

Study of Plant Biodiversity of West Singhbhum District of Jharkhand, India and Its Medicinal Uses

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ABSTRACT

Jharkhand is rich in biodiversity of medicinal plants. The forest area is about 40% of the total area of Jharkhand. 32 tribal communities found in Jharkhand. They are used medicinal plants by traditional knowledge. The Baidhyas or Kaviraj are those people who used medicinal plants as medicine by using traditional knowledge/practices. About 80% of local people as well as tribal people rely ethno medicinal plants for their primary health care. The objective of this present study was to conduct a value addition survey amongst tribal of West Singhbhum and around the district of Jharkhand. Due to extinction of many medicinal plants, the conservation strategy is also very important aspects as in present scenario. If all the people know about our natural resources and its important in our life by training or other sources than save it for value addition. If one species saves per people by conserve it for value addition than disease free natural obtained. Or it can say that the conservation strategy of medicinal plants played great role to save the life and health for coming generation. Information of 85 plant species was obtained which were used by Baidhyas or Kaviraj to treat various ailments given the table 1. These medicinal plants belong to 85 genera and 67 families. All plants were grown or cultivated in home fields as ornamental plants, shade giving plants, timber yielding plants, home construction plants, medicinal plants, vegetable, fruits etc. The various plant parts used included whole plants, leaves, stems, roots, tuber, barks, flowers, fruits and seeds. Traditional and ethnic knowledge generated from such leads has played most significant role in the discovery of novel product as well as newer ideas about conservation of natural resources. This paper deals with the biodiversity of West Singhbhum district and medicinal uses of these most important plants.

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KEYWORDS: Medicinal plants, Traditional Knowledge, West Singhbhum district, Biodiversity, Baidhyas, various plant parts

INTRODUCTION

Traditional knowledge of the tribal and local communities is passed through generation after generation as orally (Jain, 1991). During the last 50-55 years various research institutes, Universities, Colleges and institutions collected large amount of ethno-botanical information. This outcome of project launched by ministry of Environment and Forest, Government of India, New Delhi has recorded 9500 plant species for various ethno - botanical uses such as medicinal plants (7500 species), edibles (3900 species), and for the miscellaneous purpose (2325 species) (Anonymous, 1994).

Man has inherited rich traditional knowledge of surrounding plants used as food, fodder, fibre, woods, fuel, medicine, beverage, tannins, dye, gums, resin, cosmetics, craft items, and for religious ceremonies. Food plants that are cultivated or grow in naturally are playing an important role in sustaining human life for survival. In order to meet the problem of providing medicine for mankind with the help of traditional knowledge, identification of plant species is extremely important. Hence, the present work is designed with an objective of providing identification of important medicinal plants and formation of ethno

medicinal uses of these very common medicinal plants in the West Singhbhum District of Jharkhand.

West Singhbhum District is also rich in the forest wealth and Ethnic Communities. The inhabitants of West Singhbhum District have Traditional Healthcare System based on local floras. Plant's part like root, stems, leaves, flowers, barks, seeds, fruits are used for the remedy of many diseases. They depend on Jari-Butti for their primary healthcare system. So, they protect the plants having the medicinal value and also, they provide their medicinal knowledge to their children, grandchildren for their healthcare. Their traditional beliefs and uses of plants for traditional and religious customs and practices enhances the conservation of plant diversity.

RESULTS AND DISCUSSION

This survey revealed that the traditional communities have rich traditional knowledge pertaining to the use of plant resources available around them. The study revealed that the ethno-medico-botanical knowledge is confined to older generations mostly. So, it is feared that with the passing of time some valuable information relating to ethno-botany of the area may be lost. So, it is the time for documentation of the indigenous knowledge.

Tribal and Indigenous population of Ranchi district uses different parts of various plants in their ancient method of treatment to cure different diseases and ailments. It not only promotes good health but also help in maintain a balanced ecological environment.

Plants, that were used in traditional health care described in table, below – I.

