Acanthaceae	Makhania Ghas	Shrub	Leaves juice is squeezed into the eyes for treatment of ophthalmia. Plant infusion used in asthma, cough, rheumatism and liver disorders.
<i>Leucas cephalotes</i> (Roth) Spreng.	Lamiaceae	Gubha	Herb	Used as laxative and anthelmintic. Root juice is given in rheumatism. Flowers juice is given in cough, cold and jaundice.
<i>Medicago sativa</i> L.	Papilionaceae	Lahsun Ghas	Herb	The tea made of leaves is used to strengthen digestive system. Sprouts of seed are useful in treatment of diabetes.
<i>Mimosa pudica</i> L.	Mimosaceae	Lajwanti, Chhuimui	Shrub	Plant powder is used as good medicine for asthma. Plant paste is applied on fistula and piles. Root decoction used in urinary

				disorders. Leaf juice is used in glandular swellings.
<i>Mirabilis jalapa</i> L.	Nyctaginaceae	Gulabas	Shrub	Paste of leaves applied on boils, wounds and swellings.
<i>Momordica dioica</i> Roxb. ex Willd.	Cucurbitaceae	Jungli Karela	Climber	Roasted roots are used in treatment of piles and urinary troubles. Root paste is applied on scorpion sting. Leaf juice is regarded as good medicine for earache.
<i>Moringa oleifera</i> Lam.	Moringaceae	Sahjan	Tree	Root decoction is given to treat asthma and bronchitis. Leaf juice along with honey is dropped into eyes in conjunctivitis.
<i>Morus alba</i> L.	Moraceae	Shahtoot	Tree	Leaf paste is useful for healing of wounds. Fruits are eaten and also used for sore throat, dyspepsia and melancholia.
<i>Murraya koenigii</i> (L.) Spreng.	Rutaceae	Kari-patta, Mithi Neem	Shrub	Leaves are good appetizer. Root juice is applied for kidney troubles. Infusion of leaves is used to treat diarrhea, dysentery and fever.
<i>Ocimum americanum</i> L.	Lamiaceae	Tulsi, Krishna Tulsi	Herb	The leaves mixed with the tea are used in fever. Seed decoction in potash water is used as coolant in fever. Seed powder is used in leucoderma and other skin diseases.
<i>Ocimum basilicum</i> L.	Lamiaceae	Tulsi,	Herb	Leaf along with honey is used as decoction to cure cold, cough and fever.
<i>Oxalis corniculata</i> L.	Oxalidaceae	Khatti-Booti	Herb	The leaves are good source of vitamin C. The leaves are chewed raw due to its sore taste. Juice of its leaves act as antidote against Datura poisoning. Leaf juice is used to treat piles, anemia and skin problems.
<i>Parthenium hysterophorus</i> L.	Asteraceae	Gajar ghas	Herb	Decoction of roots is used as tonic. Root decoction is also used in treatment of dysentery and skin diseases.
<i>Pedaliium murex</i> L.	Pedaliaceae	Vilayti Gokhru	Herb	Sap of fresh leaves with water is used to treat gonorrhoea and dysuria. It is also used in calculi and burning micturition.
<i>Pennisetum glaucum</i> (Linn.) R. Br.	Poaceae	Bajra	Herb	Grains are given as food for nursing women to increase breasts milk.
<i>Phoenix sylvestris</i> (L.) Roxb.	Arecaceae	Khajoor	Tree	Fruits are used in sexual debility, leprosy, fever and tuberculosis. Roots used for tooth ache and nervous debility.
<i>Physalis minima</i> L.	Solanaceae	Rasbhari	Herb	Used as diuretic and purgative. Leaf juice is used in case of ear ache. Fruits also used in colic complaints.
<i>Polygonum plebeium</i> R. Br.	Polygonaceae	Machechi	Herb	Plant decoction is given in pneumonia and bowel complaints. Plant ash mixed with oil is applied on eczema, wounds and ulcers.
<i>Pongamia pinnata</i> (L.) Pierre.	Papilionaceae	Karanj	Tree	Bark powder is used in treatment of diabetes. Plant decoction is used to cure 'Beri-beri'. Seed oil is antiseptic and used in skin diseases.
<i>Portulaca oleracea</i> L.	Portulacaceae	Luni	Herb	Leaves are used in the treatment of kidney, bladder and spleen disorders. It is also used to treat mouth ulcer.
<i>Putranjiva roxburghii</i> Wall.	Euphorbiaceae	Putranjiva	Tree	Fruits are used for treatment of fever, cold and rheumatism. Seeds are believed to be conception-promoting. It is also used against vaginal infection.
<i>Ranunculus sceleratus</i> L.	Ranunculaceae	Jaldhania	Herb	Leaf juice is applied on eczema and ringworm. Stem juice is used in asthma, pneumonia and rheumatism. Seeds are used against stomach pain and kidney problems.
