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**Ethno botanical observations from Sitanadi Wild life
sanctuary Dhamtari, Chattisgarh, India**

Sohan Lal¹ and Maheshwar Singh Sahu²

1, Department of Botany, Govt.G.S.G.P.G. College, Balod, (CG) - India

2, Department of Botany, Govt. College Saron North Baster, Kanker, (CG) - India

Abstract

Tribal belt of Dhamtari Chhattisgarh is dominant with medicinal plants by large numbers of tribal, rural and urban people. Several tribal communities like Kamar, Gond and Baigas inhabit in the area Ethno botanical surveys had been carried out in forest patches of Sita nadi Wild life sanctuary, Dhamtari district Chhattisgarh from 2014-2015. The paper reports were documented of ethno botanical uses of 64 plant species are described in which different parts of plants are used for different purposes for traditional medicine by people etc. 30 Herb, 20 Trees, 12 Shrub, 02 climbers are reported. Family wise distribution of medicinal plants shows Fabaceae is most dominant families with 5 species each and Apocynaceae was co- dominant family with 4 species. The drugs were found to be extracted from whole plant, root, rhizome, leaves, flower and seed of the plant. 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 framework to aware the people how to use plants to solve different type of problem.

Key words: Ethno botany, Tribal, Traditional knowledge, Wild life sanctuary, Dhamtari

Introduction

Our country is commonly called the Botanical Garden of the world, owing to her wealth of herbal medicines. India with its great topographic and climatic diversity has a very rich and diverse flora and fauna. The uses of plants as medicines have been practiced from an ancient time. From around 1500 B.C. Rig Veda is one of the important earliest available documents which emphasizes about herbal medicinal knowledge. Later on Indian herbalists such as Maharshi Charaka and Sushruta worked in search of different herbal plant parts for different ailments of human body. Later on, it is reported that traditional healers use near about 2500 plant species and 100 species of plants serve as regular sources of medicine (Pei S. J. 2001).

The central India forms one of the major ecosystems of the India subcontinent and constitutes a large tract of tropical dry deciduous and tropical moist deciduous forest types. The total area of Dhamtari district is 2029 km² and 305 meters above the sea level. Sita nadi Wild life sanctuary is very Rich of forest in C.G. herb medicine widely used the home of tribal and dwellers. Located in Dhamtari district, Sita nadi Wildlife sanctuary was established in 1974 under Wildlife Protection Act of 1972. Chhattisgarh Dhamtari district Sita nadi Wild life sanctuary between latitude 20.4554292 North longitudes 81.9752995 North.

The sanctuary covers an area of 556 sq km, comprising highly undulating hills with altitudes ranging between 327 m to 736 m. The beautiful sanctuary derives its name from the Sita Nadi River that originates in the middle of the sanctuary and joins the Mahanadi near Deok hut. Ethnobotanical survey were conducted in the forest revenue village Ratava, Amjhar, khallari, karhi, Aamgav, Kunderi, Nagri, shihva ariah Dhamtari Dist Sita nadi Wild life sanctuary. The plant samples were identified with the help of local people, Veidraj and published literatures. Some photographs were also taken during the field survey of plant. Personal interviews were taken with knowledgeable persons and village medicine man. The area of survey of identified belong to Gond, Dev, Halba, Kumar in Nagri, shihva Tahsil in Sita nadi Wild life sanctuary. Medicinal plants play an important role in supporting health care system in India. According to WHO estimate, 80% of population in developing countries relies on traditional medicinal (Bhandary and Chandrasekhar 2002). In India with more than 75% of population residing in rural areas (Anonymous 1991). Chhattisgarh is rich in forest resource about 44% of total area of the state is under forest cover. The Herbal state of Chhattisgarh is situated in Deccan bio-geographical area, houses an important part of the rich and unique diversity. The men are using in various ways, since his existence of his life on earth. They use it in many ways including,

*** Corresponding Author**

Email: sohangurupanch2753@gmail.com

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worshipping gods and goddess for the protection and better man of human life (Dixit 1997; Gahte 1998; Pandey 1989; Sinha, 1979).