Table-I: List of plant species and their medicinal uses: --

Sl. No.	Botanical Name	Family of the plant	Local name	Parts used	Medicinal uses/administration of the plant
1.	<i>Acacia arabica</i> L.	Mimosaceae	Babul	Flowers	Grind the flowers of babul with vinegar and apply on the eczema. It completely cures the eczema.
2.	<i>Adhatoda vasica</i> Nees.	Acanthaceae	Vasak/ Arusa	Whole plants, Leaves, Flowers, Root, Bark	Given in Asthma, Cough, Chronic Bronchitis, Rheumatism, Respiratory disorders, Antipyretic, Gonorrhoea, Jaundice etc.
3.	<i>Aloe vera</i> (L.) Burm f	Liliaceae	Ghee kunwar	Pulp	Apply the pulp of Ghee kunwar on the affected area of the syphilis. It cures syphilis. In warts, apply the paste of Ghritkuwari. It melts warts.
4.	<i>Aegle marmelos</i> (L.) Corr.	Rutaceae	Bel	Roots, Barks, Leaves, Fruits, Flowers	Ripe fruit is aromatic, astringent cooling and laxative. The unripe or half ripe fruit is given in dysentery & diarrhoea, Jaundice, Piles etc.
5.	<i>Annona squamosa</i> L.	Annonaceae	Sharifa	Roots, Leaves, Fruits, Seeds	Anaemic Patient, Cancer, Tumour, Wounds healing, Ulcers, Cold, Rheumatism, Fever, Burning sensation etc.
6.	<i>Amaranthus spinosus</i> Linn.	Amaranthaceae	Kateli Chaulai Sag	Roots & Leaves	Leaves are used for Haemoglobin. Blood impurities, Insanity, Haemorrhage disease,

MATERIALS AND METHODS

Ethno-botanical information of the plants used for medicinal purpose was gathered by conducting field trips to the villages in different seasons. And during our survey, elderly people, Pahan, Vaidya in villages were interviewed. The information about medicinal plants was repeatedly conformed through the discussion with various informants at different times and in different localities. Plant specimens were photographed, collected and identified with the help of standard floras.

The plants are enumerated in the alphabetical sequence along with botanical name, family, local name followed by their medicinal uses.

					Fever, Cough, Diarrhoea, Leukoderma, Gonorrhoea, Metrorrhagia etc.
7.	<i>Asparagus racemosus</i> Willd.	Liliaceae	Satavar	Fleshy roots, Cladodes	Piles, Leucorrhoea, Seminal debility, General debility, Headache, Hysteria, Reduces blood pressure, Useful in acidity and ulcer patient, Anticancer etc.
8.	<i>Azadirachta indica</i> A. Juss.	Meliaceae	Neem/Nimb	Whole Plant, Root bark, stem bark, Leaves, Flowers, Fruits	Dried leaves are used for blood purification. The fresh juices of leaves are used in Skin diseases. Anti-ulcer, Anti-bacterial, Eczema, Ringworm, Antiseptic, Scabies, Ulcer, Leukoderma, Inflammation, Rheumatism, Leprosy etc.
9.	<i>Bauhinia variegata</i> Linn.	Caesalpiniaceae	Kachnar	Stembark & Flowers	Obesity, Diabetes, Skin diseases, Ulcer, intestinal worms, Asthma, T.B., Piles, Dysentery, Diarrhoea, Goitre etc.
10.	<i>Boerhaavia diffusa</i> Linn.	Nyctaginaceae	Punarnava	Fresh whole plant, Root, Leaves & Flowers	Asthma, Anaemia, Jaundice, Scanty urine, Internal Inflammation, Epilepsy, Heart diseases, Eye-problems, Cough, Bronchitis etc.
11.	<i>Cajanus cajan</i> Linn.	Fabaceae	Arhar	Leaves, Roots	The juice of leaves is used with sugar candy for jaundice.
12.	<i>Celastrus paniculatus</i> Willd.	Celastraceae	Malkangni	Whole plant, Bark, Leaves, Seeds	Rheumatism, Fever, Paralysis, Leprosy, Blood pressure, Hypotensive, Emetic, Antiviral, Leukoderma, Amenorrhoea etc.
13.	<i>Centella asiatica</i> Linn.	Apiaceae	Brahmi Meghabati	Whole plant, Leaves, Seeds	Skin diseases, Memory, Leprosy, T.B., Anaemia, Cough, Fever, Asthma, Wound healer etc.
14.	<i>Cassia tora</i> Linn.	Caesalpiniaceae	Chakunda Chakwar	Seeds	Skin diseases, Leukoderma, Leprosy, Piles, Ring worm, Asthma, Blood purifier, Laxative, Anthelmintic, Antipyretic Cough, Eczema etc. and diabetic patient.
15.	<i>Carica papaya</i> Linn.	Caricaceae	Papitta	Leaves, Fruits, Seeds	Haemorrhagic diseases, Piles, Anthelmintic, Liver enlargement, Ringworm, Diarrhoea, Cardiac disease, Increase blood platelets etc.
16.	<i>Curcuma langa</i> L.	Zingiberaceae	Haldi	Rhizome	Cold, Cough, Skin diseases, Abdominal worms, Diabetes, Scabies, Leukoderma, Polyuria, Ulcer, Anaemia, Jaundice, Blood purifier, Liver tonic, ophthalmia etc.
17.	<i>Datura metal</i> Linn.	Solanaceae	Dhatura	Roots, Leaves, Seeds, Fruits, Flowers	Ulcer, Diarrhoea, Skin diseases, Scabies, Fever, Insanity, Bronchial Asthma, hyperacidity etc.
	<i>Emblica</i>	Euphorbiaceae	Amla	Fruits &	It is richest source of Vitamin-‘C’

