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Study of importante thno medicinal plants in sacredgroves of bhoramdev wildlife sanctuary of kabirdham district

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Abstract: Culturally protected forest patches or sacred groves have been the integral part of many traditional societies. Sacred groves of Kabirdham like in other places, are forests patches conserved by the local community intertwined with their socio-cultural and religious practices. These groves harbour biodiversity and play a significant role in the conservation of biodiversity. The Bhoramdev Wildlife Sanctuary is located at a distance of 16 kms from Kawardha town,it is named after the famous 11th century Bhoramdeo Temple. Its total area is 351.24 sq. kms.There are 14 sacred groves inside the WL sanctuary which are very rich repository for ethno medicinal plants require detailed investigation.

Keywords: Sacred groves, Wildlife sanctuary, Herbal resource, eheno-medicinal resource Biodiversity conservation,

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I. INTRODUCTION

Kabirdham district is located in the central Western region of Chhattisgarh State and endowed with extremely rich biodiversity. The district has about 42 % forest blanket which includes high quality sal, teak and misc. speciesJain &Rao, 1984; Yadav, 2003a). It is adjacent to the world fame Kanha Tiger Reserve which has been declared as the World Heritage Site by UNESCO. Geo -morphologically the tract is a part of Maikal Range of Great Satpura Mountain and has an unique topography and splendid scenic beauty (Yadav, 2003b). The sanctuary is located between latitude E- 0800 53' to 0810 10'and longitude N-210 57'to 220 15'. It is situated about 550-2650 Feet above Mean Sea Level (MSL). The tract is hilly and undulating, with hills belonging to outermost portions of Maikaland ranges of Satpuda. Mahanadi and Narmadarivers constitute the chief drainage system.

Sacred groves are distributed over a wide ecosystem and help in conservation of rare and endemic species(Brandis, 1987; Subramanyam, 2013). This study deals with listing of groves, documentation of traditional beliefs and cultural practices of different indigenous communities associated with sacred groves, their roles in social life status and management of sacred groves their importance in biodiversity conservation and forces threatening existence and suggestions and strategies for conservation of sacred groves etc.

II. METHODOLOGY

To initiate the research project, the important tribal localities, pilgrim places and other biodiversity rich areas of Kabirdhamhas been identified with the help of field survey. Status survey and identification of sacred groves had made during first preliminary survey. The information related to location, climatic condition, physiographic features and importance of the area are collected and inventory of floral and faunal species were also prepared based on seasonal survey (Subramanyam, 2013). To assess the diversity of medicinal plants, seasonal periodical survey has been done in the sacred groves. Status of rare and endangered medicinal plants is prepared and its degree was assessed. UNESCO model were consulted to work out the status of endangered species. IUCN red list category for evaluating the status of medicinal plants was followed as per literature.

