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ETHNO MEDICINALLY IMPORTANT PLANTS OF BIJNOR DISTRICT (U.P.), INDIA

Dr. Shambhu P. Patel^{1*}, Dr. Anil Patel², Dr. Ramakant Marde³, Dr. Darpan Gangil⁴, Dr. Shruti Singh⁵

*Corresponding Author: Dr. Shambhu P. Patel *Email.- adityamahpl@gmail.com, Mob- 6266581833

Abstract-

The present study was conducted in the Bijnor region of Uttar Pradesh, India to the documentation and conservation of ethno medicinal plants. This data was collected through a series of interviewof regional people and with the help of botanist. A total of 140 species belonging to 119 genera and 54 families was recorded. Plant species commonly used by local people for food, fodder, medicine and in other fields of their lives were enumerated. A list of plant species along with their local names, plant parts used and mode of application was documented. Ethno medicinally important families were Fabaceae with 14 species followed by, Malvaceae& Moraceae-9, Euphorbiaceae-8, Apocynaceae& Solanaceae- 6 species etc. These plant species are utilized by local people against various ailments such asthma, Allergic condition, antidote for poisonous insects, bronchitis, cough and cold, cuts, diarrhoea, eye disorders, Hepatic disorders, jaundice, joints pain, Malarial fever, Pruritus, stomach disorders, urinary troubles etc.

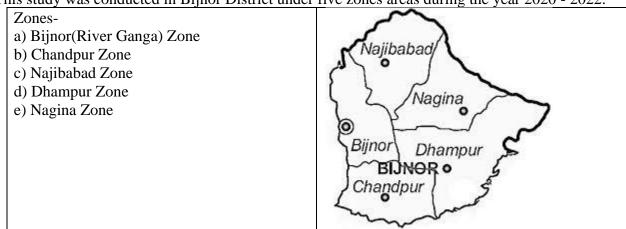
Keywords- Ethnomedicinal survey, Ayurveda, Bijnor, indigenous knowledge, herbs and medicine.

Introduction-

The knowledge of therapeutic plants has been accumulated over many years and recorded in various medical systems. Humans have utilized numerous plant species for a variety of purposes, including food, clothing, shelter, medicine, fibres, gum, resin, oil, and so on. from the very beginning. The tribal people and other people who live nearby in that area eat a variety of wild plants. Traditional knowledge of wild plants is being lost at an alarming rate, and new medications that can be used for medical purposes have been developed in recent years. The Bijnor district, which is close to the Ganga River and in the Himalayan foothills, is rich in natural herbal plantations. The Moradabad division's north-west corner is occupied by Bijnor. The Ganges, a deep stream, forms the entire western boundary. Beyond it are the four districts of Dehradun, Saharanpur, Muzaffarnagar, and Meerut. The latitude and longitude of the district are 2902-29058 and 7800-780-59 degrees East. It spans 4561 kilometres. A significant portion of the district is part of the Indo-gangetic alluvium. The region has a dry tropical climate. Winter temperatures range from 80 to 170 degrees Celsius, with temperatures below 50 degrees Celsius in between. The average rainfall is 901.00 mm. According to India State of Forest Report-2019 Geographical Area of Bijnor is 4561, Very Dense Forest is 39.00, Moderate Dense Forest is 218.38, Open Forest is 146.23, and % of Geographical Area is 8.85.

Materials and Methods

This study was conducted in Bijnor District under five zones areas during the year 2020 - 2022.



Traditional healers, vaidhyas, hakims, tribes, and elderly rural residents provided first-hand knowledge on the therapeutic applications of plants. The majority of the informants were unwilling to divulge any information, but a small number agreed to be interviewed and to be collected from the forest. Agri, Jhalu, Haldaur, Najibabad, Kiratpur, Chandpur, pipli, Jalilpur, etc. rural farmers. Data on the names, functions, parts used, and application methods of local plants were gathered using a systematic questionnaire. The Herbarium of the Botanical Survey of India, Northern Circle, Dehradun (BSD), local floras, and earlier works by Hooker 1875), Kirtikar and Basu (1999), Dubey et al. helped identify the recorded plant species (2008). Semi-structured interviews using a questionnaire focused on health issues, diagnosis and treatment approaches, regional names for medicinal plants, plant parts utilised in techniques of application, remedies for medicinal plants, and conservation activities were the methods used to collect ethnobotanical data. The habit, habitat, flowering and fruiting seasons, smell, and bark colour were all noted during the field survey. It has also discovered which plant parts are valuable for medicinal purposes. The identification of the medicinal plants, as well as their photography and collection of sample specimens for herbarium preparation, was done. During the semi-structured interview, the status of all the therapeutic plants was documented as abandoned and scarce.

Identification of plants-

Before conducting a survey at the study sites, a questionnaire was created to collect data on the local medicinal plants. The data was gathered from a large number of Vaidyas and old villagers. The research locations are where the original digital photos of the plant were taken. The indigenous flora served as a guide for identification. The current work was conducted using an ethnomedicinal inventory that included family names listed in alphabetical order, followed by the botanical name, local name, English name, component used, and ethno medicinal uses. (Maheshwari et al.1988). In the Bijnor district, medicinal plant species were gathered from several locations. The plants were preserved with a collection number, appropriately pressed, poisoned, and glued onto herbarium sheets. The department of Botany received the herbarium sheets for future reference.