18.	<i>officinalis</i> Geartn.			Seeds	It is given in dysentery also, Haemorrhage, Diabetes, Polyuria, Headache, Antifungal, Eczema, Piles, Menorrhagia, Scurvy etc.
19.	<i>Euphorbia neriifolia</i> L.	Euphorbiaceae	Sehund	Roots, Stem, Leaves	Flatulence, Insanity, Skin diseases, Anaemia, Inflammation due to ulcer, Fever, Snake bite etc.
20.	<i>Ficus geniculata</i> L.	Moraceae	Putkal	Leaves & pods	Tender leaves are boiled and dried and then given in dysentery, Leucorrhoea, Improve iron in blood, Antioxidant etc.
21.	<i>Ficus glomerata</i> Roxb.	Moraceae	Gular	Whole plant, Roots, Leaves, Bark, Fruits, Latex	Diabetes, Dysentery, Diarrhoea, Bleeding piles, Leukoderma, Acidity, Scabies, Small pox, Wound healing, Fracture, Genital disorder, Metrorrhagia, Abortifacient etc.
22.	<i>Hibiscus rosa-sinensis</i> Linn.	Malvaceae	Urhul Phul	Root, Stem, Leaves, Flower, Buds	Cough, Fever, Menorrhagia, Antibacterial, Antiviral, Antispasmodic, Polyuria, Piles, Leucorrhoea, Gonorrhoea etc.
23.	<i>Mangifera indica</i> Linn.	Anacardiaceae	Aam	Leaves, Bark, Flowers, Fruits, Seeds, Gum, All Parts	Gastric stimulant, Scurvy, Haemorrhagia, Dysentery, Anthel- mintic, Diarrhoea, Thirst, Inflammation etc.
24.	<i>Moringa oleifera</i> Lam.	Moringaceae	Sahjan, Munga	Root, Root's bark, Flowers, Fruits, Seeds	Leaves are eaten in Blood Pressure, Paralytic affections, fever, epilepsy, rheumatism, cardiac tonic, nervous debility, hysteria, flatulence, anti-ulcer, leprosy, hypotensive etc.
25.	<i>Mimosa pudica</i> Linn.	Mimosaceae	Chui-Mui (Lajwanti)	Roots, Leaves, Stem, Seeds	Haemorrhagic, Diarrhoea, Gynaecological diseases, Sinus, Piles, Fistula, Urinary disorder, Cough, Leukoderma etc.
26.	<i>Madhuka longifolia</i> Linn.	Sapotaceae	Mahua	Seeds	Oil is used in removing pain of stomach, Skin diseases etc.
27.	<i>Ocimum sanctum</i> Linn.	Lamiaceae	Tulsi, Basil	Roots, Seeds, Leaves	Bronchitis, Fever, Asthma, Urinogenital disorder, Ear ache, Dysuria, Leprosy, Diabetes, Hepatoprotective, Antispasmodic, anti-bacterial, antituberculosis, cardiopathic, leukoderma etc.
28.	<i>Pangamia pinnata</i> Pierre (Linn.)	Fabaceae	Karanj	Seeds, Bark, Leaves, Oil	Seeds oil is used in the treatment of skin diseases, Blood purifier, Piles, Leukoderma, Flatulence, Diarrhoea, Wound healing, anti-bacterial, scabies, rheumatism, arthritis, diabetes etc.
29.	<i>Punica granatum</i> Linn.	Punicaceae	Anar, Dalim	Leaves, Root, Flowers, Fruits, Seeds	Used in Piles, Diarrhoea, Dysentery, Bleeding gums, ulcers, prolapse anus,

