



Ethnobotanical Study of Plants of Raigarh Area, Chattisgarh, India

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Abstract

The ethnobotanical study was conducted in different area of Raigarh district of CG. (India). The paper reports was documented of ethnobotanical use of 89 plant species are described in which different parts of plants are used for different purposes by people for example medicine, food, fodder, furniture, fiber, cosmetics etc. The aim of the present survey is to highlight that local people knowledge and culture can play important role in resource management and to focus on the diversity of ethnobotanical plants for future use and provide the framework to aware the people how to use plants to solve different type of problem.

Keywords: Ethnobotanical plants, tribal people, herbal medicine Raigarh District, Chhattisgarh.

Introduction

In the developed countries the medicinal drugs (25%) are based on plants and their derivatives¹ and use of medicinal plants among the indigenous people in rural area of many developing countries. Botanically derived medicinal plants played a major role in human societies throughout history and prehistory². The ethnobotanical use of this unique group is of immense importance³⁻⁴. India is the one of the world's 12th mega biodiversity centers having rich vegetation with 47 thousand plants species and a wide varieties of ethnobotanical plants along with tradition of plants based knowledge distributed among the vast number of ethnic group⁵⁻⁶. Chhattisgarh is the 26th state of India that is located between 17 to 23°7' north latitude and 8°40' to 83°38' east longitude. Raigarh district of Bilaspur division of Chhattisgarh state is situated on the eastern most part and lies between 21°20' to 23°15' north latitude and 82°55' to 83°24' east longitude. It has an area of 12,924 sq. km. The area covered by forest in the district is about 6111.0 sq. km. that is 47.34% of the total geographical area of the district. It abounds in hilly regions and plains. Chhattisgarh is famous in the entire country for its Sal forest. In addition teak, bamboo, tendu, saja and sarai are also found in large numbers. Tendu leaf which is used in beedi making. The significant tribes of the state are Gond, Agaria, Korwa, Oraon, Munda, Baiga, Nagasia, Bhirhor etc⁷⁻⁹. Most of them can be found in Raigarh district. In the life-cycle of people of various tribe's plants and forest products play a significant role. Most of the tribal regions of Raigarh district are still not familiar with the cultural and scientific progress of the society and so are still being exploited by the modern society. The present surveys were undertaken in tribal or rural area of Raigarh comprising of Pussour, Bhagadola, Urdana, Khairpur, Pandripani and Tarapur. Raigarh is well known for its kosa or tasar a kind of fine silk created by the silk-worm feeding on mulberry fruit. Tendu patta

collection is one of the major sources of income for villagers while Raigarh district is major products of rice. As per WHO estimates as many as 80% of the world's population are still dependent on traditional medicine¹⁰. Ethnobotany is considered as a branch of ethnobiology the study of past and present inter-relationship between human culture and the plants, animal and other organism in their environment. Ethnobotanist explore how plants are used for such things as food medicine shelter, clothing, hunting and religious ceremonies. In 1896 J. Harshburger recommended the term ethnobotany to limit it particularly to field of botany and to describe plants utility. He defined ethnobotany as "the use of plants by aboriginal peoples"¹¹⁻¹². There is day by day increase in utilization of ethnobotanical plants. Huge demand of medicinal plants their growth, conservation and export are important part in medicinal plants field. Since long time plants are used as medicine by tribal and rural people. About 80% population of the world use medicinal plants to cure many health related problem¹³. The purpose of the study was identification, collection and providing information on various uses of ethnobotanical plants and to make people aware of its future utilities.

Material and Methods

The present research is carried out during January-April 2015 in Raigarh CG India to explore and examine the plants diversity. The study area divided into 6 parts named as Pussore, Bhagadola, Urdana, Khairpur, Tarapur, Pandripani. The study site is spread at about 5km-25km of North, South, East and West of Raigarh city. Survey of the site was done for collection of plants herbs, shrubs and trees. After that they were identified by common name, Botanical name (Family), parts used and uses. The research area was regularly visited for collection and identification of ethnobotanical plants. The photographs of plant taken were identified in the laboratory by literature inducing flora /encyclopedia like De, L.C., Hooker, Sharma R, Trivedi

P.C. and Pullaih T.¹⁴⁻¹⁷, which was further, confirmed with the help of fields experts. The ethnobotanical data was collected from, Vaidyas, Baigas Agaria, Experienced people, village head, medicine man and villagers who possess vast knowledge of plants for livelihood, security and other use of plants. The firsthand information was recorded at the time of the field visits to the study site. According to planned schedule field work was done. In present study the basic source of Information is questionnaire, observation and interview on the spot. Few ethnobotanical surveys were done by Ayyanar and Lgnacinuthu, Bala krishnan et al. Patel¹⁸⁻²⁰. The present research paper is an attempt to focus and record the ethnobotanical plants present in Raigarh area.

