

Endangered Medicinal Plants in Southern Bastar

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Abstract— The State of Chhattisgarh, lying in the Vindhyan Hills regions and Deccan plateau in Central India, has over 44% of its land area under forests and is rich in biodiversity. The present study has been done on the basis of the traditional knowledge of the plants. It covers the plants' botanical details, its medicinal properties, the threats leading to its endangered status, and the current conservation initiatives.

Through field surveys and data analysis, we identify that few species are at risk and assess the impact of anthropogenic activities on their population. The findings emphasize the urgency of implementing sustainable management practices, involving local communities, to ensure the conservation of medicinal resources.

Considering the density and diversity of various medicinal species like *Tinospora cordifolia*, *Boerhavia diffusa*, *Chlorophytum borivilianum*, etc. *Phyllanthus emblica*, *Phyllanthus niruri*, *Terminalia chebula*, *Rauwolfia serpentine*, *Acorus calamus*, *Clerodendrum serratum* etc. are endangered and recorded with only location specific diversity in Bastar. Based on the above findings both the in situ and ex situ conservation of endangered species are suggested.

Index Terms: Endangered Conservation Medicinal Plants Bastar Region Tribal Communities.

I. INTRODUCTION

Bastar is a district located in the southern direction of Chhattisgarh state of India. The headquarters of Bastar district and Bastar division is Jagdalpur. Its area is 6596.90 square kilometers. Bastar district is surrounded by Kondagaon, Dantewada Sukma and Bijapur. There are 70 percent tribal communities in the population of Bastar, such as Gond, Maria, Muriya, Bhatra, Halba, Dhruva community. Bastar district is also rich in the natural resources and simple living style of tribal community. Bastar district is full of dense forests, high hills, waterfalls caves and wild animals. The people of Bastar district are rich in rare artwork, liberal culture and innate nature. (Wikipedia en.wikipedia.org)

In the year 1324, the imperial empire of Bastar was established by Maharaja Ananam Dev of Kalealiya Dynasty. Following Maharaja Ananam Dev, Maharaja Hamir Dev, Baital Dev, Maharaja Purushottam Dev, Maharaja Pratap Dev, Dikpal Dev, Rajpal Dev ruled. The capital of Bastar was settled in the city, then transferred to Jagdalpur city. The last rule in Bastar was Maharaj Praveer Chandra Bhanj Dev (1936 – 1948) Maharaja Praveer Chandra Bhanj Dev was a popular ruler of all the communities of Bastar. (Khan, et al; 2021)

The 2% of the total population of Bastar is tribal community and 26.76% of the total tribal population of Chhattisgarh. The large population of the tribal community of Bastar still resides in dense forests. Tribal communities of Bastar are trained for their culture, art, festivals, natural life styles. (Tripathi, et al; 2016)

All the tribals have their dependence on forest resource for health security and livelihood; therefore they have rich knowledge of plants and its utilization the tribal people and

ethnic races throughout the world have developed their own culture, customs, religious rites, folk – songs, medicinal practices etc. (Jain, et.al; 1963) Numerous wild and cultivated plants play a key role in among tribal cultures and the relationship of these plants has continued from one generation to another. (Jain, et al; 1964) The knowledge acquired by forest divellers, folk – healers, vaigds in understanding these plants and the properties possessed by roots, stems, leaves, flowers and fruits of these plants have immense value in traditional folk - medicines which they are practicing. They have dependence on such flora based on their experimentations on human beings. (Jain, et al; 1965)

Jagdalpur – Kondagaon Areas of Bastar include Bhanpuri, Baniyagaon, Benoor and some other small interior forest villages on way to Kondagaon. The medicinal species unavailable are *Asparagus Sp.* *Amorphophallus sp.* *And cucurlogo orchiodes.* (Chandra, et al; 1983) The typical strain of sated musli [*Chlorophytum borvillianum*] having leaves which are dark green on upper surface and pinkish blue in lower surface is observed in interior forests near Baniyagaon when is never seen in any place of Chhattisgarh. (Saxena et al; 2019)

The traditional healers, often referred to as “Ojhas” or “Bhumkas” play a crucial role in the community by possessing an extensive knowledge of the medicinal properties of plants and their applications. These healers have inherited and passing them down orally. (Chaturvedi et al; 1987) The healing practices in Bastar also draw inspiration from spiritual beliefs and rituals, intertwining the physical and metaphysical aspects of health. The holistic approach recognizes the influence of the environment on overall well – being and emphasizes the importance of living in harmony with nature. (Chopra, et al; 1956)

The endangered medicinal plants of Bastar represent a critical intersection between cultural heritage, biodiversity conservation, and sustainable health care practices. These plants once abundantly available, are now facing the risk of extinction due to habitat loss, overharvesting, and changing climatic conditions. (Khan, et al; 1991) The urgency to address the conservation of endangered medicinal plant in Bastar is not just a local concern; it is a global imperative.

