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ETHNOBOTANICAL OBSERVATION OF BHORAMDEO WILDLIFE SANCTUARY KABEERDHAM OFCHHATTISHGARH

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ABSTRACT

Ethnobotany is the relationship between plants and peoples. Ethnobotany records the history and current state of human kind, even while foretelling the future. As a discipline Ethnobotany gives us a profound understanding and appreciation of the richness and intimacy of relationships between human and nature. The present study was carried out in Bhoramdeo Wildlife Sanctuary Kabeerdham region of India Chhattisgarh to document the diversity, indigenous uses and availability status of plants. Plant species were recorded which are being as use medicinal and food. The study identifies 77 plants species belonging 69 Genera and 40 Families. Plants are wild and the rest are cultivated within the wild plants species 25 were Herb, 17 Shrub and 35 Tree. The Tribes of this region are dependent up to a large extent on wild resources for their food and other daily needs. People living in remote areas have a vast treasure of knowledge, but they do not disclose it easily to outsiders. The study revealed that indigenous plants are very significant especially for primary healthcare. The aim of the present survey is to highlight that local people knowledge, role in resource management and focus on the diversity of Ethnobotanical plants for future use and provide the frame work to aware the people how to use plants to solve different type of problem.

KEYWORDS: Ethnobotanical survey, Traditional knowledge, Kabeerdham, Chhattisgarh.

INTRODUCTION

Ethnobotany is the study of plants and their practical uses through the traditional knowledge of a local culture and people. The local customs involving the practical uses of local flora for many aspects of life such as plant, medicine, food, and clothing. Ethnobotanical species are good source of food and medicine for the rural people, villagers, living within on the fringes

of the sanctuary, collects forest product from are the area. Ethnobotany is the study of the relationship between plant and people "ethno" is the study of people and "botany" is the study of plants. Construction wood and fuel wood are the important uses, while vegetables, mushrooms and edible products are of secondary use collected mainly for home use. Plants are the basis of life on the earth and are central to people's livelihoods. Traditional culture of tribals have remained almost static since last several hundreds of year. "plant are used by primitive and aboriginal people" it deals with the direct traditional and natural relationship between human societies and plants (Trivedi, 2002). Culture beliefs determine the condition of human existence and the biological properties of human population define the quality of plants that must be obtained together they from the human ecology of Ethnobotany (Ford, 1978). Indigenous people throughout the world possess knowledge of their surrounding flora and fauna. Tribal people who live in the nature maintain a close link between man and environment. The knowledge accumulated by them through a long series of observation from one generation to another is transmitted oral communication for power possessed by medicinal plants in cure of various diseases and ailment.

The central India from one of the major ecosystem of the India subcontinent and constitutes a large tract of tropical moist deciduous and tropical dry deciduous forest type. Chhattisgarh state is situated at 80˚15' to 84˚24' East longitude and 17˚46' to 24˚5' North latitude. The state is flourished with hilly regions. Chhattisgarh is known as herbal state because state has very rich flora. Forest area of the state is about 44% the state is well known in the whole country for Sal forest. Tribal people are depending on the forest for their food and other purpose.

The present observation was executed in the Bhoramdeo wildlife sanctuary, situated in Kabeerdham district. It occupies a special position from biodiversity and tourism point of view. The Sanctuary is joined with Kanha National Park and Achanakmar Tiger Reserve. It is well known for its rich, complex and diverse flora and fauna. The site is situated between 80˚58' to 82˚34' East Longitude and 21˚23' to 22˚00 North Latitude. The sanctuary area is of 300 sq km. The deep green of the jungle spreads over the rolling Maikal ranges of Satpura hills. The forest of the sanctuary area reflected wide vegetation diversity and forest type. The altitude of the area ranges up to 900 m from sea level. The forest cover in the sanctuary is characterized as southern dry mixed deciduous forest and moist peninsular high Sal forest. The perennial river Sakari flows through the sanctuary, offering substance to flora and fauna alike.