Results and Discussion

The vegetation covered by Raigarh area is rich in ethnobotanical plants as observed by most important area of Raigarh CG. On account of field investigation ethno botanical plants it was

resulted that 89 plants species under 45 families showed their presence in the Raigarh area which were collected, identified and listed. Recorded/Collected ethnobotanical plant shown different habit different plant parts were used for different disease and field survey during January-April 2015. The present study focused at documented every ethnobotanical products data including purposes. The plants are arranged following their common name, Botanical name, family, parts used and ethnobotanical, ethnomedicinal use. Table-1 indicating summary of ethnobotanical plants in Raigarh area. Table-2 representing the photographic information of the surveyed area.

The photographic documentation is more useful in identification of plant species in the field and it may also be useful for conservation strategies. With the help of earlier studies and the present day research data its exploration shows that these ethnobotanical studies can be greatly beneficial to human race for treating disease with cheap and best non side effect solutions.

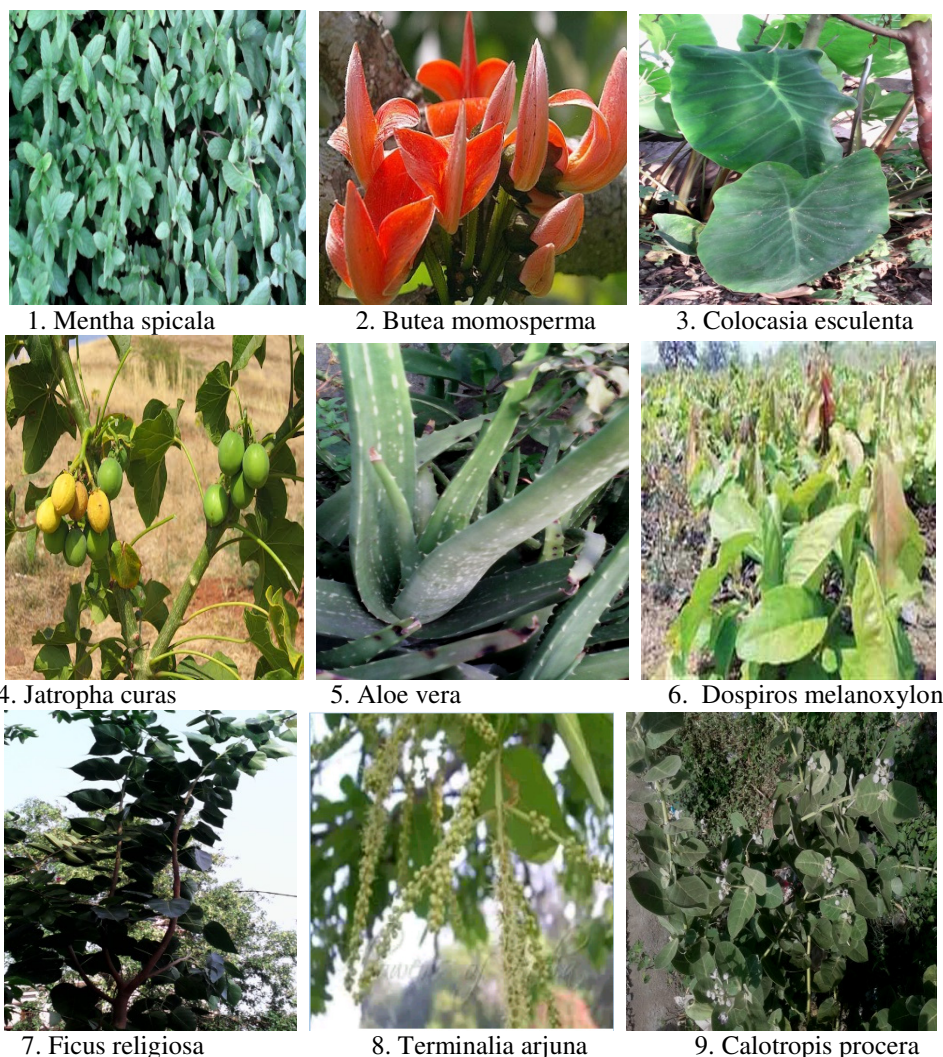


Figure-1 (1 to 9)
Ethnobotanical plants of Raigarh area

A brief account of the plant is followed by ethnobotanical use, all collection of the plant. It was also observed that some uses described by the folk were not much known or recorded²¹. A wide no of plant species located in tribal inhabited regions of Raigarh area. Looking to the intellectual property rights of indigenous people, documentation of such knowledge is necessary now a day. The people of Oraon, Agharia, Gond and Korwa community possess a vast knowledge regarding multifarious use of plants. The plants based traditional knowledge has become a recognized toll in search for new source of drugs, wound healing properties and mentalceuticals²². Almost all species are commonly available