The tribal tracts are store house of information and knowledge on the multiple uses of plants. The common tribal communities of area are Baiga, Gond, Bharia, Bhils, and Oraon. They are partially or completely dependent on forest product for their survival (Chopra et al., 1969, Jain, 1989). The local people and researchers face the challenging task of not only recording knowledge of plants but also applying the result of their studies to biodiversity conservation and community development (Malik et al, 1990). Among the angiosperm plants, 420,000 flowering plants were reported from the world (Govaerts, 2001) and many tropical species are not yet named.

Material and Methods

In present study the identification of plants, documentation, Ethno-medico observation and photography of plant species was done in study areas of present was done during 2014-2015. The information was collected tehsil of Nagri (Sita nadi Wild life sanctuary). The information was gathered through questionnaire methods and discussion with tribal, local healers. The herbarium sheets were prepared and identification was done following the standard literature. Ethno botanical knowledge will be documented from various part of Indians subcontinent. Ethno-botanical information collected and taxonomic studies presented here will be gathered with help of tribal people, vaidyas and ethnic people of the area. Information on medicinal Plants, local name, plant parts used and mode of collected during the surveys were identified with the help of published regional flora (Gamble, 1935: Matthew, 1983). All habitats of the study area surveyed carefully. Ethno medicinal data were collected by the suggested methodology. The identification of plant was done with the help of standard published literature viz. 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 framework to aware the people how to use plants to solve different type of problem. Review literature will be helpful in identification of plant species belong to herbs, shrubs, tree and climbers (Shukla et al., Tiwari et al., Saxena 1970; Chopra et al; 1995).

Results and Discussion

The paper reports were documented of ethno botanical uses of 64 plant species are described in which different parts of plants are used for different purposes for traditional medicine by people etc. 30 Herb, 20

Trees, 12 Shrub, 02 climbers are reported. For each species botanical name, family, local name, parts used, methods of preparation, administration and ailments treated are provided. Traditional healers are using these plants to cure many diseases like stomachache, headache, diarrhea, fertility problems, skin problems, cold, fever, cough, toothache, jaundice, wounds, diabetes, asthma, tuberculosis, bone fractures, urinary problems, and piles and poison (snake and scorpion) bites. Family wise distribution of medicinal plants shows Fabaceae is most dominant families with 5 species each and Apocynaceae was co- dominant family with 4 species, Liliaceae, Rubiaceae, Rutaceae and Solanaceae (03 species each), while *Caesalpinaceae*, Euphorbiaceae, Asclepiadaceae, Anacardiaceae, Lythraceae Meliaceae Zingiberaceae, (2 species each), and Labiatae, Hypoxidaceae, Ebenaceae, Dioscoraceae, Dipterocarpaceae, Lamiaceae, Menispermaceae, Mimosaceae, Cyperaceae Cucurbitaceae, Acanthaceae, Combretaceae ,Bombacaceae , Myrtaceae, Piperaceae, Poaceae Ranunculaceae ,Salicaceae, Vitaceae ,Verbanaceae, Sterculiaceae ,Sapotaceae, Bixaceae, Asparagaceae, Araceae (1 species each). The first-hand information on the medicinal plants used by the villagers was arranged alphabetically by genus and species name following as.



Fig. 1: showing map of Sitanadi wildlife sanctuary Dhamtari CG

Observation -The identified and collected plant their local names, in different tribal and local samples were arranged and documented according to languages.

