



# Traditional knowledge on Medicinal uses of plant biodiversity in Palamu Division

State of Jharkhand  
 Manoj Kumar, Msc.M.Phil  
 Science Teacher J.N.V.Garhwa  
 Jharkhand

## Abstract:

The present study concentrates on the Garhwa district of Jharkhand which is primarily rural and most of the population resides in villages. Tribal population of the district is still thriving for the livelihood in the forest areas. Presence of Biodiversity in the forests proves to be a precious gift of God for People as they seek food, fodder, fuel and pharmaceutical aids. In the present study during 2024-2025, inventory of Indigenous Technological Knowledge in the district was developed during Participatory Rural Appraisal of six adopted villages Garhwa. In this investigation, indigenous knowledge on medicinal use of most commonly occurring 65 plant species belonging to 30 families in Garhwa district of Jharkhand The available biodiversity was found to be frequently used in ailment of gynaecological and physiological problems like gonorrhoea, leucorrhoea, diarrhea, dysentery, bone fracture, abdominal complaints and typhoid fevers, The mode of many plants were administered locally and others orally.

**Keywords:** Medicinal plants, Biodiversity, Indigineous, Ailment

## Introduction :-

Indigenous system of Medicine in India is based on use of traditional medicinal knowledge of plant biodiversity. Ayurveda and Unani system of medicine largely relies on plant based formulations. About 65 per cent of world's population has access to traditional system of medicine with local medicinal plants whereas 70 per cent of rural population is struggling to access and afford modern allopathic medicines Jharkhand state is the hot spot of biodiversity in eastern India having 29.2 per cent area under forest. The Garhwa district of Jharkhand is primarily rural and most of the population resides in villages.

Tribal population of the district still lives in the forest areas of the total population of 1322784 of the district and tribal population As per census of 2011 recorded as 205670 Furthermore, the Garhwa district is border lined by biodiversity rich in West, Kaimur hills of Bihar in North, Sarguja district of Chhattishgarh in South Palamu and Latehar districts of Jharkhand in East.

A huge biodiversity proves to be a precious gift of god for People as they seek food, fodder, fuel and pharmaceutical aids from this biodiversity in forest. The healing power of traditional herbal medicines has been realized since antiquities. About 36 per cent of all pharmaceutical preparations come from higher plants and it goes to 64 per cent when bacteria and fungi are taken in to account . In Jharkhand, collection and documentation of traditional knowledge of medicinal use of plant species is of utmost importance in view of establishing relation between Indigenous System of Medicine

## Materials and Methods

The present study conducted during 2024-25 was based on developing inventory of Indigenous Technological Knowledge in the district during Participatory Rural Appraisal of six adopted villages by Krishi Vigyan Kendra, Garhwa. The villagers aged 60 or above were selected as respondents from each village, Responding farmers were kept free to discuss and confirm the vernacular name and ways of utilization of plant species. A list was prepared of vernacular name, habit, habitat and medicinal use of different plant species occurring in nearby forests and villages. Some live samples and photographs were also collected as per the identification made by the respondents. Complete documentation of listed plants was done as per medicinal and other plants occurring in Jharkhand and adjoining areas of Bihar. The sites of study included six villages of different blocks of Garhwa district of Jharkhand where the rural peasantry showed nearness to forest herbs rather than modern allopathy. As far as geographical situation is concerned, the Garhwa district of Jharkhand is situated at 300 m above mean sea level, longitude between 83° 10' 13'' & 83° 56' 38'' and latitude between 23° 34' 11'' & 24° 32' 05''. The climate of the district is warm and humid with maximum and minimum temperature of 45 °C and 3.9 °C, respectively. The months of April, May and June are hottest and subjected to dry and hot waves from West whereas December and January are the coldest ones.

## Results and Discussion

In the present investigation, indigenous knowledge on medicinal use of most commonly occurring 40 plant species belonging to 31 families in Garhwa district of Jharkhand was studied (Table 1). Regarding habit and habitat of the plant biodiversity, most of the plants of medicinal use were trees and shrubs occurring in forests or villages. Annual herbs of medicinal importance

mostly occurred in cultivated or fallow lands where as climbers, perennial grasses and parasitic epiphytes occurred in forests.