in the area but many people are not aware about their importance. Some species are facing threats due to various reasons and require immediate attention for their conservation it is clear from observation that some species are also used for curing the cattle of tribes. Such information should be spread among other societies in urban area and villages. According to Biswas and Mukherjee²³, 70% of the wound healing Ayurvedic drugs are of plants origin, 20% of mineral origin, and the remaining 10% consisting of animal product. The sustainable harvesting and management issues of ethnobotanical plant species were discussed in view of their conservation and management²⁴.

Table-1
Ethnobotanical plants of Raigarh, Chhattisgarh India

S. no.	Common name	Botanical name	Family	Parts used	Ethnobotanical /medicinal uses
1.	Bargad	Ficus benghalensis L.	Moraceae	Latex, Leaf, bark, root	Prevent loss of hair, pain killer in joint pain, diabetes
2.	Satawar	Asparagus racemosus Wild.	Liliaceae	Whole plant	Piles, fever, wound, anti-toxic, weakness, cough, Diarrhoea, head ache, asthma, urinary disorder
3.	Babool	Acacia nitotica (L) wild	Fabaceae	Whole plants, flower	Jaundice, itching, worms, tooth ache, eye elements, cough, facial paralysis, easy delivery, asthma, fever, carpentry work
4.	Pilikatere	Argemone maxicana (L.)	Papaveraceae	Yellow milk, oil, root, bark, leaf	Ring worm, abdominal pain, ulcer, jaundice, cough, asthma, male impotency
5.	Bankapas	Thespesia populnea Solandex.Correa	Malvaceae	Stem, bark, flower	Dog bite, making in fiber and paper
6.	Keu	Costus speciosus (koen.)	Zingiberaceae	Rhizome	Liver related disease
7.	Kalimusali	Curculigo orchioides Gaertn	Hipoxidaceae	Root juice	Dysentery,
8.	Kari	Erycibe paniculata Roxb.	Convolvulaceae	Leaf	Night blindness
9.	Tendu	Diospyros melanoxylon Roxb.	Ebenaceae	Pulp, fruit, leaf	Healing of crack feet, edible, bad breath, dysentery
10.	Masbandhi	Porana paniculata Roxb.	Convolvulaceae	Root	Joining the fractured bone, wound
11.	Chota chirayata	Andrographis paniculata Linn.	Acanthaceae	Whole plant	Malarial fever, for feeding cattle's
12.	Punarnava	Boerhaavia diffusa Linn.	Nyctaginaceae	Whole plant	Kidney stone, arthritis
13.	Haldu	Haldinia cordifolia Roxb.	Rubiaceae	Root, bark	Pain killer, intestinal worms
14.	Ratanjot	Jatropha curcas Linn.	Euphorbiaceae	Seed oil	Rheumatic pain, night blindness
15.	Katha	Acacia catechu (L.F.) wild.	Fabaceae	Bark, hard wood, juice, leaf, flower	Toothache, cough and cold, stomach pain, coloring, betel nut
16.	Siris	Albizia lebbek Benth	Fabaceae	Root, flower seed, bark, stem, root, flower	Scorpion bite, migraine, piles, hydrocele, toothache, wound and cut, carpentry