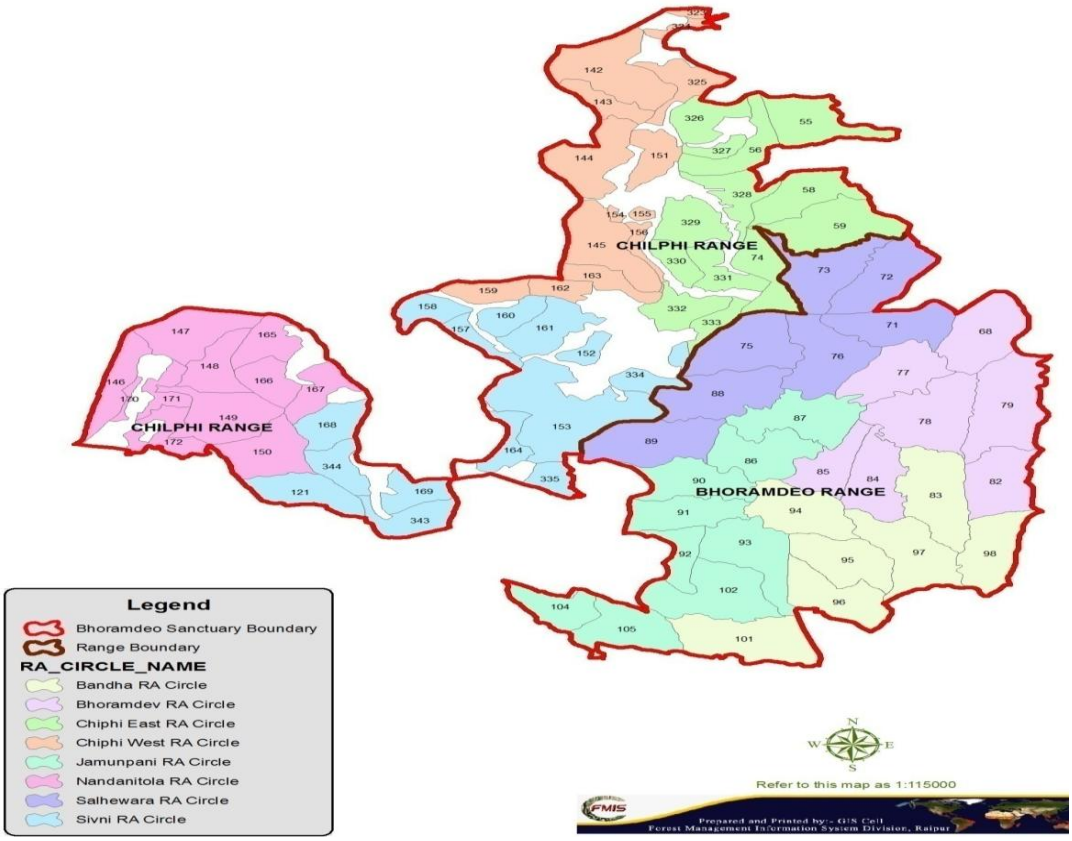

Fig.1. Map displaying range assistant circle in the Bhoramdeo wildlife sanctuary Kawardha, C.G.

Initially important localities and diversity rich areas of wild medicinal plants were identified and demarcated, with the help of field survey. For Ethno-botanical studies the participation and involvement of tribal and local inhabitants were given prime importance. Potential habitats of important medicinal plants were identified. Moreover, potential threats to important habitats having high diversity of medicinal plants were listed and its degree assessed. Various collection and marketing methods of minor forest produce (MFPs) were observed in this area, these were helpful in synthesizing information about current harvesting practices of medicinal plants both in the form of data and photographic record.

III. RESULT

On the basis of filed survey and study an inventory of sacred groves and ethno-medicinal information has been prepared.Total 14 sacred groves are recorded in the study area along with their location, land status, area, deities worshiped, important fauna and flora.These information compiled in **Table No. 1**.

Table No 1: Sacred Groves of Bhoramdev Wild life Sanctuary: At a glance

S. No.	Sacred Grove	Village /place	Area (acre)	Compartment No.	Deity	Flora & Fauna
1.	Bhoram Dev Temple	Chhapri	5.0	Revenue Land	Shiv Ji Hanuman Ji &Chamunda Devi	**Flora:** Bel, Aonla, Neem, Nilgiri, Aam and white Siris Panther, Jakal are very common
2.	Ganesh Ji Temple	Vangram Benda	0.3	RF 144	Ganesh Ji	**Flora:** Sal Patch, Saja, Tendu and Banyan **Fauna:** Tendua, Cheetal, Siyar
3.	Purana Shiv Temple	Vangram Benda	0.6	RF 144	Shiv Ji	**Flora:** Sal Patch ,Saja, Tinsa, Ghari, Kasayi, Tendu and Kurlu, **Fauna:**Tendua, Cheetal, Siyar
4.	Banjari Devi	Palak	.6	-	BanjariMaa	**Flora:** Imli, Kusum, Aam, Mahua, Neem, Mundi, Pipal,