Result and Discussion

A major impact of deforestation and other anthropogenic factors on the natural resources is the rising demand for medicinal herbs. Locals frequently employ plants to treat illnesses, especially in places with limited or no access to contemporary medical care. Due to the development of modern technology and the alteration of traditional culture, the indigenous traditional knowledge of medicinal plants among many ethnic tribes, where it has been passed down orally for centuries, is quickly vanishing. (Omprakash et al. 2017). Thus, the collection of data about the management, classification, and human use of the natural flora is important to ethno botanists. (Shukla et al. 2013). The wonder of photosynthesis, plant respiration, structure, growth, development, and

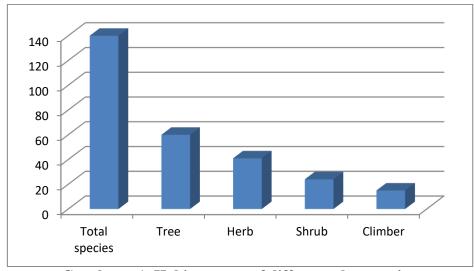
reproduction are all part of the complex chemistry of plants. Animals and plants share a large portion of the chemical components that make up life. From a holistic viewpoint, the entire plant must be acknowledged as a biologically integrated, developed system that defies scientific analysis. [Venketeshwer Rao (Ed.), Marisa Marciano].

The ethno-medicinal data recorded on 140 plants species belonging to 54 families and 119 genera, during summer, rainy and winter seasons. The most commonly represented families are, Asteraceae, Apocynaceae, Combretaceae, Euphobiaceae, Fabaceae, Malvaceae, Mimosaceae, Solanaceae, Verbenaceae etc. (Table- 1. & Graph no-2) For each species the following ethno medicinal information was provided- botanical name, local name, plant parts and their ethno medicinal use in the treatment of disease. The present report on medicinal plants showed that made up the highest proportion being represented with herbs (41), shrubs (24), Tress (60) and Climber (15). (Table-1 & Graph no-1). The plant parts used widely to treat human and livestock, health problems include roots, stem, bark and other parts. (Table-1 & Graph no-3). The plant parts used by tribes to treat the various ailments in the area were leaves. The details are given in Table 1.

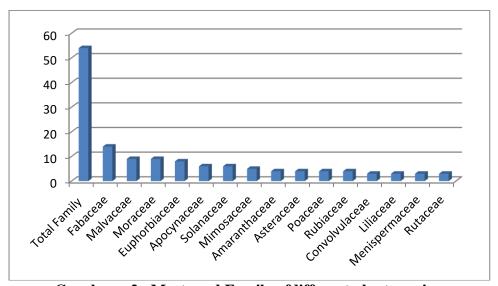
The medicinal plants identified from the various study sites are used for treating many different types of illnesses, wounds, fever, joint pain, headache, constipation, diarrhoea, (Singh, K.K. (1997). Eye disorders, skin ailments, cough and cold, antidote for poisonous insects, stomach disorders, urinary troubles, liver complaints, digestive problems, jaundice, asthma, bronchitis, inflammations and anaemia, piles, mental disorder, abdominal pain and bone fracture, paralysis, epilepsy, impotency, general weakness, etc. (Devendra et al.2018, Srivastav et al.2012) The people of Bijnor district uses the indigenous knowledge to the treatment of various kinds of disease like diabetes, diarrhoea, osteoarthritis, chronic bronchitis, jaundice, asthma and other disease. (Singh & Singh 2009, Mishra et al.2012), Mehra et al., 2014., Bajpai et al., 2016)

Conclusion

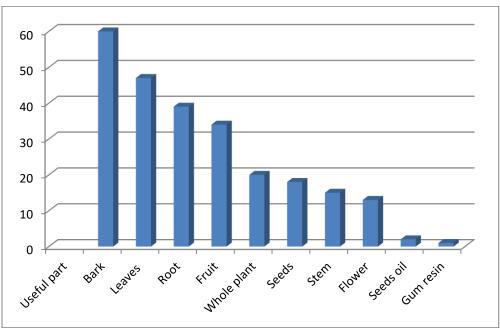
The current study gives details on the traditional medical applications of various plant species in the Uttarpradesh region's Bijnor District. Based on the aforementioned findings and discussions, it is possible to draw the conclusion that the medicinal plants of western Uttar Pradesh state are very significant sources of medications for treating a variety of human diseases, including diabetes, leprosy, kidney and gallstone stones, gonorrhoea, syphilis, leucorrhoea, blood vomiting, gonorrhoea, and asthma.(Shalu Chaudhry et al. 2011) The fact that traditional healers are the primary source of information on medicinal plants suggests that this region's traditional healthcare system is an established one. This ethnic community system is conservation-focused and has a lot of promise. This system requires in-depth analysis and documentation. Traditions are passed down from one generation to the next. According to the study, Bijnor's medicinal plant industry might be strengthened by good coordination. This could only be accomplished by combining efforts to conserve the environment, preserve biodiversity, and improve the health care system. To conserve the traditional medical practises and plant medicines used by indigenous people, collaborative research and coordinated efforts are needed.



Graph no- 1: Habit pattern of different plantspecies.



Graph no- 2: Most used Family of different plant species.



Graph no-3: Plant part's used pattern of different plant species.

Table 1.