The available biodiversity was found to be frequently used in ailment of gynecological and physiological problems like gonorrhoea, leucorrhoea, vomiting, diarrhea, dysentery, bone fracture, strengthening of gums, diabetes, abdominal complaints, malarial and typhoid in human and in cure of different infectious diseases and wounds of animals. The mode of administration varied from decoction, extract, infusion, powder, paste and poultice to combination with other plants. Many plants were administered locally and others orally. As far as plant parts in use are concerned, roots, bark, leaves, and fruits were taken for external as well as internal use for ailment. It was found that many species which were sometimes abundant in the forests and even in waste lands of Garhwa are facing danger of extinction today.

For example,

Some plant species viz., *Butea monosperma* (Palas), *Acacia catechu* (Khair) were gregariously growing encroaching the cultivated lands. In absence of modern medical facilities in remote forest or rural areas, such herbal pharmacy is only way of primary health care. Therefore, conservation and controlled use of the plant biodiversity is necessary particularly for the plant species on the edge of extinction

Further collection of traditional knowledge and documentation of ethno-medicinal uses of a huge number of other plant species occurring in the forest of different areas in Jharkhand should be strengthened for up scaling of Indian System of Medicine and Homeopathy.

**Table 1: Medicinal use of Plant Biodiversity of Garhwa district of Jharkhand**

Sl. No	Botanical Name	Common / Vernacular name	Family	Habit	Habitat	Traditional knowledge on medicinal uses
1	<i>Aegle marmelos</i> Corr.	Bel	Rutaceae	A tree	Frequent in villages and forests.	Pulp of ripe fruit is febrifuge and is given in diarrhea, dysentery and other gastric problems
2	<i>Albizia lebbek</i> Benth.	Siris	Leguminosae	A tree	Frequent in valleys and road sides	Seeds and bark are given in biles and diarrhea. Root and bark powder is also used to strengthen gums.
3	<i>Acacia catechu</i> Willd	Khair	Leguminosae	. A tree	Usually in dry forests of Palamu and Garhwa.	The wood chips are used to obtain Kattha. Bark or wood boiled with water is used in dysentery. Plant is an astringent
4	<i>Acacia Arabica</i> Willd.	Babool, Harsain	leguminosae	A tree	Commonly growing in sandy loams of river side waste lands and planted along the roadsides, railway lines and pool banks.	Gums exudating from trunk is taken in dysentery. Twigs are used for brushing the teeth in case of gum problems
5	<i>Achyranthus aspera</i> L.	Chirchiri, Latjira	Achyranthaceae	A herb	A shrub common in waste lands.	1. Plant made in to paste with water and fruits of <i>Piper longum</i> and taken to cure effects of bite of mad dog. 2. Root made in to paste is given to stop bleeding after abortion. It is also given to facilitate delivery.