MATERIALS AND METHODS

The present data is a product of field research carried out in Bhoramdeo Wild life Sanctuary of Kabeerdham district Chhattisgarh. Ethnobotanical survey was carried out in sanctuary area during January to April (2019). Data were collected from the people of concerned local people either through questionnaire, survey and interview. Interview was conducted with traditional medical practitioners and tribal like Gond and Baigas, who inhabit around sanctuary. During field visit the information regarding the local name, medicinal and other uses of the plants were gathered from traditional village therapist, elderly village people, local herbal drug practitioners and knowledgeable persons (Lal et al., 2017). The details about local name, plant parts used and uses were recorded against each recorded plant in Ethnobotanical field book during survey. The plants were collected pressed and later identified with the help of keys. Local name were provided in their own language by the tribal and traditional physician, information regarding botanical name family name and medicinal uses for each plant was collected from text book and internet (Singh, Baske and Saravanan 2014; Sandey and Sharma, 2016). The plant families under study were arranged alphabetically at the same time plant species were collected, click photographs and herbarium sheets were prepared by traditional method and submitted in department of botany Dr C.V. Raman University kota, Bilaspur (C.G.) plant species images are taken in morning schedule. Rendering to Ethnobotanical investigation plants with their local name, botanical name, families, plant part used, traditional uses are reported in Table.

RESULT AND DISCUSSION

The present ethnobotanical observation reveled the uses of 77 plant species belonging to 69 genera and 40 Angiospermous families which are (Table) used by the people of Bhoramdeo Wild life Sanctuary as food and medicine. Further analysis reveals that there are 25 species of herbs, 17 species of shrubs and 35 species of tree. For each of plants species botanical name, families, local name, eaten part and methods of use, administration and aliments treated and provided. Plant species were recorded which are being used as food, fodder and other uses. Family wise distribution of plant shows Fabaceae is most dominant family. The aboveground plant parts for medicinal purposes was found to be higher than the underground plant parts. Leaf was used in majority of the cases, followed by fruits and shoots.

40 plant families have their presences in the study area. These Ethno-botanical species had diverse uses viz. medicine, tonic, beverages, vegetables, mosquito, repellent and dying

clothes. Of the total Ethno botanical species, the highest number of plants species were used in curing different types of diseases followed by wild edible plants. Different plant parts of these species such as tuber root, fruit, bark, leaf, seed and stem were used a medicine(Kala, 2009). Three species viz. *Terminalia chebula*, *Terminalia bellerica* and *Phyllanthus emblica* of important ayurvedic medicine "Triphala" were available and used by local people in the study area. In majority of cases leaf was used for preparing medicine, more than one plant part of plant species were used as medicine cough, headache, muscular pain, constipation, dysentery and snake bite were among the ailments cured by using these plant species. Wild edible plants were one of the prime sources of livelihood to the rural communities of kabeerdham district. Various plant part viz. fruit, leaf, flower, tuber, rhizome, root and seed were source of food to the residents of the study area. 34 wild edible plant species, fruit of highest number of plant species were eaten as raw of after cooking by the local people. The fruit of *Zizyphus mauritiana, Pithecellobium dulce Annona squamosa, Psidium guajava, Annona reticulata, Musa acuminate and Buchanania lanzan* were consumed as food by the local people. The wild plants were also used as vegetables and the leaves and flowers of 3 plant species viz. *Hibiscus sabdariffa, Chenopodium album* and *Cordia dichotoma* were eaten as vegetables after cooling. The roots and tubers of 5 species *Amorphophallus paeoniifolius, Dioscorea bulbifera, Colosasia carandas, Curcuma aromatic, Curcuma angustifolia* also used as food plants by the local people. Apart of food and medicine, the consumption of locally made beverages was a common practice of most of the villagers in the study area. Majority of households used fruits and flowers of *Madhuca indica* for preparing liquor.

Table 1: Taxonomic details of plant and their benefits.