Table 1: Showing Ethno Botanical Herbaceous plant in Sita nadi Wild life sanctuary, Dhamtari C.G

| S/N | Botanical name | Local name | Family | Habit | Part of use | Medicinal use |
|-----|---|-------------------------------|---------------|-------|-------------|---|
| 1 | <i>Acacia nilotica (L.) Willd.</i> | Babul | Mimosaceae | T | Root | The roots are used against cancers or tumors (of ear, eye, or testicles), tuberculosis and indurations of liver and spleen. |
| 2 | <i>Aconitum ferox wall.ex Ser.</i> | Nagbhasm | Ranunculaceae | H | Leaves | Powder use in cancer. |
| 3 | <i>Adina cord folia Roxb.</i> | Haldu | Rubiaceae | H | Bark | Stem bark used on fever. |
| 4 | <i>Aegle marmelos Linn</i> | Bel | Rutaceae | T | Fruit | Dried powder of Unripe pulp of used to cure diarrhea. |
| 5 | <i>Aloe vera Linn.</i> | Ghritkumari | Liliaceae | H | Whole plant | Prevents kidney stones and protects the body from oxalates in coffee and tea. |
| 6 | <i>Andrographis paniculata (Burm.f.) Wall</i> | Kalmegha, kirayat Bhoyleem | Acanthaceae | H | Whole plant | Leaf used in Malaria disease. |
| 7 | <i>Asparagus recemosus Willd.</i> | Satwari | Asparagaceae | H | Root | Root powder is also useful stomach and ulcer treatment. Juice use in cough, piles, fevers. |
| 08 | <i>Azadirachta indica Linn</i> | Neem | Meliaceae | T | Whole plant | Blood morbidity, biliary afflictions, itching, skin ulcer, burning sensation and leprosy. Analgesic, alternative and curative of fever. |
| 09 | <i>Bauhinia purpurea Linn.</i> | Kaniar | Fabaceae | T | Root & Bark | Root bark is mixed with curd and used hemorrhoids. Its pest with dried ginger applied internally in the treatment of goiter. |
| 10 | <i>Bixa orellana Linn.</i> | Sinduri | Bixaceae | S | Leaves | Leaves used in baths to relive colic or to get rid of worms in children. |
| 11 | <i>Blepharis perum Wight (DC)</i> | Rasnajadi | Sterculiaceae | H | Leaves | Leaf pest is used wound. |
| 12 | <i>Bombax ceiba Linn.</i> | Semal | Bombacaceae | T | Root | Used for surgical dressing in the case of wounds and to increase sexual vigor |
| 13 | <i>Buchnanian lanzan (Spreng) Roxb.</i> | Char | Anacardiaceae | T | Stem | Wound, skin disorders, healing of burn injury and antifungal, anti-viral, antibacterial in oil used. |