6	<i>Ageratum conyzoides</i> L.	Vchuinti	Compositae	A herb	A very common weed occurring in damp places	Juice of leaves with Neem oil is used as antiseptic in skin diseases and on fresh cuts to stop bleeding.
7	<i>Argemone mexicana</i> L.	Bharbhar	Papaveraceae	A prickly herb	Common on waste ground	Fresh root bruised and applied to the part stung by scorpions gives relief. Powdered root in very low dose is useful for tapeworm and skin diseases.
8	<i>Andrographis paniculata</i> Wall.	Kalmegh	Acanthaceae	A herb	A herb common on stony places in forests.	Leaves are pounded and applied on body in itching, juice of the leaves is given
9	<i>Annona squamosa</i> Linn	Saripha	Annonaceae	A small tree	Common in villages.	Fruits are used gastric problems
10	<i>Aspergus racemosus</i> L.	Satawar	Liliaceae	A Prickly herb	Occurring in forest areas	The roots of Satawar and roots of Putri ( <i>Croton oblogifolius</i> ) are ground with water and the decoction is orally administered in fever. The roots are also used in blood urination and dysentery. The root is fed to milch animals for increasing milk yield.
11	<i>Artocarpus lakoocha</i> Roxb.	Barhar	Moraceae	A tree	Occasionally planted on road sides.	Bark in powder form applied to sores to draw out purulent matter, infusion is applied to small pimples and cracked skin
12	<i>Azadirachta indica</i> A. Juss	Neem	Meliaceae	A tree	Occurring in forests and road sides	The leaves are crushed with water and taken for blood purification in skin diseases. Leaves boiled with water are used for cleaning the injuries and bathing in case of skin diseases.
13	<i>Bombax ceiba</i> L. syn. <i>Salmalia malabaricum</i>	Semul	Malvaceae	A tree	Frequent throughout the area especially in cool valleys.	Bark exudates is given in diarrhea and dysentery when it turns brown.
14	<i>Butea monosperma</i> Lam.	Palas	Leguminosae (Papilionaceae)	A gregarious Tree	Gregariously growing tree through dry forests and waste lands of Palamau	Trees are used as host for rearing Lac insect. The tree bark is boiled in water and the extract is used to cure the Foot and Mouth Disease in cattle. Flower petals are used as colouring material for cotton and fabrics. Seeds are abortifacient.
15	<i>Bachnania lanzan</i> Spreng.	Piar	Anacardiaceae	A tree	Common in dry forests.	The young bark of piyar together with new earth preferably out of ant-hill is ground with water and paste prepared is massaged on snake bitten part from up to downward.
16	<i>Boswellia serrata</i> Roxb.	Salai		A tree	Common on dry mountainous forests.	Antiseptic lotion is prepared from bark. Decoction of bark is also given in stomach pain.
17	<i>Cassia tora</i> L	Chakora	Leguminosae	A herb	In all districts; a common weed during the rains	Tender leaves and growing tips are cooked and used as green vegetable. The seeds are good feed for cattle.
18	<i>Centella asiatica</i> L. syn. <i>Hydrocotyle asiatica</i> L.	Beng seg, Brahni	Umbelliferae	A trialing herb	Very common in wet places	Entire plant is boiled in water and decoction is given to those suffering from leprosy.
19	<i>Calotropis gigantian</i> L. syn. <i>C. procera</i> L.	Akawan	Asclepiadaceae	A Shrub	Shrubs frequent in open wastelands throughout the region.	The root is applied on snake and scorpion bite. The root is pounded in water and Mahua ( <i>Madhuca indica</i> ) flower is mixed and applied externally in leprosy and also taken orally
20	<i>Curcuma angustifolia</i> L.	Tikhur	Zingiberaceae	A herb	Growing in humid dense forests	Powdered rhizomes boiled in milk are given in body pain particularly to women during post pregnancy