S/N	Local Name	Botanical Name	Family	Habit	Useful Part	Benefits
1	Jangali bhindi	*Abelmoschus moschatus Linn*	Malvaceae	Herb	Root, leaves	Anti bacterial, anti inflammatory, anti oxidant
2	Ghughch	*Abrus precatorius L.*	Fabaceae	Shrub	Leaves	Leaf juice is given orally in snake bite
3	Chirchita	*Achyranthus aspera*	Amaranthaceae	Herb	Root	Cure leucorrhoea and primary weakness
4	Bel	*Aegle marmelos*	Rutaceae	Tree	Fruit leaves	Decrease the blood sugar, treatment of diarrhea, treatment of jaundice
5	Sirish	*Albizia lebbeck*	Fabaceae	Tree	Leaves, bark	Neutralize toxins in body, treatment of bronchial asthma, bark use herbal tea
6	Zimikanda	*Amorphophallus paeoniifolius*	Araceae	Herb	Root	Dysentery, treatment of acute rheumatism
7	Sitaphal	*Annaona squamosa*	Annonaceae	Shrub	Fruit, Leaves	Regulate sugar in body, prevents ageing of the skin, hells wounds
8	Ram phal	*Annona reticulate*	Annonaceae	Tree	Fruit, leaves	Acne treatment, dandruff treatment, Pain relieve, fight bacteria
9	Pili kateri	*Argemone maxicana*	Papaveraceae	Herb	Root, flower, seed	Treatment of warts, cold sores skin diseases, gleet, used against tapeworm
10	Kathal	*Artocarpus heterophyllus*	Moraceae	Tree	Fruit	Fight wrinkles, high in protein
11	Neem	*Azadirachta indica*	Meliaceae	Tree	Leaves	Used for leprosy, eye disorder, bloody nose, skin ulcers, diabetes
12	Bamboo	*Bamboo*	Poaceae	Tree	Leaves, stem	Reduce intestinal worms, anti oxidant anti-inflammatory
13	Kachnar	*Bauhinia variegate*	Fabaceae	Shrub	Leaves, bark	Anti malarial, pain reducing, anti fungal
14	Semal	*Bombax ceiba*	Malvaceae	Tree	Leaves, root, bark	Blood purification, leucorrhoea, acne, skin blemish, pigmentation
15	Kagaj phool	*Bougainvillea*	Nyctaginaceae	Shrub	Leaves	Reduce stomach acidity, cough and sore throat
16	Patharchatta	*Bryophyllum pinnatum*	Crassulaceae	Shrub	Leaves, root	Eye pain, constipation, dysentery, fever, leucorrhoea
17	Char	*Buchanania lanzan sprengen*	Anacardiaceae	Tree	Fruit	Detoxifies the body and improves brain function, extremely rich in minerals
18	Aak	*Calotropis gigantea*	Apocynaceae	Herb	Leaves fruit	Neurological disorder, elephantiasis, vomiting, snake bite