S. no.	Common name	Botanical name	Family	Parts used	Ethnobotanical /medicinal uses
17.	Neem	Azadirachta indica A. juss.	Maliaceae	Seed oil, bark, leaf, wood, fruit	Heart problems, eczema, arthritis, white discharge, ear and tooth ache, malaria, anti-toxic and anti-microbial, tooth washing, furniture making , chicken pox, blood purification, cosmetics
18.	Baans, Bans	Bambusa arundinacea L.	Poaceae	Whole plant	Wound healing, tuberculosis, bronchitis, Leprosy, food and fodder, feeding of cow after delivery, musical instruments
19.	Gritkumari	Aleo vera Linn.	Liliaceae	Leaves	Cosmetics, burns, cut and wound, fracture, gastric, eye problem, Headache
20.	Ramphal	Anoona reticulate Linn.	Annonaceae	Fruit, leaf, seeds, stem	Digestion, tumor, cancer, diabetes
21.	Sitaphal, chitaphal	Anoona squamosal Wall.	Annonaceae	Leaves, fruits, bark	Intoxicating, edible, seeds in diabetic problems
22.	Bel	Aegle marmelos (L) Core.	rutaceae	Leaf, root, fruit, stem, juice,	Mouth ulcer, Piles, Headache, headache, fever, weakness, dysentery, cataract, chest seed pain, as gum
23.	Bach	Acorus calamus L.	Araceae	Rhizome,leaves	Delayed delivery, Abdominal disorder, eye and skin problem, cough, piles
24.	Akarkara/ akarkha	Anacyclus pyrethrum D.C	Asteraceae	Whole plant	Heart disease, paralysis, stomach problem, fever, tooth ache
25.	Chaulai bhaji	Amaranthus viridis (Hook)	Amaranthaceae	Leaves	Eye elements, blood purification, fodder
26.	Bhuineem	Andrograthis paniculata Ness.	Acarthaceae	Whole plants	Joint pain, jaundice, head ache, malaria, anti helm-antic
27.	Munga	Moringa oleifera Lamk.	Moringaceae	Fruit, bark, leaves, root	Piles, cough, intestinal worm, Bp., gum problem, headache
28.	Harsringar	Nyctanthes arbortritis Linn.	Nyctaginaceae	Stem, flower	Fracture, worship,
29.	Mahaneem	Melia azadiracsta L.	Meliaceae	Fruit, seed, whole plant	Stomatitis, internal worm, stone in urinary bladder, swelling, etching, fever, eye problem
30.	Aam	Mangifera indica Linn.	Anacardiaceae	Fruit, whole plant, seeds	Cough and cold, anti-dysenteric worm, furniture work, religious use, heat stroke, for pickles, carpentry
31.	Lajwanti	Mimosa pudica Linn.	Fabaceae	Leaves, root	Piles, diarrhea, swelling, jaundice, excessive urination, indigestion
32.	Mahua	Madhuca latifolia Gmel.	Sapotaceae	Flower, whole plant	Anti-bacterial, carpentry work, pain killer, wine/liquor, worship
33.	Vantulsa/ bantulsi	Osmium basilicum Linn.	Lamiaceae	Leaves, seed, root,	Cough and cold, green tea, giddiness
34.	Chameli	Jasmminum grandiflorum L.	Oleaceae	Leaf, root, flower, oil	Ulcer, headache, mouth disease, impotency, skin disease, ear problem, worm, fever, perfume
35.	Gamhar/Gha mhar	Gmelina arborea Raxb.	Verbenaceae	Root, flower, fruit, bark leaf, wood	Weakness, snake bite, anti-dote, cut and wound, carpentry construction work
36.	Gudhal/mada r	Hibiscus rosa sinensis L.	Malvaceae	Flower, seed, leaves, root	Hair fall, cough and cold, male impotency, stomach pain, worship.