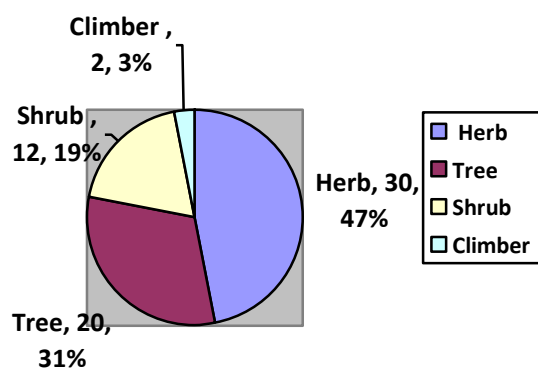
| | | | | | | |
|----|---|----------------------------|-----------------------|---|--------------|---|
| 14 | <i>Butea monosperma</i> (Lam.) Taub. | Palas | Fabaceae | T | Stem | Anti-inflammatory Scorpion String |
| 15 | <i>Caesalpinia bonduc</i> (L) Roxb. | Gotarun | <i>Caesalpinaceae</i> | S | Stem | Seed is used in snake bite place. Seeds yield fatty oil used as a cosmetic and for discharges from the ear. |
| 16 | <i>Caesalpinia pulcherrima</i> Linn. | <i>Guletura</i> | Fabaceae | S | Root | The root is given for cholera |
| 17 | <i>Carissa spinarum</i> Linn. | Karunda | Apocynaceae | S | Fruit & Root | Rheumatic pain, fever and wound healing. |
| 18 | <i>Cassia occidentalis</i> Linn. | Kasundi & Kasundi | Caesalpinaceae | T | Root | Root used in snake bite. |
| 19 | <i>Cassia tora</i> Linn. | Charota | Fabaceae | H | Fruit | Fruits used in treatment of fever. |
| 20 | <i>Centratherum anthemicum</i> (Linn.) | Vanjira | Asteraceae | H | Whole Plant | Plant used for fever treatment. |
| 21 | <i>Chlorophytum tuberosum</i> (Roxb.) Baker | Safed musli, Dongari bhaji | Liliaceae | H | Whole Plant | Juice use of Stomach problem, |
| 22 | <i>Choroxylon swietenia</i> D.C. | Bhira | Meliaceae | T | Bark | Dried bark smoke is inhaled against cough and cold. |
| 23 | <i>Cissus quadrangularis</i> Linn | Hadjod Popadi | <i>Vitaceae</i> | H | Whole Plant | Joint is used in leaf pest in bones. Plant pacifies vitiated kapha, |
| 24 | <i>Citrus aurantifolium</i> Linn. | Van nimbu | Rutaceae | T | Root & Fruit | Insect bite, malaria, eye disorders in used. |
| 25 | <i>Cocculus vilosa</i> D. C. | Patal Kumdha | Menispermaceae | H | Root | Rhizome used Blood Quantities high. |
| 26 | <i>Cryptolepis buchanani</i> Roem & Schult... | Nagbel | Asclepiadaceae | C | Stem | One to two inches long fresh stem pieces stitched in a thin leathery thread are tied around the neck for patient up to 18-21 days to cure jaundice. |
| 27 | <i>Cucurbita mexicana</i> Dammann. | Lal kaddu | Cucurbitaceae | C | Stem | Seed used in sex problem in male in active of sperm. |
| 28 | <i>Curculigo orchioides</i> (Gaentn). | Kali musli | Hypoxidaceae | H | Whole Plant | Cough, Asthma, Powder is good sex problem use. |
| 29 | <i>Curcuma aromatic</i> Linn. | Ban haldi | Zingiberaceae | H | Root | Stomach problem, blood purification, Jaggery is mix in Vanhaldi is taken is death of Zoo in hair. |
| 30 | <i>Cynoglossum lanceolatum</i> forsk. | Kamraj | Boraginaceae | H | Root | Root juice used in treatment of fever. |
| 31 | <i>Dioscorea alata</i> Linn. | Dang kanda & Chupriala | Dioscoraceae | H | Fruit | Filarial and powder is 21 day for taken in eng-(haidrocyl) disease. |
| 32 | <i>Diospyros melanoxylon</i> Roxb. | Tendu | Ebenaceae | T | Bark | The bark is astringent; its decoction is used in diarrhoea. Fruit used in blood purifier. |
| 33 | <i>Eclipta prostrate</i> Linn. | Bhring raj | Asteraceae | H | Leaves | Leaf pest and red Chandan mix |