19	Vaijanti	*Canna indica*	Cannaceae	Herb	Leaves	Anti- oxidant
20	Papita	*Carica papaya*	Caricaceae	Shrub	Fruit, leaves	Asthma prevention, reduce cancer risk, diabetes, inflammation
21	Karonda	*Carissa carandas*	Apocynaceae	Shurb	Fruit, bark	Treat appetite and digestion skin diseases
22	Amaltas	*Cassia fistula*	Fabaceae	Tree	Leaves, fruit, bark	Skin disorder, irritation, antioxidant, constipation
23	Bathua	*Chenopodium album*	Amaranthaceae	Herb	Leaf	Cure constipation, rich in vitamin c, blood purifier
24	Aparajita	*Clitoria ternatea*	Fabaceae	Herb	Leaves, bark	Treat fever, diarrhea, gastritis, vomiting, bleeding and neurological disorder
25	Kochai	*Colosasia esculenta*	Araceae	Herb	Root, leaves	Weight loose, digestion (clear stomach)
26	Boharbhaji	*Cordia dichotoma*	Boraginaceae	Tree	Leaves, fruit	Used as vegetable fodder
27	Tikhur	*Curcuma angustifolia Roxb*	Zingiberaceae	Herb	Root	Treatment cough and bronchitis
28	Jangali haldi	*Curcuma aromatic Salisb*	Zingiberaceae	Herb	Root	Anti bacterial, anti oxidant
29	Sahdei	*Cyanthillium cinereum*	Asteraceae	Herb	Leaves, seed, flower, root	Used as poultice on cuts, wound and skin diseases, treatment of leprosy and chronic
30	Shishum	*Dalbergia sissoo*	Fabaceae	Tree	Wood, leaves	Helpful in sciatica, good in fever, heal ulcer
31	Datura	*Datura metel*	Solanaceae	Herb	Leaves	Treat respiratory problems, asthma, relives pain, stimulate hair growth
32	Gulmohar	*Delonix regia*	Fabaceae	Tree	Leaves, bark	Protect against heart diseases and cancer
33	Varahikanda	*Dioscorea bulbifera*	Dioscoreaceae	Herb	Root, leaves	Treatment of intestinal parasites, eczema, psoriasis
34	Tendu	*Diospyros melanoxylon*	Edenaceae	Shrub	Fruit, seed, bark, flower	Cure for mental disorders, nervous breakdown, skin and blood diseases
35	Nilgiri	*Eucalyptus oblique*	Myrtaceae	Tree	Leaves	Asthma, bronchitis, headache
36	Bargad	*Ficus benghalensis*	Moraceae	Tree	Fruit, bark	Control of cholesterol, tooth and gum ache, cure diarrhea
37	Pipal	*Ficus religiosa*	Moraceae	Tree	Leaves, bark	Antiseptic, antioxidant, antimicrobial, anti-rheumatic
38	Khamhar	*Gmelina arborea*	Lamiaceae	Tree	Leaves	Abdominal pain, urinary discharge, piles
39	Khatta bhaji	*Hibiscus sabdariffa*	Malvaceae	Herb	Leaves, fruit	Increase hemoglobin, good for skin
40	Talmakhana	*Hygrophilia auriculata*	Acanthaceae	Herb	Root, leaves, seed	Treatment of blennorrhoea, hydropsy, anuria

41	Beshram	*Ipomoea carnea*	Convolvulaceae	Shrub	Leaves, root, stem	Treatment skin problems
42	Kaladana	*Ipomoea purpurea*	Convolvulaceae	Herb	Leaves	Skin diseases, fever, worm infestation
43	Raimuniya	*Lantana camara*	Verbenaceae	Herb	Leaves	Cancer, chicken pox, ulcer, swelling, eczema, tumors
44	Heena	*Lawsonia inermis*	Lythraceae	Shrub	Leaves	Regulate blood pressure, reduce hair loss, improve nail quality, anti aging properties
45	Kaitha	*Limonia acidissima*	Rutaceae	Tree	Fruit, leaves, bark	Treatment for hiccough, sore throat, indigestion, crushed leaves is applied on itchy skins
46	Mauha	*Madhuca longifolia*	Sapotaceae	Tree	Fruits, bark	Treatment of coughs, cold and bronchitis
47	Aam	*Mangifera indica*	Anacardiaceae	Tree	Fruit, leaves	Regulates diabetes, fight restlessness
48	Chuimui	*Mimosa pudica*	Fabaceae	Shrub	leaves	Ulcers, healing activity, diarrhea, anti-inflammatory activity
49	Munga	*Moringa oleifera*	Moringaceae	Tree	Leaves, fruit bark	Beneficial for hyper tension patients managing sugar level, rich in calcium, increases milk secretion in lactating women
50	Sehtut	*Morus alba*	Moraceae	Shrub	Fruit, leaves, stem, root	Treatment of cold influenza, used to relieve toothache, treatment of elephantiasis
51	Kela	*Musa acuminate*	Musaceae	Tree	Fruit	Treat lower blood pressure, constipation,
52	kadamba	*Neolamarckia cadamba*	Rubiaceae	Tree	Leaves, fruit	Treat fungal infection, musculo- skeletal diseases, treat high cholesterol
53	Tulsi	*Ocimum kilimandscharicum*	Lamiaceae	Herb	Leaves	Kidney stone, stress, cold, headache
54	Nagfani	*Opuntia*	Cactaceae	Shrub	Leaves	Fresh nopal juice treat low blood sugar, healing wounds, lowering cholesterol, antiviral
55	Gajar ghas	*Parthenium hysterophorus*	Asteraceae	Herb	Leaves, root	Treat fever, diarrhea, malaria, dysentery, neurologic disorders
56	Chind	*Phoenix acaulis Roxb*	Palmaceae	Tree	Root, fruit	Vomiting, fever, heart complains, treatment of toothache, gonorrhea
57	Amla	*Phyllanthus emblica*	Phyllanthaceae	Tree	Fruit, seed, leaves, bark	Reduces cough, asthmatic problems, constipation
58	Bhuiamla	*Phyllanthus niruri*	Phyllanthaceae	Herb	Fruit, leaves, root, seed	Treatment of thirst, bronchitis, leprosy, asthma, chronic dysentery
59	Gangaimli	*Pithecellobium dulce*	Fabaceae	Tree	Fruit, leaves, bark	Treat muscular swelling, root good remedy for