						Dumar, Arjun and Tulsi**Fauna:**Cheetal, Tendua and Monkey etc
5.	Baram Dev	Duldula	0.2	PF 327	Hanuman ji & Shiv Ji	**Flora:** Banyan, Sal, Kurlu and Aam **Fauna:** Cheetal, Monkey andTendua
6.	Baba kiKuti	Mothilup	0.5	RF 74	Hanuman ji & Shiv Ji	**Flora:** Banyan, Sal, Saja, Bija and Aam **Fauna:** Cheetal andTendua
7.	PanchLingeswar Cave	Mothilup	2.4	RF 54	Shiv Ji	**Flora:** Banyan, Sal Patch, Saja, Bija, Aam, Neem **Fauna:**Tendua, Cheetal, Monkey , bear and Siyar
8.	Khairmayee Temple	Chilpi	0.5	RF 145	Khairmayee &ShitalaMayee	**Flora:** Ghari, Kumhi, Saja, Jamun, Amaltas, Neem and Banyan **Fauna:**Tendua, Cheetal, Langur, Siyar and Monkey
9.	LatiyaDabara	MaraDabara	5.0	PF 161	Bada Dev	**Flora:** Kusum, Amaltas, Dumar, Jamun, Saja and Sal **Fauna:**Tendua and Langur
10.	Puran Shiv Temple	BahanaKhodara	0.4	Revenue Land	Shiv Ji	**Flora:** Pakari and Neem **Fauna:**Tendua and Langur
11.	Supa Pani	BahanaKhodara	1.2	PF 332	Devi Maa	**Flora:** Sal Patch, Banyan, Saja, Mahua and Sumar **Fauna:**Cheetal, Tendua and Fox
12.	Kerha-baraha Cave	Sivani	2.0	PF 334	Bada Mahadev (Shiv Ji)	**Flora:** Sal Patch, Saja, Dumar and Tendu **Fauna:** Cheetal, and Kotari
13.	Dev Dongra	Sonwahi	5.0	PF 344	Maa Durga and Buda Dev	**Flora:** Saja, Jamun, Amaltas, Aam, Tinsa, Dumar and Tendu **Fauna:**Chhetal, Tendua and Langur
14	Banjari Mata	Korkat	1.1	PF 150	BanjariMaa	**Flora:** Sal, Tisa, Char, Senha, Tendu, Neem and Dhawda **Fauna:**Tendua, Cheetal, Langur

We have found that sacred groves of Bhoramdev wild life sanctuaries are repository of herbal wealth and local villagers especially Baigatribe have been using many medicinal plants to cure common disease. Scientific and common name of the plant species, family, life form, useful parts and their ethno medical uses are listed in table - 2.

Table No. 2. Diversity and traditional uses of ethnomedicinal plants in Sacred Groves in Bhoramdev

S.N.	Botanical Name	Local Name	Family	Life Form	Part Used	Ethnomedicinal Uses
1	Abromaangusta (L.) L.F.	Ulatkambal	Sterculiaceae	S	Bark and Leaves	Used in urinary infection, kidney disease, diabetes, skin disease and fever
2	Acacia arabica Auct. Non (Lom.) Willd.	Kiker, babur	Mimosaceae	T	Bark, Fruit and Gum	Used to treat diarrhoea and eczema
3	Acacia Catechu (L.F.) Willd.	Kahir	Mimosaceae	T	Bark and Heart Wood	Used to treat chronic diarrhea, dysentery and high blood pressure