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S	Botanical name	Family	Habit	Hindi/Sans	English name	Economic uses	Parts use	Medicinal uses
n o				krit name				
			·					
1	Abelmoschus moschatus M edik. Syn. Hibiscus abelmoschus L.	Malvaceae	Herb	latakasturi	Musk-mallow	Fibre, Vegetabl eoils, Food& medicinal	Seeds ,Leaves& root	Stomatitis, dyspepsia, gonarrhoea, leucoderma, colic pain & constipation.
2	Abrus precatorius L.	Fabaceae	Climber	Gunja	Bead vine	Medicinal	Seeds & root	Diabetes, malaria, inflammation & immune disorders.
3	Abutilon Indicum (Linn.) Sweet	Malvaceae	Herb	Atibala	Country mallow	Medicinal		
4	Acacia catechu (L. f.) Willd.	Mimosaceae	Tree	Khadir	Black catechu	Medicinal	Bark	Diarrhoea, toothache, tonsilitis, stomatitis, bronchitis, cough & eczema.
5	Acacia nilotica (L.) Delile.Syn. Acacia arabica (Lam.) Willd.	Mimosaceae	Shrub	Babul	Gum arabica tree	Medicinal	Bark & gum resin	Leucorrhoea, leprosy, gastritis, sore throat & oral infection.
6	Acacia pennata (L.) Willd.	Mimosaceae	Climber	khadirvalli	Climbing acacia	Medicinal	Leaves, Stem	Kidney stone & urinary blockages.
7	Achyranthes aspera L.	Amaranthaceae	Herb	Apamarg	Prickly chaff flower	Medicinal	Whole plant	Migraine, dentalgia, deafness, asthama, cough, cholera &hemorrhoids.
8	Acorus calamus L.	Araceae	Herb	Vach	Sweet flag	Medicinal	Root	Improve memory ,intellect, paralysis, epilepsy & hysteria.
9	AdhatodavasicaNees.	Acanthaceae	Shrub	Vasa	Malabar nut	Medicinal	Leaf, Root, Stem	Bronchitis, cold, whooping cough & asthma.
1 0	Aegle marmelos (L.) Corrêa Syn.Cratevamarmelos L.	Rutaceae	Tree	Bel	Bael	Medicinal	Fruit,leaf& bark	Cholera, dirrhoea , dysentery, dyspepsia &stomachalgia.
1	Aerva javanica (Burm. f.) Juss. ex Schult.	Amaranthaceae	Herb	Gorakshaga nja	Aerva	Medicinal	Whole plant	Headache, Mouth ulcer, Toothache, Jaundice, Malaria & Kidney stones.
1 2	Ailanthus excelsaRoxb.	Simaroubaceae	Tree	Aralu	Ailanthus	Medicinal	Bark	Fever, asthma, bronchitis and dysentery.
1 3	Albizia lebbeck(L.) Willd.	Mimosaceae	Tree	Shirish	Lebbeck tree	Medicinal	Bark, seeds, leaves & flowers	Allergic condition, urticaria, leprosy, wounds & neuralgia.
1 4	Alocasia macrorrhizos(L.) G.Don Syn. Alocasia indica (Lour.) Spach	Araceae	Herb	Mankand	Elephant Ear Taro	Food & medicinal	Rhizome	Jaundice, pus in the ears, diarrhoea, skin disorders & swollen lumphgl&s.
1 5	Aloe vera (L.) Burm. f. Syn.Aloe barbadensis Mill.	Liliaceae	Herb	Ghritkumari	Indian aloe	Medicinal	Leaves	Skin diseases, amenorrhoea, hepatopathy spleenopathy& constipation. Contraindication:-Inflamatory intestinal disease & pregnancy.
1 6	Alstoniascholaris(L.) R. Br. Syn. EchitesscholarisL.	Apocynaceae	Tree	Saptaparna	Devil tree	Medicinal	Leaves & Bark	Malarial fever, urticaria, skin disease, pruritus, bronchitis & asthma.
1 7	Alternanthera sessilis (L.) R. Br. ex DC.	Amaranthaceae	Herb	Matsyakshi	Sessile joyweed	Medicinal	Whole plant	Hepatitis, bronchitis, asthma and other lung troubles.
1 8	Amaranthus spinosus L.	Amaranthaceae	Herb	Chaulai	Pricklyamatanth	Food & medicinal	Leaves & Root	Diabetes, bone fracture, internal bleeding diarrhoea, gonorrhoea,
1 9	Anthocephalus cadamba(Roxb.) Miq.	Rubiaceae	Tree	Kadamb	White cinchona kadamb	Medicinal	Fruit & bark	abscess & arthritis. Fever, gastric trouble, urinary disorder, skin diseases & anaemia.