| | | | | | | |
|----|--|---------------------------|------------------|---|-------------|---|
| | | | | | | take in Typhoid treatment. |
| 34 | <i>Emblica officinalis</i> Gaertn. | Amla | Euphorbiaceae | T | Fruit | Apply ash of Amla fruit with Coconut oil in treatment of Leprosy Skin disease. Dyslipidaemia Oxidative stress, Mouth ulcers, Fevers, Diabetes |
| 35 | <i>Flacourtia indica</i> (Burm.F.) merr. | Kakai, Bilangra | Salicaceae | S | Leaves | Juice of fresh leaves and tender stalk used for fever. It can be fermented to make wine. |
| 36 | <i>Gymnema sylvestre</i> Roxb Br. | Gumar | Asclepidaceae | T | Leaves | Leaf used in diabetes. |
| 37 | <i>Haldina cord folia</i> Roxb. | Kadam | Rubiaceae | T | Bark | Stem bark used in a tonic refrigerant, vulnery and ulcer. |
| 38 | <i>Hemidesmus indicus</i> Linn. | Anant mool | Apocynaceae | S | Root | Skin diseses gout, syphilis and non-healing wound, soft skin. |
| 39 | <i>Hordium vulgare</i> Linn. | Jow | Poaceae | H | Grain | Apply floor of barley with linseed oil & butter milk. |
| 40 | <i>Ixora parviflora</i> Vahl. | Lokhandi | Rubiaceae | T | Bark | Bark is used as decoction for the ailment of anemia fever. |
| 41 | <i>Jatropha podayrica</i> Hook. | Jangli Arandi | Euphorbiaceae | S | Stem | Oil used skin disease and fever. |
| 42 | <i>Lantana camara</i> Linn. | Machhimudhi | Verbanaceae | S | Leaves | Leaves juice used for malaria, Chicken fox, Fever, cancer and high blood pressure control. |
| 43 | <i>Lawsonia inermis</i> Linn | Mehndi | Lythraceae | S | Leaves | Leaves used of nix material hair abruption control & black color in hair. |
| 44 | <i>Madhuca latifolia</i> Gmel. | Mahuva | Sapotaceae | T | Bark | Pest use in bone joint in body. |
| 45 | <i>Mariscus sumatrensis</i> (Retz Raynal) | Jangli motha | Cyperaceae | H | Stem,& Bark | Stem used in wound. |
| 46 | <i>Mentha longifolia</i> Linn. | Pudina Mantes | Lamiaceae | H | Whole Plant | Leaf used in digestive problems, |
| 47 | <i>Ocimum sanctum</i> Linn. | Tulsi | Labiatae | H | Stem | Powder taken in snak beat. |
| 48 | <i>Piper nigrum</i> Linn. | Kali mirch | Piperaceae | S | Stem | Cold cough, juice and honey mix in use in piliya disease. |
| 49 | <i>Pueraria tuberosa</i> (Willd.) DC. | Patal kumhda& Vidarikanda | Fabaceae | H | Whole Plant | The plant fruit used in tonic for strength, diuretic and galsctogogue. |
| 50 | <i>Rauwolfia serpentina</i> (Linn.) Benth. ex Kurz | Sarpgandha | Apocynaceae | H | Leaves | Leaf juice take of blood pressure control. |
| 51 | <i>Remusatia vivipara</i> (Roxb) Schoot. | Laxman kand | Araceae | H | Tuber | Tube used of treatment of cancer. |
| 52 | <i>Semecarpus anacardium</i> Linn | Bhilawa | Anacardiaceae | T | Fruit | Nut used in human breast cancer cell treatment. |
| 53 | <i>Shorea robusta</i> A.W.Roth. | Sal & Sarai | Dipterocarpaceae | T | Fruit | Fruits are used for dysentery and scorpion sting. |
| 54 | <i>Smilax macrophylla</i> Roxb. | Ramdatoon | Liliaceae | S | Root | The root juice is used in dysentery. |