S. no.	Common name	Botanical name	Family	Parts used	Ethnobotanical /medicinal uses
37.	Mehandi	Lawsonia inermis Linn.	Lythraceae	Seeds, leaves, root	Eye disorder, hair fall and coloring, burn, jaundice, headache, stomach problem
38.	Semar	Bomax ceiba Linn.	Malvaceae	Bark, fruit, leaves	Piles, leprosy, anti-dote, medicinal cotton, anemia, liver and spleen disease
39.	Char	Buchanania lanzan Sprengen	Anacardiaceae	Bark, gum	Snake bite, skin problem, cut and wound, dysentery, piles
40.	Papita	Carica papaya Linn.	Caricaceae	Leaf, fruit, seed, latex	Liver enlargement, heart problem, piles, skin problem, cosmetics
41.	Sevanti	Chrysanthemum corinarium Linn.	Asteraceae	Flower, bark, root	Purgative, anti helmantic, Cultural use
42.	Aak/ Akwan	Caltropis procera W.T. Aiton	Asclepiadaceae	Fruit, whole plant	Cut and wound, leprosy, dropsy, rheumatic pain, asthma, bronchitis
43.	Amaltas	Cassia fistula Linn.	Fabaceae	Leaf, root, seed, wood	Ring worm, wound, fever, leprosy, cough
44.	Karonda	Carissa carandus Linn.	Apocynaceae	Root, fruit	Anemia, constipation
45.	Patharchtta	Byophyllum pillatum Lam.	Crassulaceae	Leaf, stem	Antiseptic, cures kidney stone, skin disease, head ache
46.	Khoruch	Achyranthes aspera Linn.	Amaranthaceae	Root, seed, whole plant	Snake bite, stomach pain, fever, hydrophobia, skoin problem, cough
47.	Nimbu/limbu	Citrus medica Linn.	Rutaceae	Fruit, leaf, root, whole plant	Throat disorder, constipation, antiseptic digestion, dandruff, fever, cough, juices
48.	Gulmohar	Delonix regia Boj.	Fabaceae	Leaf, flower, wood	Skin trouble, coloring,
49.	Pudina	Mentha spicata Linn.	Lamiaceae	Leaf	Gastro intestinal disorder, fever, cholera, skin problem, cough and cold, sauces
50.	Aarandi	Ricinus communis Linn.	Euphorbiaceae	Leaf, seed	Seed oil in purgative, piles, joint pain, hair fall, skin disease, head ache
51.	Saal/ sarai	Shorea robusta A.W. Roth.	Dipterocarpaceae	Fruit, seed, whole plant	Dysentery, anti-dote, Furniture
52.	Sagon	Tectona grandis Linn.	Lamiaceae	Whole plant	Burning sensation, arthritis, kidney and skin disease, furniture, diabetes, ulcer
53.	Rose	Rosa damascene P.	Rosaceae	Root leaf, flower,	Cultural use, wounds, diarrhea, diabetes, skin infection, cosmetics
54.	Kahua/Arjun	Terminalia arjuna Roxb.	Combretaceae	Bark leaf	Heart and liver disease
55.	Harra	Terminalia chebula A.J.Retzius	Combretaceae	Fruit and bark	Digestion, skin problem
56.	Ber	Zizyphus jujube Miller.	Rhamnaceae	Fruit, leaf, bark, stem	Ulcer, fever, wound, abdominal pain, asthma, vegetable
57.	Aanar	Punica grantum L.	Punicaceae	Fruit leaf, whole plant	heart problem, eye and ear disorder, tonic, migraine, jaundice, vomiting, piles, worm
58.	Agastiya	Sesbania grandiflora L.	Fabaceae	Flower, leaf, stem, bark	Constipation, migraine, epilepsy, leucorrhoea, pain killer
59.	Sarpagandha	Roulfia serpentine Benth. ex Kurz.	Apocynaceae	Root, bark	Snake bite, bp. Control, joint pain, fever, malaria, ulcer
60.	Bija	Pterocarpus	Strculiaceae	Wood, bark, laef	Carpentry, diabetes, diarrhea,