2	Argemone mexicanaL.	Papaveraceae	Herb	Satyanashi	Mexican Prickly Poppy	Medicinal	Whole plant	Worm infestation, leprosy, skin diseases, fever & inflammation.
2	Artocarpus heterophyllus Lam.	Moraceae	Tree	Kathal	Jack fruit tree	Food & medicinal	Fruit & latex	Fever, boils, wounds, skin diseases, convulsions, diuretic & snake bite.
2 2	Artocarpus lacuchaBuch Ham.	Moraceae	Tree	Lakuch	Monkey fruit	Food & medicinal	Fruit & latex	Fever,constipation,eyedisease,obesity,li ver disease & anorexia.
2 3	Asparagus racemosus Willd.	Liliaceae	Climbing Shrub	Satavari	Wild asparugus	Ornamental & medicinal	Root	Dysentry, rheumatism, nervous disorders, galactagogue & rejuvenation.
2 4	Averohha carambola	Oxalidaceae	Tree	Karmaranga	Star Fruit	Food & medicinal	Fruit, Leaves, Flower & Bark	A decoction of combined fruit and leaves is drunk to overcome vomiting, fruit is said to allay biliousness and diarrhea, Flower used in dermatitis.
5	Azadirachta indica (L.) A. Juss. Syn. Melia azadirachta L.	Meliaceae	Tree	Neem	Margosa tree	Medicinal	Leaves,Bark,flo wer& root.	Tubercular gl&s, leprosy, skin diseases, leucoderma, eczema, pruritus & malarial fevers.
6	Bambusa bambos (L.) Voss. Syn. Bambusa arundinacea Willd.	Poaceae	Woody Herb	Bans	Bamboo	Ornamental & medicinal	Young leaf & young shoots	Lumbago, hemorrhoids, gonorrhoea, burning sensation & strangury.
2 7	Barleriaprionitis L.	Acanthaceae	Shrub	Saireyak	Porcupine flower	Ornamental & medicinal	Roots, leaves, seeds.	Fever, respiratory diseases, toothache & joint pain.
2 8	Bauhinia variegata L.	Fabaceae	Tree	kanchnar	Mountain ebony	Medicinal	stem bark ,Leaves& flowers	Wounds, skin diseases, scrofula, gl&ular swelling & sore throat.
2	BoerhaviadiffusaL.	Nyctaginaceae	Herb	Punarnava	Hog weed	Medicinal	Root	Arthritis, cough impotency, skin disorders, anaemia & hepatic disorders.
3	Bombax ceiba L.	Malvaceae	Tree	Shemal	Silk cotton tree	Medicinal	Bark, flowers & leaves	Menorrhagia, Hemoptysis, Tuberculosis, Influenza & Haemorrhoids.
3	Bryophyllum pinnatum (Lam.) Kurz.Syn. Kalanchoe pinnata Pers.	Crassulaceae	Herb	Parnbeej	Air plant	Medicinal	Leaves	Wounds, hemorrhoids, menorrhagia, boils, sloughing ulcers, burns, diarrhoea, dysentery, headache, vomiting & bronchitis.
3 2	Buddleja asiatica Lour.	Scrophulariacea e	Shrub	Tootmalang a	Asian butterfly bush	Ornamental & medicinal	Leaves	Skin diseases.
3	Butea monosperma L. Syn. B. frondosa Koen. ex Roxb.	Fabaceae	Tree	Palash	Rorest flame	Medicinal	Seeds ,Root& leaves	Diabetes, cataract, anaemia, kidney stones & urinary blockages.
3 4	Caesalpinia bonduc(L.) Roxb. Syn. Caesalpinia bonducella(L.) Fleming	Caesalpiniaceae	Shrub	Putikaraj	Bonduce nut	Medicinal	Seeds & root	Skin diseases, leprosy, dysentery, diarrhoea, diabetes, chronic fever &hemorrhoids.
3	Calotropis gigantea (L.)	Apocynaceae	Shrub	Ark shwet	Crown flower	Medicinal	Leaves & Root	Leprosy, Elephantiasis, Snakebite,
3	Dryand. Calotropis procera (Aiton)	Apocynaceae	Shrub	Ark rakt	Auricula Tree	Medicinal	Leaves & Root	Asthma, Headache & Skin diseases. Rheumatism, filariasis, wounds,
3	Dryand. Cannabis sativa L.	Cannabaceae	Herb	Bhang	Hemp	Medicinal	Whole plant	glandular swellings & eczema. Malarial fever, Diarrhea,
7	1.20 N . 01 (2022)							Insomnia&Tumor.