S.N.	Botanical Name	Local Name	Family	Life Form	Part Used	Ethnomedicinal Uses
4	Achyaranthes	Chirchita	Amaranthaceae	H	whole plant, leaf	Use in theumatism, snake bites urinary infections.
5	Acorus calamus L.	Buch	Araceae	H	Rhizome	Used to Treat Diarroes, epilepsy, skin diseases, wound, eye diseases and heart diseases
7	Aegle mamelos (L.) Correa.	Bel	Rutaceae	T	Fruits and Seed	Used to treat dysentery and diabetes
8	Albizialebeck (L.)	Kala sirls	Mimosaceae	T	Leaves and Bark	Use in pregnancy, stomachache and ulcer
9	Albiziaprocera (Roxb.) Benth	Safed Sirls	Mimosaceae	T	Gum and Root	Use to Treat snake bit (root), gum use as tonic
10	Albiziaodoratissima (L.F.)Benth	Chichua	Mimosaceae	T	Barak and Gum	Used for snake bit and scorpion sting
12	Amaranthus spinaosus L.	KantailiChaulai	Amaranthaceae	H	Whole Plant	Used as febrifuge, cures sore and eczema.
13	Andrographis paniculata (Burm F), Wallich Ex Nees.	Kalmegh	Acanthaceae	H	Whole Plant, leaf	Use to Cures dysentery, worm infections, used as liver tonic
14	Annaonasquamosa L.	Sitaphal	Annonaceae	S	Seed	Used as lice Killer and hair grower
16	Argemonemexicana L.	Satyanashi	Papavaeaceae	H	Root and Seed	Used to cures leprosy, skin-diseases, inflammations and billious fevers
17	Azadirachta Indica A. Juss	Neem	Meliaceae	T	Leaves, Flower and Seed	Used as antibacterial, antiviral, cures skin infection and cancer
18	Bacopa monnieri (L.) Pennell	Brahmi	Scrophulariaceae	H	Whole plant	Used to improve intellect, treatment of asthma, epilepsy, blood purifier and diarrhea
20	Bombax ceiba L.	Semal, semra	Bombacaceae	T	Bark, Gum, Lower & thorns	Used in sexual weakness, gum used as tonic to suppress pimples
23	BuchananiaLanzon SPR.	Char	Anacardiaceae	T	root, Leaves and Fruit	Used to treat diarrhoea, skin diseases, cough and asthma.
24	Butea monosperma (Lam.) Taub.	Palash	Papilionaceae	T	Root, leaf, flower and pod	Used in jaundice, skin diseases and snake bite
25	Carissa	Karonda	Apocynaceae	S	Fruit and	Used as stringent

S.N.	Botanical Name	Local Name	Family	Life Form	Part Used	Ethnomedicinal Uses
	Carandas L.				Root	and used in snake bite
26	Cassia siamea Lam.	Amaltas	Cadesalpiniaceae	T	fruits and Bark	Used in tumors of the abdomen, stomach, and throat, cancer, diarrhea and skin diseases
28	Ceiba pentandra (L) Gaertn.	Kapoor	Bombacaceae	T	Fruit	Used to treating snake bites
29	Chlorophytumtuberasum (Roxb.) Baker	Safed Musli	Liliaceae	H	Rhizome	Used to removes pimple and change dark colour brightening
31	Cissampelospareir L.	Had Jodi	Menispermaceae	C	Stems and Leaves	Used as bone Joiner
32	CurculigoorchioidesGairtn.	Kalimusli	Hypoxidaceae	H	Rhizome	Used as appetizer and to cures diseases of blood and leucoderma.
33	Curcuma angustifolia Roxb.	Thikhur	Zingiberaceae	H	Bulb	Used as sarbat and confectionary for urinary troubles
34	Curcuma aromaticaSallsb.	Janglihaldi	Zingiberaceae	H	Bulb	Used for purifying of Blood
35	Curcuma longa L.	Haldi	Zingiberaceae	H	Bulb	Used to cure fresh wounds and in T.B.
37	Cynodondactylon (L.) Pers.	Dhoobghas	Poaceae	H	Whole Plant	Used for treating leprosy, fever, dysentery, vomiting and skin diseases
40	Datura metel L.	Datura (Safed)	Solanaceae	H	Root, Leaves and Seeds	Used Leaves and seeds and root used in galenicla and other preparation
44	Diospyros melanoxylonRoxb.	Tendu	Ebenaceae	T	Gum	Used god for Eyes
45	Diospyros melanoxylonRoxb.	Bistendu	Ebenaceae	T	Fruits	Used in skin diseases
46	Eclipta alba (l.) Hassk.	Bhrigraj	Asteraceae	H	Whole Plant	Used in hair treatment, skin diseases, eye infection, hyper acidity and anemia
47 -	Costusspeciosus [Koen Simth]	Keo Kanda	Costaceace	H	Rhizome	used in steroidal drugs
48	Eucalyptus globulus Labill	Nilgiri	myrtaceae	T	Leaves and Gum	Used in catarrhal states and broncho pulmonary mucous membrane
49	Euphorbia hirta L.	Dudhi	Euphorbiaceae	H	Latex, whole Plant	Used in Dysentery, cough, asthma and