| | | | | | | |
|----|--------------------------------------|--------------------|---------------|---|---------------|---|
| 55 | <i>Solanum melongena</i> Linn. | Brinjal | Solanaceae | H | Whole Plant | Brinjal fruit, Coriander, jira, Ashwagandh mix powder use Ulcer problem and Stomach gases problem |
| 56 | <i>Solanum xanthocarpum</i> Linn. | Bhejari, Bhaskatia | Solanaceae | H | Whole Plant | Fruit juice used in sore throats and rheumatism. |
| 57 | <i>Syzygium cumini</i> Linn. | Jamun | Myrtaceae | T | Leaf & Bark | Fruit used stomach problems, swelling, tonic, |
| 58 | <i>Taivetia neerifolia</i> Linn | Kaner | Apocynaceae | S | Seed | The oil from kaner oil used treat skin complaints. |
| 59 | <i>Terminalia chebula</i> Retz. | Harra | Combretaceae | T | Fruit | Anticancer, wound healing, Cold Cough use of fruit powder. |
| 60 | <i>Tridax procumbens</i> Linn. | Ghamra | Asteraceae | H | Leaves | Leaves pest used for wound healing. |
| 61 | <i>Withania somnifera</i> Linn. | Ashwagandh | Solanaceae | H | Leaves | Tuberculosis, Fever, and Rheumatic pain |
| 62 | <i>Woodfordia floribunda</i> Salist. | Dhawai | Lythraceae | H | Leaves | Juices of leaves are used in fever and Bilious sickness. |
| 63 | <i>Zanthoxylum alatum</i> DC. | Van Dhania | Rutaceae | H | Fruit & Stem, | The fruit and seed are employed as an aromatic tonic in fiver and dyspepsia. |
| 64 | <i>Zingiber zerumbet</i> Linn. | Van Adrak | Zingiberaceae | H | Root | Rhizome used in cold fever. |

Table 2: Distribution of plant as per their habit and presents with image

| S.N. | Habit | Number of species |
|------|---------|-------------------|
| 1 | Herb | 30 |
| 2 | Tree | 20 |
| 3 | Shrub | 12 |
| 4 | Climber | 02 |
| | Total | 64 |



PLANT PARTS USED

Whole plant (12), leaf (12), seed (9), fruit (10), Root (12), Stem part (10), Bark (08), Tuber (1) and Grain (1)

Table 3 showing the Distribution of plant as per their Species

| S\N | Family Name | Number of species |
|-----|------------------------|-------------------|
| 1 | Acanthaceae | 1 |
| 2 | Anacardiaceae | 2 |
| 3 | Apocynaceae | 4 |
| 4 | Araceae | 1 |
| 5 | Asclepiadaceae | 2 |
| 6 | Asparagaceae | 1 |
| 7 | Asteraceae | 3 |
| 8 | Bixaceae | 1 |
| 9 | Bombacaceae | 1 |
| 10 | Boraginaceae | 1 |
| 11 | <i>Caesalpiniaceae</i> | 2 |
| 12 | Combretaceae | 1 |
| 13 | Cucurbitaceae | 1 |
| 14 | Cyperaceae | 1 |
| 15 | Dioscoraceae | 1 |
| 16 | Dipterocarpaceae | 1 |
| 17 | Ebenaceae | 1 |
| 18 | Euphorbiaceae | 2 |
| 19 | Fabaceae | 5 |
| 20 | Hypoxidaceae | 1 |
| 21 | Labiatae | 1 |
| 22 | Lamiaceae | 1 |
| 23 | Liliaceae | 3 |
| 24 | Lythraceae | 2 |
| 25 | Meliaceae | 2 |
| 26 | Menispermaceae | 1 |
| 27 | Mimosaceae | 1 |
| 28 | Myrtaceae | 1 |
| 29 | Piperaceae | 1 |
| 30 | Poaceae | 1 |
| 31 | Ranunculaceae | 1 |
| 32 | Rubiaceae | 3 |
| 33 | Rutaceae | 3 |
| 34 | Salicaceae | 1 |
| 35 | Sapotaceae | 1 |
| 36 | Solanaceae | 3 |
| 37 | Sterculiaceae | 1 |
| 38 | Verbanaceae | 1 |
| 39 | <i>Vitaceae</i> | 1 |
| 40 | Zingiberaceae | 2 |

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Some photo graphs of study area & plant



Butea monosperma (Lam.) Taub.



Terminalia chebula Retz.



Mentha longifolia Linn.



Bixa orallena Linn.



Thevetia nerifolia Linn



Buchnanian lanzan (Spreng) Roxb



Bombax ceiba Linn



Madhuca latifolia Gmel.



Lantana camara Linn.



Rauwolfia serpentina L



Cissus quadrangularis L



Hemidesmus indicus Linn.



Gymnema sylvestre (Retz.) R. Br



Interview with local people

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