3 8	Carica papaya L.	Caricaceae	Tree	Papeeta	Melon tree	Food & medicinal	Fruit ,leaves& latex	Dentalgia, throat disorders, diarrhoea, hemorrhoids, paralysis & skin disorders.
3 9	Carissa spinarum L. Syn. Carissa congesta Wight	Apocynaceae	Shrub	Karaunda	Indian teak tree	Food & medicinal	Fruit	Hemorrhages, hemorrhoids, gingivitis, toothache & nocturnal enuresis in children.
4 0	Cassia fistula L.	Leguminosae	Tree	Amaltas	Pudding pipe tree	Medicinal	Bark	Diabetes, Piles, Kidney disease, Menstrualdisease & Diarrhea.
4	Catharanthus roseus (L.) G.Don Syn. Vinca rosea L.	Rubiaceae	Tree	Sadabahar	Emetic Nut	Oranamental& medicinal	Leaves ,Flower& Root	Diabetes, Leukemia&Stomachache.
4 2	Celastrus paniculatus Willd.	Celastraceae	Shrub	Jyotishmati	Staff tree	Medicinal	Seeds oil	Skin inflammation, cancer, mental disorders, gout, epilepsy, insomnia & dyspepsia.
4 3	Centella asiatica (L.) Urban. Syn. Hydrocotyle asiatica L.	Apiaceae	Herb	Mandukparn i	Indian penns wort	Medicinal	Whole plant	Anaemia, asthma, bronchitis, cholera, measles, constipation, dermatitis & diarrhoea.
4	Cestrum nocturnum L.	Solanaceae	Shrub	Rat ki rani	Queen of night	Oranamental& medicinal	Bark	Epilepsy & Cytotoxic activities.
4 5	Cissampelos pareira L.	Menispermaceae	Climber	Patha	Velvet Leaf Plant	Medicinal	seed, bark, leaf, root	Diarrhoea, dysentery, ulcer, intestinal worms, splenomegaly, diabetes &meastrual disorders.
6	ClitoriaternateaL.	Fabaceae	Climber	Aprajita	Indian mezorian, Winged leaved clitoria	Ornamental & medicinal	Leaves ,Flower& Seeds	Cough, small pox, piles, cold & asthma.
4 7	Cocculus hirsutus (L.) W.Theob.	Menispermaceae	Climber	Patalgaruni	Ink berry plant	Medicinal	Leaves, Roots	Intestinal worms, sun stroke, Migraine, anorexia, Eczema, Gonorrhea.
4 8	Coixlacryma- jobiL.Syn.CoixlachrymaL.	Poaceae	Herb	Gabedhuk	Jobs tears	Ornamental & medicinal	Root & seeds	Anti-inflammatory, antipyretic, antiseptic, antispasmodic, hypoglycaemic, hypotensive, sedative & vermifuge.
4 9	Cordia myxaL.	Boraginaceae	Tree	Shlesmantak	Sehestan	Medicinal	Fruit & stem bark	Diabetes, inflammation, ulcer, spermatorrhoea, headache, sexual weakness & dyspepsia.
5 0	Crataeva nurvalaBuch Ham.	Capparaceae	Tree	Varun	Three leaved caper	Medicinal	Bark	Dysuria,kidneystones,prostrateenlarge ment,goiter,diabetes,rheumatism,arthrit is,heartdisease,impotensy,wounds& ulcers.
5 1	CurculigoorchioidesGaertn . Syn. Hypoxisorchioides (Gaertn.) Kurz	Hypoxidaceae	Herb	Kali musli	Black musli	Medicinal	Root	Cough, asthma, diarrhoea, gonorrhoea, colic &dysurea.
5 2	Cuscuta reflexaRoxb.	Convolvulaceae	Climber	Aakashvalli	Dodder	Medicinal	Whole plant	Cough, muscular pain and urination disorders
5 3	Cymbopogon citratus(DC.) Stapf Syn. Andropogon citratus DC.	Poaceae	Herb	Bhutrin	Lemon grass	Medicinal	Root	Flatulence, gastric irritation, fever, anorexia & bronchitis.
5 4	Cyperus rotundusL.	Cyperaceae	Herb	Nagarmotha	Nutgrass	Medicinal	Root	Conjunctivitis, vomiting, diarrhoea colitis, dyspepsia & eczema.
5 5	Dalbergia latifoliaRoxb.	Fabaceae	Tree	Krishn shisham	Black Rose wood	Timber & Medicinal	Leaves & Bark.	Dyspepsia, Diarrhea, Leprosy, Obesity, Eczema, Pimples& Worms infection.
5 6	Dalbergia sissoo DC.	Fabaceae	Tree	Shisham	Shisham	Timber & Medicinal	Leaves & Bark.	Blood disorders, dysentery, dyspepsia, leucoderma, & diabetes.
5 7	Datura metelL.	Solanaceae	Shrub	Dhatura	Thorn Apple	Medicinal	Seeds	Insanity, asthama, cholera, gout & scorpion bite.
5 8	Desmodiumgangeticum(L.) DC. Syn.Hedysarumgangeticum	Fabaceae	Herb	Shalparni	Salpani	Medicinal	Stem bark	Bronchitis, asthma, diabetes, dyspnoea, fever & respiratory disorders.
5	L. Dillenia indica L.	Dilleniaceae	Tree	Chalta	Elephant apple	Food &	Fruit & bark	Diabetes, wound, diarrhoea, abdominal
6	Dioscorea alata L. Syn. Dioscorea atropurpureaRoxb.	Dioscoreaceae	Climber	Ratalu	Greater yam	Food & medicinal	Tuber	pain , burns & bone fracture. Scrofula, piles, skin disorders, inflammation, ringworm &scrorpian bite.
6 1	Dioscorea bulbiferaL.	Dioscoreaceae	Climber	Varahikand	Potato yam	Food & medicinal	Tuber	Scrofula, syphilis, hemorrhoids, flatulence, diarrhoea, dysentery, worm infestation, general debility & skin disorders.
6 2	Diospyros montanaRoxb.	Ebenaceae	Tree	Vishtendu	Bombay ebony	Food & medicinal	Fruit	Ulcer, Snake bite, Tumor& Jaundice.
6	Eclipta alba (L.) Hassk.	Asteraceae	Herb	Bringraj	Eclipta	Medicinal	Whole plant	Hepatitis, skin disorder, inflan1n1ation
6 4	Syn. Eclipta prostrata L. Emblica officinalis Gaertn. Syn. Phyllanthus emblica L.	Euphorbiaceae	Tree	Ambla	Indian goose berry	Food & medicinal	Fruit	& acidity. Dyspepsia, rejuvenating, pain, inflammation, anaemia & jaundice.
6 5	Erythrina indica Lam. Syn. E. variegata L.	Fabaceae	Tree	Paribhadra	Cord tree	Medicinal	Leaves & stem bark	Dental caries, pain, inflammation, cardiovascular, diseases, convulsions, diarrhoea, tumor, fever, insomnia & cough.
6	Euphorbia hirta L. Syn. Euphorbia pilulifera Hook. f.	Euphorbiaceae	Herb	Dugdhikabri had	Snake weed	Medicinal	Latex	Leucorrhoea, skin infections, cough, coryza, bronchitis & asthma.
6 7	Euphorbia thymifoliaL. Syn. ChamaesycethymifoliaMill sp.	Euphorbiaceae	Herb	Dugdhika	Thymeleave spurge	Medicinal	Latex	Diarrhoea, mild laxative, malarial, rashes, dysentery, piles, detoxificant&hemorrhoides.
6 8	Ficus benghalensis L.	Moraceae	Tree	Bargad	Banyan tree	Medicinal	Latex, root- fibers, leaves, seeds & Bark	Ulcers, vomiting, leprosy, piles, gonorrhoea, syphilis & dysentery.
6 9	Ficus lacor BuchHam. Syn. Ficus infectoriaRoxb.	Moraceae	Tree	Pakad	Spotted White Fig	Ornamental & medicinal	Fruit & Bark	Otitis, lymphaedinitis, haemorrhage, diarrhoea, hemorrhoids, dysuria & abdominal ache.
7 0	Ficus palmata Forssk.	Moraceae	Shrub	Bedu	Wild fig	Ornamental & medicinal	Fruit & Bark	Constipation, diabetes, warts, lungs disorders & urinary disorders.
7	Ficus racemosa L.	Moraceae	Tree	Gular	Cluster Fig Tree	Food & medicinal	Fruit & Bark	Edema,hemorrhages,Healsulcers,& cures diseases of female external organs.Decoction of bark is used for
7	Ficus religiosa L.	Moraceae	Tree	Peepal	Peepal tree	Medicinal	Fruit & Bark	gargling , vaginal douche. Wound, diabetes, gonorrhoea & skin