S.N.	Botanical Name	Local Name	Family	Life Form	Part Used	Ethnomedicinal Uses
						worm infections.
50	Ficusbenghalensis	Bar	Moraceae	T	Fruit, latex and Leaves	Used to treat rheumatism, strength and diarrhea
51	Ficusinfectoria	Pakkari	Moraceae	T	Latex and Bark	Used to kill worm, to cure asthma and snake bite
52	Ficusreligiosa	Peepal	Moraceae	T	Stem, root, bark & Leaves	Used to treat cough, ulcers, gargling and sore mouth.
53	Ficusracemosa	Dumar	Moraceae	T	Fruit	Used fruit powder is give piles
54	Gardenia latifolia	Papra	Rbviaceae	T	Seed	Used one seed is given with leaf of piper for regular menstruation.
56	Grewiatiliaefolia	Dhaman	Tiliaceae	T	Root & Bark	Used to cure swelling.
57	Haldinacordifolia	Haldu	Robiaceae	T	Stem & Bark	Used as antiseptic and cure heals wounds.
58	Hibiscus lampas	Bankapas	Malvaceae	S	Root	Used as digestive.
59	Hibiscus populneus	Baranga	Malvaceae	T	Whole plant	Used in menorrhagia, genito-urinary tract, fever and cough.
61	Madhucaindica	Mahua	Sapotaceae	T	Flowers, Bark & Fruit	Used to treat intrinsic haemorrhag, fracture, eye disease, vomiting ear diseases.
63	Melia azedarach	Bakain	Meliaaceae	T	Leaves	Used in Anemia, eczema and measles, jaundice & bloody piles.
64	Mitragynaparvifollia	Mundi	Rubiaceae	T	Root, Bark & leaves.	Used to cure fever, malaria, diarrhea, cough & muscular pain.
65	Morus alba	Shahtoot	Moraceae	S	Leaves, Fruits & Roots	Used to lowering blood pressure, eye infection, jaundice & nose bleeding.
67	Musa paradisiaca	Kela	Musaceae	H	Leaves, Fruits & Roots	Used to diarrhea, cough, bronchitis, asthma, burns, diabetis, dysentery, headache & ulcers.
69	Nyctanthes arbor-Tristis	Parijaat	Oleaceae	T	Leaves	Used to cure sciatica, stomachache and fever.
70	Ocimuncanum Sins	Bantulsi	Labiatae	S	Leaves & Roots	Used in skin diseases.

S.N.	Botanical Name	Local Name	Family	Life Form	Part Used	Ethnomedicinal Uses
71	Ocimun sanctum	Kala Tulsi	Labiatae	S	Leaves, Seeds & Roots	Used to treat common cold, asthma, bronchitis and fever.
72	Pandanus odoratissimus	Keora	Pandanaceae	S	Flower & Roots	Used in perfumes, boutiques, lotions, cosmetics, soap & hair oils
74	Phoenix acaulis Buch	Chhind	Arecaceae	P	Fruit, Seed & Root	Used to cure sore throat, relieve fever, diarrhea & tooth ache.
75	Phillenthusemblica	Aonla	Euphorbiaceae	T	Bark & Fruit	Used to cure piles, anemia and inflammation.
76	Pithecellobium dulce	Jungle Jalebi	Mimosaceae	T	Bark, leave & fruits	Used to cure leprosy, tooth ache, dysentery, febrifuge & eye inflammation.
77	Psidium guajava	Amrud	Myrtaceae	T	Fruit & leaves	Uses raw fruit for asthma, leaves, gargling leaves for tonsilities.
78	Pterocarpus marsupium Roxb.	Bija	Papilionaceae	T	Sap and Wood	Used in diarrhea, toothache and diabetes.
80	Rauvolfiaserpentina (L.) Benth. ex. Kurz.	Sarpgandha	Apocynaceae	S	Root	Used to treat hypertension, insomnia and nervous disorders
81	Ricinus communis L.	Arandi	Euphotbiaceae	S	Seed and Root	Used to cure skin disease, epilepsy and dandruff.
82	Rumexversicarius L.	Amalbet	Polygonaceae	H	Leaves sap	Used for toothache
84	Schleicheraoleosa (Lour.) Oken	Kusum	Sapindaceae	T	Fruit and oil	Used as tonic and oil as skin remedy (Itch)
85	Securinegavirosa (Roxb. ex Wild.) Baill.	Ghari	Euphorbiaceae	T	Roots, leaves and wood	Used to cleaning wounds, destroy worms in sores and mental illness.
86	SemecarpusanacardiumL.f.	Bhilawa	Anacardiaceae	T	Fruit, Oil and Seed	Used to treat skin diseases piles and also used after purification for cancer.
87	Shorearobusta Roxb. ex Gaertn.	Sarai	Dipterocarpaceae	T	Resins, Gum, Bark & Seed	Used to cure diarrhea dysentery, skin diseases, dar troubles, epilepsy and dental problems.
88	Solonum nigrum L.	Bhatkatayi	Solanaceae	H	Whole plant	Used in liver disorder skin disease, dysentery