<i>Ruellia prostrata</i> Poir.	Acanthaceae	Bell weed	Herb	Plant decoction is used in fever, indigestion, cough and liver disorders.
<i>Ruellia tuberosa</i> L.	Acanthaceae	Blue bell	Shrub	Plant is used as anti-diabetic, analgesic and gastric tonic. Also useful in gonorrhoea and skin disorders.
<i>Senna occidentalis</i> L.	Caesalpinaceae	Kasondhi	Herb	Seeds are used for treatment of cough and whooping cough. Roasted seeds mixed with coffee are given for strength. Stem, leaf and seed decoction is used as a purgative.
<i>Setaria verticillata</i> (L.) P. Beauv.	Poaceae	--	Herb	Seeds are roasted and used to remove extra fat from the body.
<i>Sida acuta</i> (Burm. f.) Bross.	Malvaceae	Baraira	Shrub	Boiled leaves are used against elephantiasis. Roots are used in urinary disorders.
<i>Sida cordata</i> (Burm. f.) Boiss.	Malvaceae	Baharbut, Adia bel	Herb	Fruit decoction is used in sexual debility. Decoction of root is given in leucorrhoea. Crushed leaves applied on cuts.
<i>Sida cordifolia</i> L.	Malvaceae	Kharenti	Herb	Roots infusion is given in nervous and urinary disorders. Root powder is given with milk in leucorrhoea and frequent micturition.
<i>Sonchus asper</i> (L.) Hill	Asteraceae	Dudhi	Herb	Root paste is a good medicine for jaundice. Stem paste is used to treat wounds and boils.



<i>Sonchus oleraceus</i> L.	Asteraceae	Peeli Dudhi	Herb	Roots and leaves are used for digestive problems. An ointment is prepared from the decoction for wounds and ulcers.
<i>Sphaeranthus indicus</i> L.	Asteraceae	Gorak mundi	Herb	Leaf juice is used in tumors and piles. It is also used as a vermifuge. Plant juice is used to treat gastric disorders.
<i>Spirodela polyrrhiza</i> (L.) Schleid.	Lemnaceae	Chowpatti	Herb	Whole plant is used to cure from cold and urination problems.
<i>Stellaria media</i> (L.) Vill.	Caryophyllaceae	Godal	Herb	Paste of the plant applied to cuts and wounds. It also helps to treat constipation. Paste of plant mixed with plaster of paris is applied on the broken bones for healing.
<i>Tephrosia purpurea</i> (L.) Pers.	Papilionaceae	Shar punkhada	Herb	Root decoction is used to cure bleeding piles and dyspepsia. Seed oil is applied on eczema. Decoction made of pods is given in bronchitis.
<i>Terminalia arjuna</i> (Roxb. ex DC.) Wt. & Arn.	Combretaceae	Arjun	Tree	The bark is considered to be a tonic for heart. Decoction of leaves is useful in diabetes. Fruit is useful in controlling high blood pressure.
<i>Tinospora cordifolia</i> (Willd.) Miers.	Menispermaceae	Giloy, guduchi	Climber	Leaf decoction is given in the treatment of gout. Fruit is used to treat jaundice and rheumatism. Dried stem used in polyurea and skin diseases. Stem juice used in general debility, fever and urinary problems.
<i>Trachyspermum ammi</i> (L.) Sprague.	Apiaceae	Ajwain	Herb	Fruits are useful in flatulence, indigestion, colic and bronchitis. Also used as spice. Roots are used as carminative, diuretic and febrifuge.
<i>Tribulus terrestris</i> L.	Zygophyllaceae	Gokhru	Herb	Fruit decoction is used for the treatment of impotency. Raw leaves used to treat stone problems. Mixture of fruits and root is used for leucorrhoea and urinary problems.
<i>Tridax procumbens</i> L.	Asteraceae	Sadahari	Herb	It is used to treat dental problems. Leaf juice is used to get relief from ear ache. Leaves are used for treatment of dysentery.
<i>Urena lobata</i> L.	Malvaceae	Bachita	Shrub	The decoction of stem and roots used to get relief from flatulence.
<i>Verbascum chinensis</i> (L.) Santapau	Scrophulariaceae	Gadar-Tamakhu	Herb	Plant juice used as febrifuge and applied in skin eruptions. Leaf juice is useful in treatment of diarrhea.
<i>Withania somnifera</i> (L.) Dunal in DC.	Solanaceae	Ashwa gandha	Shrub	Powdered roots are employed to improve sexual power. Root powder is used to get relief from inflammation. Root paste is applied to cure ulcers, fever, cough and rheumatism.
<i>Xanthium strumarium</i> L.	Asteraceae	Bharunt	Herb	Seeds are eaten raw to get relief from headache. Roots are useful in treatment of tumor. Fruits are used to treat constipation, leprosy and rheumatoid arthritis.