	Ricinus communis L.	Euphorbiaceae	Tree	Erand	Castor oil plant	Medicinal	Seeds oil	Cough, haemorrhoids, jaundice,
0 9	Syn. Drypetesroxburghii(Wall.) Hurus						bark	infertility & fever.
0 8 1	L.) Willd. PutranjivaroxburghiiWall.	Euphorbiaceae	Tree	champa Putranjivak	Putranjiva Tree	Medicinal	Seeds & stem	& bleeding disorders. Headache, inflammation, abscess,
0 7 1	& Willd. Pterospermumacerifolium(Malvaceae	Tree	Kanak	Bayur tree	Medicinal	Flower	dyspepsia. Headache, ulcers, wounds, cough, cold
) 5	Merr. Syn. Derris indica (Lam.) Bennet. PremnacorymbosaRottler	Verbenaceae	Tree	Agnimanth	Tree Headache Tree	Medicinal	Stem Bark	Rheumatism, neuralgia, urticaria &
) ;	(Sonn.) Thw. Pongamia pinnata (L.)	Fabaceae	Tree	Karanj	Indian Beech	Medicinal	Leaves & Bark	hypertension & worm. Rheumatism, piles & diarrhoea.
	Plumbago zeylanica L. Polyalthia longifolia	Plumbaginaceae Annonaceae	Shrub	Swet chitrak Nakliashok	White leadwort Mast tree	Medicinal Medicinal	Root bark Bark	Inflammation, colic, leucoderma, cough, amenorrhoea, hepatomegaly & splenomegaly. Fever, skin disease, diabetes,
	Pithecellobium dulce (Roxb.) Benth.	Fabaceae	Tree	Jangal jalebi	Sweet tamarind	medicinal	k Fruit	Convulsions, Dysentery, Dyspepsia, Earache, Leprosy& Venereal disease.
	Oroxylum indicum (L.) Vent.	Bignoniaceae	Tree	Shyonak	Indian trumpet tree			disorders.
	Silva Manso			Trivrut	•	Medicinal	Stem bark	Purgetive, constipation, chronic gout, fever, bronchitis, ulcers, hemorrhoids, tumors, obesity, jaundice Jaundice, anaemia, hepatic & skin
	Syn. Ocimum sanctum L. Operculina turpethum (L.)	Convolvulaceae	Climber	tulsi Nisoth/	Indian Jalap	Medicinal	stem bark Root bark	toothache. Purgetive, constipation, chronic gout,
_	Ocimum gratissimumL. Ocimum tenuiflorumL.	Lamiaceae	Herb	Shyama	Holy basil	Medicinal	stem bark Leaves ,Root&	gastrointestinal infection. Arthritis, cancer, acidity, diabetes &
	Murrayakoenigii(L.) Spreng. Ocimum gratissimumL.	Rutaceae	Shrub	Meethi neem Ramtulsi	Curry leaf	Food & medicinal Medicinal	Leaves ,Root&	Diarrhoea, constipation, diabetes & cancer. Urinary tract infections, wound, skin &
	Mucuna pruriens (L.) DC.	Fabaceae	Climber	Kauncha	Cowitch,Velvet bean	Medicinal	Seeds	Improves sleep, memory, learning, increases libido and sexual virility, promotes sperm count & ovulation in women, Parkinson's disease.
	Morus nigra L.	Moraceae	Tree	Shahtoot	Blackberry		k Fruit	Asthma, cough, bronchitis, hypertension, diabetes & rheumatism.
	Moringa oleifera Lam.	Moringaceae	Tree	Sahjan	Drumstick tree	Food &	Fruit, Bark & flowers	disorders& Poisoning. Fever, epilepsy, inflammation, wound, hypertension & diabetes.
	Mitragynaparvifolia (Roxb.) Korth.	Rubiaceae	Tree	Bhumikada mb	Kaim	Medicinal	root bark and leaves	Fevers, Colic, Blood diseases, Muscular pains, Gynecological
	Mimosa pudica L.	Mimosaceae	Herb	Chhuimui	Sensative plant	Medicinal	Whole plant	bleeding piles & rheumatism. Urogenital disorders, piles, dysentery, sinus & wounds.
_	(Lam.) Müll.Arg. Melia azedarach L.	Meliaceae	Tree	Mahanimb	Persian lilac	Medicinal	bark Roots, bark &	Scabies, Ringworm& Herpes. Leprosy, scrofula, gingivitis, pyrexia,
	Syn. Bassia longifolia J.Koenig ex L. Mallotus philippensis	Euphorbiaceae	Tree	Kampillak	Monkey Face	Medicinal	Fruit & stem	Tapeworm infection; Urinary calculi,
	Madhuca longifolia (J.Koenig ex L.) J.F.Macbr.	Sapotaceae	Tree	Mahua	Honey tree	Medicinal	Fruit & seeds	uysenery, neadacne, ringworm infection, and leprosy Cough, cardiac disorders, wound, leprosy & blood disorders.
_	Luffa acutangula (Linn.) Roxb.	Cucurbitaceae	Climber	Koshataki	Wild Ribbed Gourd	Medicinal	Fruit, leaves & Roots	ulcers, Diarrhea, Diabetes, Throat ulcer & Uterine cancer. Jaundice, diabetes, hemorrhoids, dysentery, headache, ringworm
	Limoniaacidissima Groff	Rutaceae	Tree	i Kapith	Elephant-apple	Medicinal	plant Fruit & bark	Chronic dysentery, Piles, Stomach
	Leucasa aspera	Labiatae	Herb	Dronapushp	Leucas	Medicinal	Leaves, Whole	haemostchezia& syncope. Malarial fever, Jaundice, Eye disease.
_	Lawsonia inermis L.	Euphorbiaceae Lythraceae	Shrub	nd Mehdi	Henna	medicinal Medicinal	Leaves	opntnaimic disorders, rneumatism, eczema, burning sensation & fever. Insomnia, headache, jaundice, hair dye,
	Jasminum sambac(L.) Ait. Jatropha curcasL.	Oleaceae	Shrub	Mallika Vyaghraera	Arabian jasmine Physic Nut	Ornamental a medicinal Ornamental	& Root	Leucorrhoea, leprosy, gastritis, sore throat & mouth infections. Ophthalmic disorders, rheumatism,
	Jasminum officinale L.	Oleaceae	Climber	Chameli	Common jasmine	Ornamental & medicinal	& Root	Otorrhoea, ringworm, menstrual disorders, skin disease & dyspepsia.
	Ipomoea nil (L.) Roth	Convolvulaceae	Climber	Kaladana	Blue Morning Glory	Medicinal	Seeds	Constipation, Leucoderma, Scabies, Gout, Bronchitis & Fever.
	Ichnocarpus frutescens (L.) W.T.Aiton.	Apocynaceae	Climber	Jambupatras ariva	Black creeper	Medicinal	Root	Dysentry, heamaturia, measels, bleeding gum, Glossitis.
	rica(Roth) Wall. ex A.DC. Holoptelea integrifolia (Roxb.) Planch.	Ulmaceae	Tree	Chirbilva	Indian Elm	Medicinal	Stem bark, leaves	Gastritis, colic pain, Vomiting, diabetes, dysmenorrhoea, intestinal wound.
	Holarrhena pubescens Wall. ex G.Don. Syn.Holarrhenaantidysente	Apocynaceae	Tree	Kutaj	Ivory tree	Medicinal	Bark & Fruit	Colic, dyspepsia, diseases of the skin & spleen disorder.
	Hibiscus rosa-sinensis L.	Malvaceae	Shrub	Gudhal	Shoe flower	Ornamental a	k Root,leaves& flowers	Osteoarthritis, boils, cough, sprain & wounds.
	Helicteresisora L.	Sterculiaceae	Shrub	Avantani	The Indian screw tree	Medicinal	Fruit	Diarrhoea, dysentery, abdominal colic pain.
	Haldina cordifolia (Roxb.) Ridsdale.	Rubiaceae	Tree	Haldu	Yellow teak	Medicinal	Leaves ,Root& Bark	Diarrhea, Dysentery, Fever, Chronic cough & tapeworm.
_	Grewia asiatica L. Syn. G. subinaequalis DC.	Malvaceae	Shrub	Phalsa	Sherbet Berry	Food &	& Fruit & bark	& headache. Astringent, stomachic & cooling agent.
	Gmelina arboreaRoxb.	Verbenaceae	Tree	Gambhari	Coomb teak	Medicinal	Fruit & bark	smallpox. Stomachic, galactagogue, laxative, anthelmintic.Useds to treat piles, fever
		Liliaceae	Climbing herb	Kalihari	Glory lily	Medicinal	Seeds	Gout, snakebite, ulcer, arthritis, cholera, itching, leprosy, hemorrhoids&