II. FOREST OF BASTAR

The Bastar District is abundantly and richly endowed with forest resources. The forest in this district can be divided into four belts, namely the Northern mixed forest, the central Moist Region, comprising of sal belts, the Teak belt zone, and the dry region comprising of mixed forest. (Jain, et al; 1975)

Bastar can be treated as single cultural zone. The way life of these Tribes people are nourished and nurtured in the cradle of nature, the impact of their immediate niche on their life is profound. The major forest type of this district is tropical moist forest characterized by humid monsoon climate. (Bastar rebellion Wikipedia)

Bastar flora consists of enormous range of wild medicinal plant of economic value. Similarly Bailadila hills, Support flora of semi green forests of immense medicinal value. However, the forest of this area is greatly impacted by mining activities. Bastar is also a virgin forest having high potential of medicinal flora. (Bastar district – Wikipedia)

The part of a conventional innate medication man, in the tribal community is much more than of a city doctor. In tribal zones due to the less accessibility of allopathic wellbeing care offices and expensive medications, individuals too go for people practitioner’s treatment which is locally and effectively accessible. The tribes of Bastar locale are known for their one of a kind and particular tribal culture, society treatment and legacy in all over the world

III. METHODOLOGY

Field trips were organized in different tribal villages and forest areas. The informations on medicinal herbal recipies used by the tribal for curing different ailments is gathered through interviews with the tribal medicine men called Baidh and Baiga. Each of the plant material photos and vedios are

collected and documented.

IV. RESULT & DISCUSSION

The interviews given a few curiously data with respect to imperiled ethno restorative plants practice of different tribal and non-tribal individuals of the areas. In the display ponders recorded the information of therapeutic plants is getting to be vanished as there is no composed fabric. These were as it were. Handed over orally from era to era a few restorative plants are vanishing in disturbing rate due to over misuse, gathering, exchange esteem, touching, industrialization and urbanization, street development, clearing of timberland for horticulture, megaprojects, anthropogenic impact. (Sinha, et al; 1998)

Table I: Locations and segments for exploration of medicinal plants in Southern Bastar of Chhattisgarh

S.No.	Name of location studied	Number of segments
1	Dantewara and Bailadila Hilly areas	05
2	Barsur Bijapur and Bhopalpatnam areas	05
3	Chitrakot-Mardoom-Binta areas	04
4	Jagdulpur-Kondagaon forest areas	04
5	Sukma-Konta areas	03

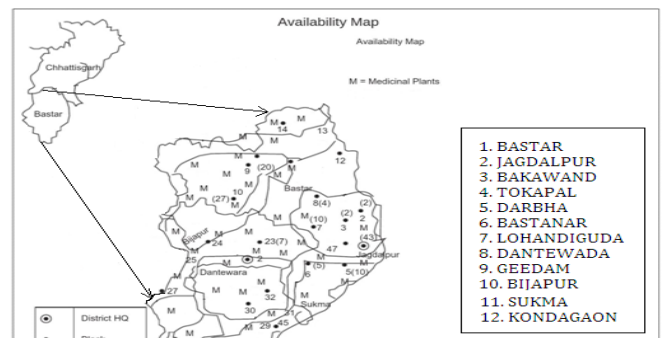


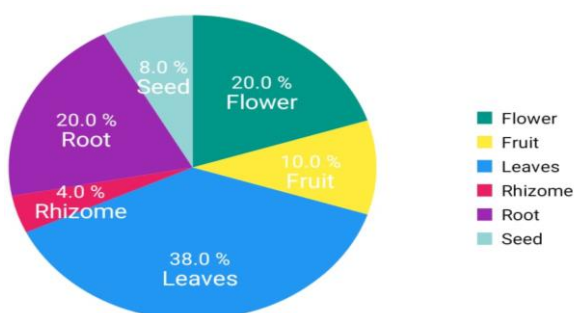
Table 2: Endangered medicinal plants in, Dantewada - Bijapur- Chitrakot – Mardoom – Jagdulpur and Kondagaon forest areas of Bastar (Chhattisgarh)

Sr. No.	Botanical or Scientific name	Local Name	Family	Part used	Habitat	Diseases against which used	Status
01	<i>Acorus calamus</i>	Sweet flag	Acoraceae	Leaves roots Rhizome	Herb	Gastrointestinal, respiratory, metabolic, kidney, and liver disorders	Endangered
02	<i>Kalanchoe pinnata</i>	Patharchatta, mother leaf	Crassulaceae	Leaves	Herb	Diabetes, diuresis, dissolving kidney – stone, wounds	Endangered species
03	<i>Clerodendrum serratum</i>	Bharangi	Lamiaceae	Roots and leaves	Shrub	Root useful in asthma, cough and fever.	Vulnerable
04	<i>Clitoria – ternatea</i>	Butterfly pea (aprajeeta)	Fabaceae	Flowers and leaves	Herb	Memory enhancer, antidepressant, tranquilizing agent	Vulnerable

