

# Ethno-medicinal Usage of Plants in a Tribal Village of Jharkhand

Manoj Raul<sup>1</sup> and Dipankar Chatterjee<sup>2</sup>

<sup>1</sup> Ph.D. Scholar, Division of Rural and Tribal Development, Ranchi Campus, RKMVERI Deemed University, Jharkhand, India

<sup>2</sup> Asst. Professor, Division of Rural and Tribal Development, Ranchi Campus, RKMVERI Deemed University, Jharkhand, India, Email – dipcha123@gmail.com

## ABSTRACT

Since prehistoric times, humankind utilizes natural resources as food, medicine, timber, and fuel as well as for religious activities; the first two uses are notable because they foster individual survival. The deteriorating ecological situation, persistent poverty, social, political and religious tensions and the reduction of biological and cultural diversity present a polycrisis for which new answers are urgently needed. It is in this context the relevance of Indigenous knowledge has entered in the mainstream of sustainable development. The present article is an endeavor to document the ethno-medicinal usage of different plants available in the local area by the tribal community. The article highlights the medicinal properties of different plant parts and their uses for treating different ailments. The findings will help us gauge the potential of local resource to address medicinal needs of the community and inform us on ways of improving their access with the view to address sustainable livelihood.

Keyword: - Ethno-medicine, Tribal community, Jharkhand.

## 1. INTRODUCTION

The relationship between man and plants is extremely important because plants affect every aspect of man's existence by providing a continuous and infinite source of varying materials such as food, timber, dyes, tools, and many others. In recent years, work on ethnobotanical knowledge worldwide has increased especially in some parts of Asia and Africa [1,2]. India, a country with a rich culture and traditional knowledge, had contributed a major share of the world's ethnobotanical work [3]. Traditional knowledge, understood as the unique local knowledge existing within and developed around the specific conditions of people indigenous to a particular geographical area, is gaining more and more attention. In India, where the tribes and their tracts constitute very significant parts of the underdeveloped people and area, comprising about 8.13% and 18.70% of the population and area of the country, respectively, the traditional knowledge system plays a pivotal role in their very survival [4]. Ethnobotanical knowledge of medicinal plants has been among tribal communities from ancient times [5]. Being a part of NTFP, it serves the purpose of both sustainability and economic income [6, 7] Among the various plant species, some are in serious threat and needed to be documented [8]. The indigenous people has own system of plant classification or taxonomy, concept of disease as well as own medicinal system or healing practices [9, 10, 11].

## 2. STUDY AREA

The study was carried out in a tribal village named *Benti* under Ranchi district of Jharkhand. The State of Jharkhand, the twenty-eighth State of Indian Union, was carved out of Bihar on November 15, 2000 – the birth anniversary of the legendry Bhagwan Birsa Munda, by virtue of promulgation of Bihar Reorganization Act. It is bound by the State of Bihar on the North, West Bengal on the East, Orissa on the South and Chattisgarh on the West. Jharkhand largely comprises of the forest tracts of Chotanagpur plateau and Santhal Pargana and has a distinct cultural tradition. Agro-

climatic zone of the State is mostly landscape plateau, undulating, hilly and sloping with mountains, forests, river basins and valleys. The State has 24 districts, which have been grouped into three agro-climatic regions, viz. Central and North Eastern Plateau Zone, Western Plateau Zone and South Eastern Plateau Zone. The population of Jharkhand according to the 2011 census stands at about 32 million, making it 13th most populated state in India and 40.35% families in the state live under the below poverty line. Of the total population of the state, around 75.95 percent live in the villages. The state constitutes 26.2% of scheduled tribe population with 32 scheduled tribe (ST) groups. Among the states of India, Jharkhand holds 6th and 10th position in terms of scheduled tribe population and the percentage share of ST population to the total population of the state, respectively. Jharkhand contributes 8.4% ST population to the total ST population of the country. The ST population is primarily rural, as 92 percent reside in the villages. The major tribal groups in Jharkhand are dependent on agriculture for their livelihood.

This *Benti* village is a tribal village inhabited by three ethnic groups with a total population of 834 distributed in 150 households. The livelihood of the population mainly depends on the utilisation of two important natural resources – Land and Forest. Forest is the second most important source of supplementary income and almost all the villagers somehow depend on forest in way or other. The most frequent family type is nuclear and 90% family resides in the *Kachha* house made of the local resources collected from the adjoining areas of the village. The majority of the farmers are of marginal nature and most of the families' monthly income ranges between Rs.2000-4000.