1 0									dysentry, sciatica, gout, opthalmic diseases & abdominal diseases.
1 1 1	Saccharum officinarum L.	Poaceae	Herb	Ekh	Sugarcane	Food medicinal	&	Stem	Arthritis, boils, tumor, cough, diarrhoea & hiccups.
1 1 2	Sesamum indicum L.	Paedaliaceae	Herb	Tila	Gingelly	Food medicinal	&	seed & oil	wounds, pruritis, nasal polyp, amenorrhea, used for enema, oilation therapy, neurological disorders, best oil for massage & food.
1 1 3	Sida cordata (Burm.f.) Borss.Waalk.	Malvaceae	Herb	Rajbala	Heart-LeafSida	Medicinal		Whole plant	Boils, pimples, indigestion & gonorrhoea.
1 1 1	Sida cordifolia L.	Malvaceae	Herb	Bala	Country mallow	Medicinal		Whole plant	Filaria, osteo-arthritis, insanity, dysuria diarrhoea & leucorrhoea.
1 1 5	Sidarhombifolia L.	Malvaceae	Herb	Mahabala	Arrowleafsida	Medicinal		Whole plant	Headache, snakebite, diarrhoea, rheumatism, emollient, depression & U.T.I.
1 1 6	Solanum indicum L.	Solanaceae	Shrub	Kateri badi	Indian night shade	Medicinal		Roots & Berries	Throat disorder, hiccough, inflammation, fever, anorexia & diarrhoea.
1 1 7	Solanum nigrum L.	Solanaceae	Herb	Makoy	Garden night shade	Medicinal		Whole plant	Stomatitis, skin diseases, ringworm, rabies, stomach-ache & cough.
1 1 8	Solanum surattense Burm. f.	Solanaceae	Shrub	Kantkari	Yellow-fruit nightshade	Medicinal		Whole plant	Asthma, cold, stomach & liver complaints.
1 1 9	Sphaeranthus indicus Linn.	Asteraceae	Herb	Gorakhamu ndi	Indian Globe Thistle	Medicinal		Whole plant	Swelling, Indigestion, Headache, Cough, Goiter, Skin diseases, Elephantiasis.
1 2 0	Spondias pinnata (L. f.) Kurz	Anacardiaceae	Tree	Aamda	Indian Hog plum,Wild mango	Food medicinal	&	Fruit & Bark	Diabetes, diarrhoea, dysentery, rheumatism, burn & wounds.
1 2 1	Stereospermum suaveolens (Roxb.) DC.	Bignoniaceae	Tree	Padeli	Fragrant Padri- Tree	Medicinal		Stem bark	Fevers, Indigestion, Dyspepsia, Liver disorder, Cholera, Inflammations, Vomiting& Asthma.
1 2 2	Streblus asper Lour	Moraceae	Tree	Shakhotak	Sand Paper Tree	Medicinal		Stem bark	Filariasis, leprosy, toothache, diarrhea, dysentery and cancer.
1 2 3	Syzygiumcaryophyllatum (L.) Alston	Myrtaceae	Tree	Kshudrajam bhu	South Indian Plum	Medicinal		Fruit ,Seeds,leaves& bark	Diarrhea, Diabetes, Leucorrhea, Fever& General debility.
1 2 4	Syzygiumcumini (L.) Skeels	Myrtaceae	Tree	Jamun	Jambul tree	Food medicinal	&	Fruit ,Seeds,leaves& bark	Jaundice, diabetes, anaemia, leucorrhoea, fever & vomiting.
1 2 5	Tamarindus indica L.	Caesalpiniaceae	Tree	Imali	Tamarind tree	Food medicinal	&	Fruit & leaves	Stomatitis, diarrhoea, haemorrhoids, dysentry, anorexia & diabetes.
1 2 6	Tephrosia purpurea (L.) Pers.	Fabaceae	Herb	Sharpunkha	Purple tephrosia	Medicinal		Whole plant	it is used in the treatment of leprosy, ulcers, asthma, &tumors, as well as diseases of the liver, spleen, heart, & blood. A decoction of the roots is given indyspepsia, diarrhea, rheumatism, asthma & urinary disorders.
1 2 7	Terminalia arjuna (Roxb.) W. & A.	Combretaceae	Tree	Arjun	Arjuna myobalan	Medicinal		Fruit & Bark	Cardiac disease, bone fractures, bleeding piles, leprosy, general debility & leucorrhoea.
l 2 3	Terminalia bellirica (Gaertn.) Roxb.	Combretaceae	Tree	Baheda	Beddanut	Medicinal		Fruit & Bark	Vitiated conditions of kapha &vata, sore throat, cough, cold, asthma, diabetes, indigestion & bronchitis.
l 2)	Terminalia chebula (Gaertn.) Retz.	Combretaceae	Tree	Harad	Black myrobalan	Medicinal		Fruit & Bark	Constipation, anaemia, flatulence, indigeation, inflammation, stomatitis &rejuvination.
1 3 0	Tinospora cordifolia (Willd.) Miers	Menispermaceae	Climber	Giloy	Tinospora	Medicinal		Stem	Fever, opthalmic diseases, sprue, vomiting, hiccough, jaundice, anaemia, diabetes, gout & tuberculosis.
1 3 1	Toona ciliata M.Roem. Syn. Cedrela toona Roxb. ex Rottler	Meliaceae	Tree	Toon	Australian redcedar	Medicinal		Bark	Bronchitis, gastric trouble, strangury, dysentery, headache, leucoderma, fever & antiseptic.
1 3 2	Trewianudiflora L.	Euphorbiaceae	Tree	Paniyagamb har	False white teak	Medicinal		Leaves & Bark	rheumatism and malignancy especially leukemia and hepato- biliary affections
l 3 3	Trianthemaportulacastrum L.	Nyctaginaceae	Herb	Swet punarnava	Desert horsepurslane	Medicinal		Whole plant	Blood disease, anemia, inflammation, and night blindness.
1 3 4	Tribulus terrestris L.	Zygophyllaceae	Herb	Chota gokharu	Land caltropus	Medicinal		Whole plant	Immune disorders, constipation & flatulence.
l 3	Uraria picta (Jacq.) DC.	Fabaceae	Herb	Prishnparni	Indian Uraria	Medicinal		Whole plant	Rheumatism, Diarrhea, Asthma, Bronchitis, Gonorrhea& Fever.
]]	Verononiacineria Less	Asteraceae	Herb	Sahadevi	Purple Fleabane	Medicinal		Root & leaves	Ferver, mental stress,
1 3 7	VerononiaamagdelinaL.	Asteraceae	Herb	Bitter leaf	Bitter leaf	Medicinal		Leaves	Diabetes, skinn disorders
l 3	Vitex negundo L.	Verbenaceae	Tree	Nirgundi	Five leaved chaste tree	Medicinal		Leaves & bark	Joint pain, Arthritis, inflammation, cough & Asthma.
1 3)	Withaniasomnifera(L.) Dunal	Solanaceae	Shrub	Ashwagand ha	Wintercherry	Medicinal		Leaves & Root bark	Arthritis, diabetes, general debility, sexual debility, spermatorrhoea, rheumatism, leucorrhoea &leucoderma.
1 1	Ziziphus jujuba Mill.	Rhamnaceae	Tree	Badar	Indian Jujube	Food medicinal	&	Fruit & bark	Epistaxis, cough, diarrhoea, dysentery, piles, leucorrhoea, rheumatoid arthritis