S.N.	Botanical Name	Local Name	Family	Life Form	Part Used	Ethnomedicinal Uses
						and piles.
89	Sphaeranthus indicus L.	Gorakmundi	Asteraceae	H	Whole plant	Used in fever, diabetes, urinary ailments and blood purifier.
90	Sterculiaurens Roxb.	Kulu	Sterculiaceae	T	Gum	Used for amaebic dysentery with curd.
91	Syzygiumcumini (L.) Skeels	Jamun	Myrtaceae	T	Fruit, Bark and Seed	Used in diabetes and leucorrhoea.
92	Tamarindusindica L.	Imli	Caecalpinaceae	T	Fruit, Seed, Leaves and Bark	Used as digestive, laxative and blood tonic to relieve diarrhea, dysentery, sores, ulcers and boils.
94	Terminalia arjuna (Robx. es DC.) Wight	Kahua, Arjun	combretaceae	T	Bark and Seed	Used in heart disease, skin diseases, fracture, wood and piles.
95	Terminalia bellericaRoxb.	Baheda	Combretaceae	T	Fruits and Seed	Used in digestion and leucorritoea.
96	Terminalia chebula Retz.	Harad, Harra	Combretaceae	T	Fruit	Used in snake bite, fever, ache, abortion (checking) and digestive troubles.
97	Terminalia tomentosa (Roxb. ex DC.) Wight and Arn.	Saja	Combretaceae	T	Bark	Used as Decoction to retain urine, gonorrhoea, leucorrhoea, diarrhoea and dysentery.
98	Tinosporacardifolia (Wild) Hook F. and Thoms	Gilov	Menispermaceae	C	Stem, Root and Leaves	Used to treat skin diseases, cough as rejuveniative for purifying breast-milk and eye diseases.

The analysis of data reveals that the tribes for any specific ailment used many species and sometimes one species were used for one or more than one ailment depending upon the availability of the particular species in the locality. Sacred groves are very rich for herbal treatments asabortifacient, antidote to snake bite,antipyretic,antiseptic, aphrodisiac, to cure asthma, brain tonic,carminative, cathartic, cough and cold,demulcent, diabetes, diarrhaea and dysentery, diuretic, febrifuge,scabies,jaundice, kidney stones, as laxative, to cure malnutrition rheumatism, throat infections, ulcer, venereal disease worm problems etc. (Gadgil&Vartak, 1981; Champion&Seth, 1986).

Inventory of endemic, rare and threatened medicinal plants have been prepared on the bases of seasonal survey and available field information. IUCN red list category and threat assessment methods for evaluating the status of the medicinal plants have been followed as per threat area. Data revealed that no endemic medicinal plant species were identified from the sacred groves. 21 vulnerable species, 5 endangered species, 2 near threatened species was analyzed from the collected data.

IV. CONCLUSION

In the sacred groves of study area, it is seen that the plant community is almost stable and it is not changing since many decades and the tall, mature trees with its natural associates are present in harmony with

the surrounding environment. The total environmental factors of the area where they exist have not much changed much, owing to the least human interference and biotic pressure on the groves.

On the basis of this study it is clear that the Bhoramdev wildlife sanctuary harbors very rich diversity of medicinal plants along with other fauna and flora. Groves also preserve good genotypes which may be useful at a later date. All the sacred groves in the sanctuary should be protected in their natural environ without concretization.Forest department should protect and promote the traditional knowledge specially the Baiga System of local health traditions.

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