### 3. METHODOLOGY

The methods employed during the study were designed with the sole purpose of eliciting the precious wealth of information on the ethno-medicinal uses of plants practiced by the people residing in the *Benti* village of the *Angara* block, Ranchi, Jharkhand. Field surveys and household survey schedule were used to elicit ethno-medicinal knowledge from the traditional communities inhabiting inaccessible hinterland of the region. Other forms of data gathering like focused group interviews, personal interviews, participant observation, guided field walks were conducted to assist in the triangulation of the findings for data validation. Moreover, special field trips conducted with the local medicine men. Generally, experts, who know about the herbal medicine, do not want to give all the information because they believe that when the medicinal plant is disclosed its medicinal properties will be lost. The peoples, who can provide information about medicinal plants, were consulted and includes for authenticity about medicinal properties of plants. As many as 100 respondents were interviewed independently to document the prevalent human diseases, their diagnostic knowledge for curing the diseases, and medicinal plants and other raw materials used in the treatments. The local names of the diseases and plant with medicinal value were recorded from the respondents while interviewing. The information collected during fieldwork was verified at different times through different informants. Later, the plants with medicinal value were identified with the help of the respondents and taxonomists.

### 4. RESULTS AND DISCUSSION

Evolving over a long period of time based on necessities and experiences, traditional medicinal system is an important component of indigenous knowledge of the three ethnic group of the village, which is an important natural resource that facilitates the development process in cost effective, participatory and sustainable ways and plays an important role in resource conservation. Presently there is a worldwide demand for assessing the plant resources that are of medicinal and economical values. Demand of medicinal plants are increasing in both developing and developed countries due to growing recognition of the fact that natural products are nontoxic, show no side effects and are easily available at affordable prices. The medicinal plant sector has traditionally occupied an important position in the socio-cultural, spiritual, and medicinal aspects of tribal families.

It is in this context, the present investigation was carried out in a tribal village to document ethno-medicinal usage of plant species with its local name, scientific name followed by parts used and purpose of use (Table 1). In some cases the botanical identification has not been done. The investigation describes the ethno-medicinal uses of 50 plant species of the study location. Different plant parts, such as leaves, gum, inflorescences, seeds, root and fruit juice, rhizomes, roots, etc. are used. The plant species are distributed along wide altitudinal range between 1,300-4,500 m (amsl). They grow in diverse range of habitats, such as valley plains, montane forests, sub-alpine and alpine pastures. These plant species through different modes of preparation are used to heal external burns, abrasions and wounds; orally taken to cure digestive, respiratory, skin and muscular disorders; and also used as diuretic, antipyretics, analgesic, anti-inflammatory, antiseptic, febrifuge, etc.

In essence, the ethno-medicinal knowledge about the biodiversity reflects many generations of experience and problem solving by the indigenous communities. It represents an immensely valuable database that provides the baseline information for the commercial exploitation of bio-resources