S. no.	Common name	Botanical name	Family	Parts used	Ethnobotanical /medicinal uses
		marsupium Roxb.			constipation, coloring
61.	Karanj	Pangamia pinnata Mars L.	Fabaceae	Seed, leaf	Leucoderma, parasiticide, malaria
62.	Amrood,bihi	Psidium guajava Linn.	Myrtaceae	Froot, whole plant	Joint pain, caught, heart ailment, toothache, dysentery, ulcer
63.	Tejraj	Peucedanum nagpurensis CB Clark	Apiaceae	Bark, leaf	Joint pain, sexual disorders
64.	Amla,aawla	Emblca officinalis Gaertn.	Euphorbiaceae	Seed, fruit, leaf, bark	Constipation, arthritis, fever, itching, digestive, hair fall, diabetes, eye and skin problem
65.	Peepal	Ficus religiosa L.	Moraceae	Whole plants, latex	Eczema, toothache, leucorrhoea, cutand wound, earache, caught and cold, jaundice, stomach pain, fodder, worship
66.	Shankpushp i	Evovulus alsinoides Linn.	Convolvulaceae	Whole plant	Headache, brain tonic, vomiting, diabetes, weakness
67.	Dudhi	Euphorbia hirta Linn.	Euphorbiaceae	Root,leaf	Caught, dysentery, Anti -asthmatic ,milk secretion, fodder
68.	Dumar	Ficus racemosa L.	Moraceae	Leaf, fruit, milk, root	Leucorrhoea, piles, Stomach pain, dysentery, fiver, ulcer
69.	Gular	Ficus glomerata Roxb.	Moraceae	Fruit Milky latex	Diabetes , asthma, piles, urinary problem
70	Amarbel	Cuscuta reflexa Roxb.	Convolvulaceae	Whole plant	Cojunctivitis , respiratory disorder, piles ,ulcer, stomach problem, swelling of eye
71.	Shisham	Dalbergia sissoo Roxb.	Fabaceae	Oil, leave, whole plant	Skin disorder, toothache , eye ailments, burning sensation, carpentry work
72.	Fern	Dryopteris filixmas L.	Polypodiaceae	Rhizome	Anthelmintic
73.	Dhatura	Dhatura strumoniun L.	Solanaceae	Leaves whole plant	Eye problem, asthma, arthritis, headache, male impotency, cultural use
74.	Doobghas	Cynodon Dactylon linn.	Poaceae	Leaves, whole plants	Leucorrhoea, excessive pus formation, piles, epilepsy, nasal bleeding, cancer, eczema, eye and mouth problem ,headache, urinary problem , paper making, fodder
75.	Brahmi, Brahmi	Centella asiatica (L)urban	Apiaceae	Leaf, whole plant	Insomnia, enhance memory, hair anxiety , b.p. problem ,chicken pox
76.	Mitha neem patti	Murraya koenigii (L.) Sprengel	Rutaceae	Root, leaf	Treatment of anemia, vomiting, wound, hair loss, vegetable
77.	Kaner	Thevetia peruviana (Pers.) kschum	Apocynaceae	Leaf,flower	Worship, toothache, healing, cut and wound
78.	Palas	Butea mnosperma (Lamk) Taub.	Fabaceae	Gum ,root, seed,flower	Night blindness, eye disorder, epilepsy, diarrhea, eczema, arthritis, abdominal worm, cataract, worship, dyes
79.	Kachnar	Bauhinia variegata L.	Fabaceae	Buds, bark ,flower	Constipation, antiseptic, stomatitis ,piles
80.	Ratti	Abrus precatorius.	Fabaceae	Seed	Snake bite, fiver

S. no.	Common name	Botanical name	Family	Parts used	Ethnobotanical /medicinal uses
		Linn.			
81.	Hadjor	Cissus quadrangularis (L.) Wall	Vitaceae	Stem	Fracture
82.	Safedmusli	Chlorophytum tuberosum Baker	Araceae	Root	Tuberculosis, male impotency, tonic
83.	Kochai	Colocasia esulenta (L.) Schott.	Araceae	Leaves corm	Vegetable, constipation, weakness, alopecia
84.	Jamun	Syzygium cumini L.	Myrtaceae	Fruit, bark, seed, leaf	Piles, diabetes, loose motion, eye and ear problem, Syphilis, vomiting, lever swelling, furniture
85.	Ashwagandha	Withnania Somnifera Dunal.	Solanaceae	Leaves, root, whole plant	Cough, stimulant, arthritis, ulcer
86.	Giloy	Tinospora cardifolia (Wild.)	Menispermaceae	Wholeplant	Piles, eye problem, fever, jaundice, arthritis
87.	Imli	Tamarindus indica Linn.	Caesalpiniaecae	Leaves, bark, seeds, wood	Scorpion bite, scabies, stomach pain, furniture
88.	Adusa	Adhatoda vasica Linn.	Acanthaceae	Leaves, root, whole plant	Asthma, urinary problem, piles, cough,
89.	Chironji	Buchanania lanzan Spr.	Anacardiaceae	Seed, leaf	Applied on cut, wound and eczema

Conclusion

Focusing on the present day situation of ever increasing exploitation of plants and natural resources the main reason for showing interest towards ethnobotany is its vast outcome that is beneficial for every living being. Nature has gifted us with large plant diversity that can be brought into much sustainable use. This study will provide different new information of such uses and how to continue using it in future.

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