21	Croton oblongifolius	Putri	Euphorbiaceae	A herb	Growing on waste lands	Fresh oozing juice is applied in soreeyes.
22	Cynodon dactylon L	Doob	Graminae	A perennial	A omnipresent common grass.	Sap of white Doob grass is administered orally in asthma.
23	Datura metel L.	Dhatura	Solanaceae	A shrub	Common in wastelands near villages.	Warmed leaves are wrapped on rheumatism and swellings. Leaf paste is also applied such troubles.
24	Euphorbia hirta	Dudhia	Euphorbiaceae	A herb	Growing on cultivated as well as waste lands	The root is powdered and taken with water in body pain, fever and blood dysentery. It is useful in removing worms in children and bowel complaints. The latex of herb promotes formation and flow of milk in women.
25	Ficus religiosa L	Peepal	Moraceae	A tree	Common in forests and villages.	Fruits are recommended in dysentery.
26	Gynandropsis gynandra	Hurhur	Capparidaceae	A herb	Occurring as seasonal weed in cultivated as well as waste lands during Kharif	The leaf juice is extracted in blowing ears to stop pus formation.
27	Hemidiscus indicus	Anant mool	Asclepiadaceae	A creeper herb	Occurring in shade and moist localities.	Used in fever, skin diseases and urinary problems. Root decoction is also used as blood purifier.
28	Jatropha curcas	Bagharandi	Euphorbiaceae	A shrub	Occurs in humid places in forest and wastelands	Latex mixed with salt is kept on burns. Latex is also used to strengthen gums.
29	Michelia champaca L.	Champa	Magnoliaceae	A shrub	Planted as ornamental and hedge	Bark is used as abortifacient for 2-3 months old pregnancy. As an oral contraceptive, 6-8 mm long root is made in to paste with 21 fruits of black pepper and given after menstruation for three days.
30	Mimosa pudica	Lajvanti, Chhui-mui	Leguminosae	A herb	Occurs in low land area	Used to check the bleeding after injury.
31	Nyctanthes	Har-singhar	Oleaceae	A small	Frequent on the hills. Also	The root is ground with water and the
32	Ocimum sanctum	Tulsi	Labiatae	A herb	Occurs in villages and populated areas	Leaves are used in cough, cold and fever
33	Plumeria rubra var. acutifolia Bailey	Gulainchi	Apocynaceae	A small tree	Occurring in gardens.	When mothers have no milk, Munda tribals crush the leaves and mix with Karanj (Pongamia pinnata) oil and apply on breast.
34	Smilax prolifera Roxb.	Atkir, Rajdantani	Liliaceae	A climber	Common in damp forests.	The root is ground with water and decoction is given orally in constipation, blood dysentery and renal problem. Children who awake up in the night are given food on its leaves and twigs as tooth stick. It is good appetizer.
35	Premna herbacea L.	Bharangi, Bhui Jamun	Verbinaceae	A climber	A woody climber on clay in open grounds, fire lines in Chhotanapur	Rheumatism and swelling- the root is massaged over the affected parts.
36	Solanum nigrum L.	Makoi	Solanaceae	A herb	Growing as weed in cultivated lands.	Ripe Juicy fruits are beneficial in dysentery and night blindness
37	Tamarindus indica L.	Imli	Tamarandaceae	A tree	Occurring in dry forests and villages.	Fruits are used for making preparations with other herbs in ailment of different troubles. Leaf paste and fruit is used in dyspepsia and diarrhea (Loo).
38	Terminalia belerica Roxb.	Bachera	Combretaceae	A tree	Occurring in dry forests of Garhwa and Palau.	Fruits bitter, laxative used in diarrhea, dyspepsia and headache. Seed oil is used as cooling in headache.
39	Vitex negundo	Nirgundi,	Verbinaceae	A shrub	Frequent in waste	The leaves are boiled with water for

	L.	sinduar			lands, bunds and dry forest areas.	bathing in skin diseases. Dried leaves are smoked for relief in headache. Leaf paste heated and applied locally on rheumatic swellings. Twigs are also used to deter the rats from crop field.
40	Zizyphus mauritiana Lamk. Syn Z. jujube Lamk.	Ber	Rhamnaceae	A tree	Largely cultivated for fruits and lac-host. Naturally occurring in dry forests.	Leaves are chewed in diabetes. Fruits are given to anaemic women.

## Acknowledgement

I am very much thankful to DR Santosh Kumar Jha Assistant Professor of Jawahar Lal Nehru

Rajkeeya Mahavidyalaya Port Blair for invaluable support and Proper guidance during the

Course of writing to this research paper

## References

1. Iyenger MA. Our green wealth vis-à-vis Health, Bull Sci 1988;4:21-23.
2. Anonymous. Strategic Research and Extension Plan, ATMA Garhwa 2006, 20-24.
3. Shukla S, Gardener J. Local knowledge in community based approaches to medicinal plant conservation: Lesson from India. J Ethnobiol. Ethnomed 2006;2:20
4. Tag H, Das AK, Loyi H. Anti-inflammatory plants used by the Khamti tribe of Lohit district in eastern Arunachal Pradesh, India. Natural Product Radiance 2007;6(4):334- 340.
5. WHO. Traditional medicine strategy. 2002-2005, Geneva 2002.
6. Prasad UN. Survey Report on Availability and Resources of Medicinal Plants in the Tribal and Other Areas of Gaya, Aurangabad, Nawada and Munghyr districts. Divisional Forest Officer, Forest Resources Survey Division, Ranchi, Jharkhand 2003.
7. Ashis P, Khan ML, Arunachalam A, Arunachalam, K. Biodiversity and conservation of Rhododendron in Arunachal Pradesh the Indo-Burma biodiversity hotspot. Curr Sci 2005;89(4):623-634.