**Table 1:** List of plants and its Parts used as Medicines

Sl.No	Local Name	Scientific Name	Parts Used	Purpose of use
1	Nagbel	<i>Vitex peduncularis</i>	Rhizome	Snake bite, Gastric
2	Chhager ankhiya	-	Rhizome	Snake bite
3	Bon pyaj	<i>Urgenea indica</i>	Fruits	Human and animal cut wounds
4	Satori	<i>Asparagus racemosus</i>	Roots	Spermatorrhoea
5	Bon Anwara	<i>Phyllanthus emblica</i>	Fruits	Epilepsy
6	Kalmegh	<i>Anographis paniculata</i>	All parts	Malaria
7	Akand	<i>Calotropis procera</i>	Root juice	Skin disease
8	Sidha	<i>Euphorbia ligularia</i>	Lassa	Skin disease
9	Sarsoan	<i>Eruca vesicaria</i>	Seed	Skin disease
10	Koriya tira	-	Seed	Abdomen pain
11	Gathiya	-	Root	Abdomen pain
	Fasoon	-	Seed	Abdomen pain
12	Bon Hardi	<i>Curcuma aromatica</i>	Rhizome	Menstruation
13	Karhani dhan	-	Seed	Abdomen pain
14	Pudina	<i>Mentha viridis</i>	Leaves	Vomiting
15	Nimbu	<i>Citrus limon</i>	Fruits	Vomiting
16	Piyar	<i>Buchnanea lanzan</i>	Leaves	Vomiting
17	Aam	<i>Mangifera indica</i>	Kuhu (Seed)	Dysentery and Vomiting
18	Sakhua	<i>Shorea robusta</i>	Gum (Dhuman)	Worms and Cuts
19	Sindwar	<i>Vitex negundo</i>	Leaves	Worms and Cuts
20	Kanod	-	Bark	Worms and Cuts
21	Karanj	<i>(Pongamia glebra)</i>	Seed and Bark	Worms and Cuts
22	Neem	<i>Azadirachta indica</i>	Seed	Skin disease
23	Pithoriya	-	Roots	Worms and Cuts
24	Motha	<i>Cyprus rotendus</i>	Roots	Worms and Cuts
25	Bon supali	<i>Grewia rothii</i>	Bark	Abdomen pain and Headache
26	Har jora	<i>Cissus quadrangularis</i>	Bark	Abdomen pain and Headache
27	Genthi	-	Rhizome	Digestion and Asthma
28	Tirli bansi	-	Rhizome	Digestion and Asthma
29	Imali	<i>Tamarindus indica</i>	Seed	Snake bite
30	Koinar	<i>Bauhinia purpurea</i>	Bark	Skin disease
31	Agiya	-	Leaves	Khujali
31	Gulanchi	<i>Plumeria rubra var. acutifolia</i>	Bark	Increase milk in Cow
32	Lenjhiri	-	Seed	Menstruation
33	Beng sag	<i>Centella asiatica</i>	Leaves	Abdomen pain
34	Bamboo	<i>Bambuseae</i>	Inflorescences	Menstruation
35	Dumar	<i>Ficus carica</i>	Shoot juice	Child Vomiting
36	Bor	<i>Ficus benghalensis</i>	Shoot juice	Child Vomiting
37	Rangbaj	-	Rhizome	Tongue problems in Child
38	Nakrisha	-	Leaves	Nose bleeding
39	Ram datuan	-	Roots	Piles
40	Kewa kand	-	Inflorescences	Panrisa
41	Patal Bhedi	-	Rhizome	Preparation of Ranu
42	Lilkath	-	Rhizome	Cough

43	Sita chour	-	Rhizome	Urinary infection
44	Kokodara	-	All parts	Skin disease
45	Mahua	<i>Madhuca latifolia</i>	Fruits	Abdomen pain
46	Koraiya	<i>Holarrhena antidysenterica</i>	Bark	Worms and Cuts
47	Karanj	<i>Pongamia glabra</i>	Seed	Malaria
48	Papita	<i>Carica papaya</i>	Fruit	Jaundice
49	Chirchity	<i>Achyranthes aspera</i>	Root	Human and animal cut wounds
50	Pardubi	-	root	Spermatorrhoea

Seeds, roots and rhizomes are the most widely used plant parts. Most of the remedies are taken from them by pounding or crushing to extract the juice. Infusion or decoction of leaves is also a common practice. The shoot parts like leaf and bark is also used a lot. Some medicinal preparations are made out of the secretions.

Generally, traditional medicine among indigenous societies is closely tied with the world of spirits. The majority of cultural societies believe that certain diseases are caused by supernatural beings. Traditional healers serve as medium in communicating with the spirits to effect the healing of various ailments.

## 5. CONCLUSION

This analysis of the indigenous medicinal practices of the rural community establishes that indigenous knowledge is a hard-earned experience of the tribal/ indigenous community, which ensures physical wellbeing to them, promotes their economy and conserves their resources. Since, the existence of the indigenous medicine is largely dependent on bio-resources, the tribes have evolved socially approved regulatory practices and adaptive strategies to conserve the bio-resources. However, these regulatory practices and adaptive strategies, that were vibrant, are weakening. Simultaneously, there is a need for effective state intervention over use and conservation of bio-resources, particularly medicinal plants. This process necessitates assessment of adequacy of laws, policies and action plans promulgated in the above context. A more refined approach could be empowering the tribal people to ensure a culturally sensitive response that will serve to protect the tribe's traditional linkages with their natural resources.

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