					anthelmintic, spleen disorder, anaemia, gastric-disorder, conjunctivitis etc.
30.	<i>Ricinus Communis</i> Linn.	Euphorbiaceae	Arandi	Roots, Bark, Leaves, Flowers, Fruits, Seeds, Oil	Tender shoots, branches are used in toothache, Dysuria, Cough, Worm infection, Epilepsy, Piles, Asthma, Bronchitis, Skin diseases, Jaundice, Eye disease, Sciatica, Rheumatism, Hydrocele etc.
31.	<i>Bombax ceiba</i> Linn.	Bombacaceae	Semal	Bark, Roots	After boiling of bark given to Anaemic Patient, joint pain etc.
32.	<i>Syzygium cumini</i> Skeels	Myrtaceae	Jamun	Leaves, Bark, Fruits, Seeds	Fruit is used by anaemic Patient, Diabetes, Diarrhoea, Dysentery, Menorrhagia, Anti-bacterial, Ulcer etc.
33.	<i>Shorea robusta</i> Gaertn.	Dipterocarpaceae	Sal, Sakhua	Bark, wood resin, Seeds	The dried seeds are after boiling converted into powder and given to dysentery patient, Diabetes, Cough, Asthma, Bleeding piles, Bleeding diarrhoea, Fracture, Ear disease, Anaemia etc.
34.	<i>Swertia chirayata</i> Roxb.	Gentianaceae	Chirayta	Dried whole plant, Roots, Stem, Flowers	Malarial fever, Leprosy, blood purifier, Leukoderma, Scabies, Menorrhagia, Menstrual irregularity, Urinary disease, Heart disease, Indigestion, Asthma, Cough, Ulcer etc.
35.	<i>Tamarindus indica</i> Linn.	Caesalpiniaceae	Imli	Leaves, stembark, Fruits, Seeds, Flowers	The fruits are edible and are used as carminative and laxative. Power of tender dried leaves is used in dysentery, Bleeding piles, Dysuria, antipyretic etc.
36.	<i>Terminalia bellirica</i> Roxb.	Combretaceae	Bahera	Fruits	The ripe dried fruit is astringent, bitter tonic and laxative. It is given in piles, diarrhoea, headache etc.
37.	<i>Terminalia chebula</i> Retz.	Combretaceae	Harre	Fruits	The fruits are of medicinal value. The fruit pulp is given in Diarrhoea, Dysentery, Vomiting, Eye infection, Headache etc.
38.	<i>Vitex negundo</i> Linn.	Verbenaceae	Sindwar/ Nirgundi	Whole plant, Leaves, Fruits, Seeds	Acute rheumatism, Cough, Fever, Pain, Indigestion, Flatulence, Dullness of hearing, anti-inflammatory, colic, Asthma etc.
39.	<i>Vinca rosea</i> Linn.	Apocynaceae	Sadabahar	Whole plant, Leaves, Roots, Flowers	Leaves are used in blood pressure, diabetes, Skin disease, Leukoderma, Leprosy, Piles, Ring worm, Asthma, blood purification, Laxative, anthelmintic, Cough, Eczema etc.

Although the World Health Organization (WHO) encourages the use of traditional herbal medicines, which have been proven to be safe and effective for health care needs (Anonymous, 1993) it appears imperative to evaluate the medicinal efficiency of such plants. Such attempts will help integrate the traditional medicine with the

modern system of medicine, thereby making science of it. It is obvious that herbal medicines have good potential, which had not yet been sufficiently explored for utilization in primary health care.



Acacia arabica Linn.



Aloe vera (L.) Burm f.



Annona squamosa L.



Curcuma longa L.



Pangamia pinnata L.



Ocimum sanctum L.

Some Photographs of Baidhyas were as below: -



RATAN LOHRA



DOMAN SINGH MUNDA



BUDHU SINGH MUNDA

**HARI MAHTO****DONU MAHTO****DHAN SINGH MUND****RESULT AND DISCUSSION: -**

In this research work, there was 85 ethno medicinal plant species were identified with the help of local Baidhyas and elder knowledgeable person, but only 39 plant species with 31 families were discussed here. All ethno medicinal plants were very important and the local people as well as tribal people rely their primary healthcare with the help of these essential medicinal plant species. The present study demonstrated the persistence of folk medicine practices to cure in different kinds of diseases in West Singhbhum District of Jharkhand. In this way, the people of this area were still dependent on indigenous knowledge for healthcare that were being influenced by culture and socio-economic aspects. People not only disturbed mentally and physically due to different diseases but also expand lot of money for their cure when these were at chronic stage. If these diseases were cured at initial stage, then we can save lot of money and tension. So, these herbal medicines, which are cheap with no side effects or very less side effects will be helpful to cure diseases of all people of this research area. Documenting the indigenous knowledge through ethno botanical studies is important for the conservation and utilization of biological resources. Herbal medicines have no side effects or very less side effects. They are very cheap and harmful. They are easily available. Layman known these medicinal plants with lot of uses. Many of these medicinal plants are present at our garden or our near. Raw plant(s) is also curative activity against diseases.

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