Sr. No.	Botanical or Scientific name	Local Name	Family	Part used	Habitat	Diseases against which used	Status
05	<i>Curcuma angustifolia</i>	Thikur (arrowroot)	Zingiberaceae	Roots	Herb	Soothe cough, bronchitis antifungal medication	Available rarely
06	<i>Datura – stramonium</i>	Datura thom apple	Solanaceae	Seeds, fruits, flower, leaves	Herb	Treatment of stomach, intestinal pain, fever etc.	Vulnerable
07	<i>Hemidesmus indicus</i>	Ananthamoola	Apocynaceae	Roots	Shrub	Leprosy, impotence, urinary tract and skin infection	Extinct
08	<i>Justicia adhatoda</i>	Malabar nut (Adoosa)	Acanthaceae	Roots, bark, flower, leaves	Shrub	Colds, cough, asthma, tuberculosis	Extinct
09	<i>Lonicera – morrowii</i>	Honey – suckle	Caprifoliaceae	Flowers, seeds berries, leaves	Shrub	Decreases swelling, antiviral effects.	Vulnerable
10	<i>Rauvolfia serpentine</i>	Indian – snake root	Apocynaceae	Roots	Shrub	Treatment for hypertension, insomnia, anxiety	Endangered plant
11	<i>Tinospora cordifolia</i>	Gilloy	Menispermaceae	Roots, leaves	Herbs	Fever, jaundice, cancer, diarrhea	Endangered plant
12	<i>Vitex negundo</i>	Chaste tree (Nirgundi)	Lamiaceae	Leaves, flowers twigs, root and seed	Shrub	Anti – inflammatory, antibacterial, anticancer properties and effective in diabetes	Endangered
13	<i>Gymnema sylvestre</i>	Gudmar	Apocynaceae	Leaves	Shrub	Helps Lower Blood Sugar levels.	Endangerd
14	<i>Curcuma amada</i>	Mango Ginger	Zingiberaceae	Rhizomes	Herb	Appetizer, alexteric, antipyretic, skin diseases, bronchitis, asthma	Endangerd
15	<i>Chlorophytum borivillianum</i>	Musli	Asparagaceae	Leaves, root	Herb	Arthritis, cancer, diabetes, improving sexual performance	Endangerd
16	<i>Phyllanthus niruri</i>	Gale of the wind	Phyllanthaceae	Leaves, stem, roots	Herb	Antibacterial, anti-hyperglycemia, anti – viral	Vulnerable
17	<i>Jatropha curcas</i>	Ratanjot	Euphorbiaceae	Seeds, leaves, fruits	Shrub	Cancer, digestive, respiratory and infectious disease	Vulnerable
18	<i>Gloriosa superba</i>	Flame lily, agnishika	Colchicaceae	Flower, leaves	Shrub	To cure arthritis, gout, inflammation, ulcers, bleeding pile.	Endangerd
19	<i>Euphorbia hirta</i>	Asthma – plant	Euphorbiaceae	Leaves, flower, stems	Herb	To treat female disorders, respiratory ailments (cough, coryza, bronchitis, and ashtma) Jaundice	Extinct
20	<i>Argemone mexicana</i>	Mexican poppy, satyaashi	Papaveraceae	Flowers	Herb	Asthma, curative for bad blood, fading liver, fevers and bad breath	Endangered
21	<i>Chlorophytum laxum</i>	Zebra grass, Bichetii grass, Wheat plant	Asparagaceae	Tuber, stem, leaves	Herb	Treatment of piles and Astringent	Endangered
22	<i>Luffa echinata</i>	Bitter sponge Gourd	Cururbitaceae	Fruit, leaves, flower	Shrub	Used to treat bronchitis, piles, jaundice, and vaginal discharge.	Endangered
23	<i>Phyllanthus emblica</i>	Indian gooseberry	Phyllanthaceae	Fruit	Shrub	To care burning sensation in skin and eyes, faver male reproductive system, improve liver health.	Vulnerable
24	<i>Anacyclus pyrethrum</i>	Akarkara	Asteraceae	Leaves, flower	Herb	Treating toothache, salivary secretion, female infertility, paralysis of tongue	Vulnerable
25	<i>Terminalia chebula</i>	Haritaki	Combretaceae	Fruits, leaves	Shrub	Gargle in oral ulcer, sore throat	Vulnerable

Table III: Plant Part Used for Medicine

S. NO.	Plant Part Used for Medicine	No. of Plant of Species
1.	Seed	04
2.	Rhizome	02
3.	Leaves	19
4.	Root	10
5.	Flower	10
6.	Fruits	05



V. CONCLUSION

Based on by and large perception and discoveries a few of the species like Flute player longam, Rasna Jari, Gloriosa wonderful, Tinospora Cordifolia, Gunj, Sarpagandha etc. are found to be area particular thus they can be moderated beneath in situ in those ranges to keep up their presence and quality. Be that as it may, a few once in a while existing species ought to be moderated beneath both the exsitu as well as in situ condition to support their presence.

Medicinal plants possess a crucial division of wellbeing care framework in Bastar and speak to a major characteristic asset. The over said imperiled restorative plants are utilized by different tribals and nearby individuals to remedy distinctive sicknesses. Subsequently there is an gigantic require for preservation of differing qualities of therapeutic plant riches for display and fore coming eras, by adjusting the reasonable procedure with most suitable strategy of preservation

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