Pictures of Most valuable Ethno-medicinal plants of Bijnor region.

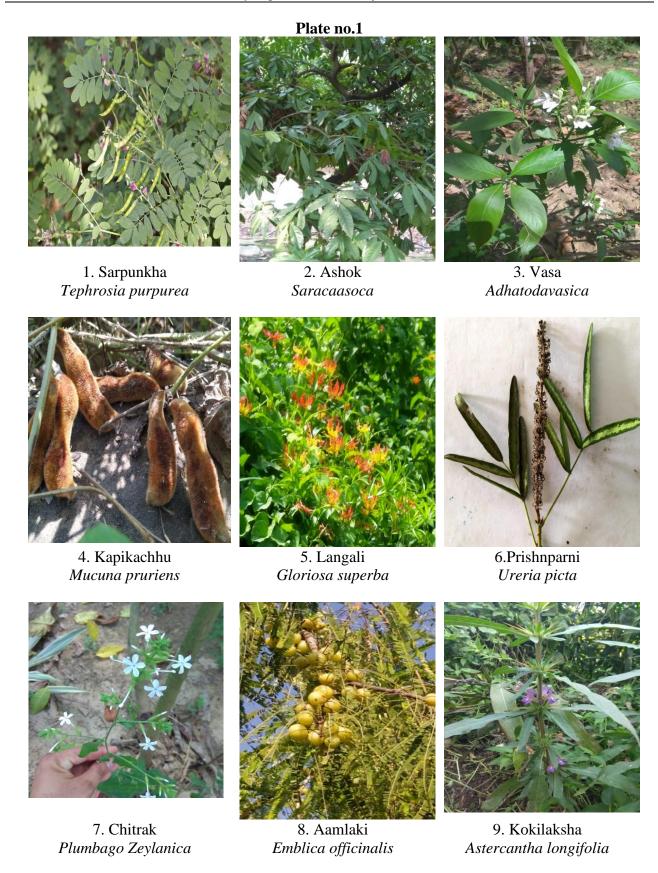


Plate no.2



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