						diarrhea and dysentery
60	Badam	*Prunus dulcis*	Rosaceae	Tree	Leaves, fruit	Induced lower blood sugar level, lower cholesterol level, promote weight loose
61	Amrud	*Psidium guajava*	Myrataceae	Shrub	Fruit, leaves,	Diabetes, Hyper tension, fever, lungs diseases
62	Anar	*Punica granatum*	Lythraceae	Shrub	Fruit, flowers, bark	Treating runny noses and colds, leucorrhoea, skin ageing
63	Arand	*Ricinus communis*	Euphorbiaceae	Tree	Fruit, bark, leaves, root	Used for leprosy, syphilis, constipation, headaches
64	Ranawara	*Senna auriculata*	Fabaceae	Tree	Leaves, root, flower, stem	Eye infection, joint and muscle pain
65	Sal	*Shorea robusta*	Dipterocarpaceae	Tree	Wood, leaves, seed	Antibacterial, pain, ulcers, skin infection
66	Makoya	*Solanum nigrum Linn*	Solanaceae	Shrub	Stem, root, fruit	Analgesic, antispasmodic, sedative, treat headache, fever
67	Tamater	*Solanum lycopersium*	Solanaceae	Herb	Fruits, leaves, vine	Preventing cancer, diseases of heart and blood vessel
68	Jamun	*Syzygium cumini*	Myrtaceae	Tree	Fruit, leaves, seed	Bronchitis, asthma, stomach problems, skin swelling
69	Sagun	*Tactona grandis*	Lamiaceae	Tree	Wood, leaves, root, bark	Treat anemia, fever, malaria, hair growth, liver related problem
70	Imli	*Tamarindus indica*	Fabaceae	Tree	Fruit, leaves	Treats anemia, promotes eye spots, thyroid disorders, rich sources of vitamins and minerals
71	Baheda	*Terminalia bellirica*	Combretaceae	Tree	Fruit, Seed, Leaves	Anemia, leprosy, skin diseases
72	Harra	*Terminalia chebula*	Combretaceae	Tree	Fruit, leaves, Bark	Treat kidney and liver dysfunction
73	Paraspipal	*Thespesia populnea*	Malvaceae	Shrub	Leaves, bark	Treat Diarrhea, inflammation
74	Kaner	*Thevetia adans*	Apocynaceae	Shrub	Leaves	Fever, cure amenorrhea, cure for intermittent
75	Babul	*Vachellia nilotica*	Fabaceae	Tree	Leaves, pods	Treat diabetes, wounds healing, hypercholesterolemia
76	Xanthium	*Xanthium strumarium*	Asteraceae	Herb	Leaves, stem	Anti rheumatic, diuretic emollient, sedative, antipyretic
77	Ber	*Zizyphus mauritiana Lamk*	Rhamnaceae	Tree	Fruit, leaves	Ripening fruit as eaten, Rich in vitamin c

CONCLUSION

Plant play an important role in daily life of the local people considering in terms of dietary nutrition, marginal incomes and even primary health care. The Bhoramdeo Wild life Sanctuary depends largely on wild plant resources for their livelihood and possesses rich traditional knowledge system. These species can be promoted for large scale cultivation and marketing for the benefit of local tribe and other communities domestication of such plants should be encouraged with proper conservative measures sustainable utilization and harvesting of resources to preserve the local gene pool.

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