



Exploration of the Ethnomedicinal knowledge of local people of Jangal Mahal area, Paschim Medinipur

¹Biplab Bhattacharyya, ²Dr. Dinesh Kumar Singh

¹Department of Botany, Research Scholar, Shri J.J.T. University, Jhunjhunu, Rajasthan, India

²Department of Botany, Associate Professor, Shri J.J.T. University, Jhunjhunu, Rajasthan, India

Abstract: The present work is carried out to assess and document the information's about the medicinal plants used by the local people to cure several diseases in Jangal Mahal, district Paschim Medinipur. Tribal groups have known about and made use of the medicinal potential of plants for thousands of years. There is a wealth of information about medicinal plants and medications for treating potentially fatal ailments among the tribal elders. The whole Jangal Mahal in Paschim Medinipur is the focus of this investigation on how different ethnic groups perceive and utilise plants in their natural environments. The variety of plant life in the region has been investigated in this research. Appropriate utilization of the resources and the consultation process of the region are ultimately determined by this comprehensive perspective. In this study, we recorded 46 plant species from 28 different families that have been utilised traditionally for medicinal purposes.

Key words: Ethnobotanical knowledge, Tribal Community, Traditional medicine

1. INTRODUCTION: The study of how individuals from different ethnic groups or tribal groups make use of plants, either directly or symbolically, is known as ethnobotany. This practice is classified as either ethnographical or anthropological or even as a kind of tribal botany. India is a huge nation that has a diverse population, topographies, weather, and plants throughout its expansive territory. When British botanists first arrived in India, ethnobotany was only getting off the ground there. They were looking for plants to research and also taking notes on how the aboriginal people used the plants. Roxburgh (1832) provided a description of how plants were used as well as their vernacular nomenclature and botanical classification. Providing information on the treatment of asthma using the leaves of *Tylophora asthematica*. His achievements to ethnobotany include the identification of their roots as a cause of dysentery (Shah and Kapoor 1976)^[1]. Harshberger was the first to use the term "ethnobotany" to describe the study of plants used by indigenous and primitive people, which was not until 1895. Schultes (1962)^[2] coined the term "ethnobotany" to describe the study of interpersonal relationships in early cultures. Despite the fact that Turner (1995)^[3] classified ethnobotany as a scientific discipline, this plant's surroundings restudy of plants that are used by indigenous and primitive people. Schultes (1962)^[2] used the term "ethnobotany" to refer to the study of the relationships between individuals in early cultures. Despite the fact that Turner (1995)^[3] classified ethnobotany as a scientific discipline, this plant's surroundings. It examines the relationship that exists between humans and plants. Cotton (1996)^[4] asserts that ethnobotany is involved with all of those different types of investigations.

2. MATERIALS AND METHODS

2.1 Study area: The primary source of West Bengal's medicinal plants may be found in the state's many forest regions. Both the hills and the plains have a large number of different medicinal plants because to this region's abundant plant diversity throughout a diverse variety of forest types.

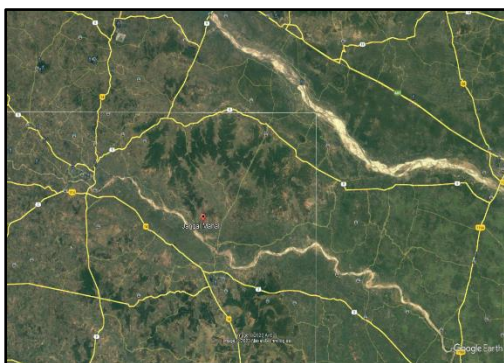


Fig 1: Location of Jangal Mahal



Fig 2: Survey Area

2.2 Geographical Area:

The state of West Bengal is distinguished by its three distinct wooded areas. The northern Himalayan foothills, that were subjected to extensive deforestation since the colonial period so tea estates may be established here. The subhumid dry deciduous woodlands that may be observed in the area around the western plain flat. The zone of the southeast coastal belt that is comprised of mangrove ecosystems. There is no evidence that the Tibeto-Burman ethnic groups are linked to the Himalayan foothill woodlands which are prevalent in the Terai area. They prefer terrace gardening but adhere to their particular culture and beliefs, which hold that forest having relatively little influence on their lives (Munshi 2012)^[5].

The Gond people, who were among the first people to settle in India, gave their name to the ancient region that we now know as Gondwanaland. Other important tribal groupings that date back to the same ancient period are the Bhils, the Kols, the Mundas, and others. Ethnologists from India as well as other nations have vouched for the fact that the indigenous people of India's tribal groups are the oldest people to have permanently resided on the Indian subcontinent.

2.3 The Human Communities: The Aryan language had some impact on the tribal people that lives in the southwestern area of West Bengal. One may legitimately refer to these people as "aboriginals." The word "aboriginal" does not imply that they were or are the original autochthones of this country; rather, it simply refers to the people who live on this territory. It gives the impression that these individuals did not belong to the Aryan race. less likely to have had their blood and culture mixed with Aryan elements. The people who live in Bengal's riverine plains have been impacted as a result of this in a variety of ways (Hunter 1882)^[6]. As a result of the many waves of immigration of people of various ethnicities. The majority of the Indian tribes had been continuously pushed forward, putting their very life in jeopardy. The indigenous people who presently live in this region experienced the same fate as their ancestors (Dalton 1872)^[7]. Around a few several thousand years ago, the earliest settlers of the tribes arrived in this region. The Aryanized invaders who came from the north initially pushed them forward. Later, agriculturists from the east moved into the plains, and eventually, they exported it to the hill forests of the harsh plateau (Chakraborty 1982)^[8].

The following tables show the percentage of tribal residents in each district and each block in the studied region. It's worth noting that the tribal communities' many sects and factions defy categorization. Due to the current COVID-19 condition, this is not easily accessible and could not be enumerated.

2.4 Tribal population [Source: W.B census 2011]

District	Paschim Medinipur	Jhargram	Bankura
Tribal population	10.90	30.50	10.20

Those individuals who are members of the Santal, Bhumij, Birhore, or Lodha ethnic groups. The physical traits of these populations are pre-Dravidian. These qualities include size, nasal and cephalic form, colour of the skin, and coarse hair. In terms of linguistic qualities, this also exhibits Austric and Dravidian characteristics. However, it is important to note that the indigenous people of this region may be classified as "forest tribes," such as the Kol, Santal, and Bheels, as well as Dravidians and several other tribal and semi-tribal groups (Dalton 1872)^[7].

2.5 Methodology: The pragmatist and holistic environmentalist approaches, as well as behaviourism, provide the foundation of this research. The discourses have been organised using an empirical and mostly qualitative methodological approach, with the goal of quantifying the perspectives and beliefs that are ingrained in social systems, even if this is seldom sensible and more likely to be impractical. In order to arrive at a conclusion that makes sense, the data that was gathered during site visits has been processed, evaluated, and reorganised. The present investigation duration was 2020–2023.

2.6 Database: The current research relies heavily on secondary sources of information; nevertheless, primary sources of information, facts, and numbers all have an equal amount of weight. The database including the information that is relevant to the aim of the research has been compiled. Produced because of recurrent fieldwork that was conducted in a number of different 9 CD Blocks located in the Paschim Medinipur district of West Bengal. In this area, the presence of woods and indigenous people that make their homes in forests accounts for a significant portion of the overall population. Oral contacts and group conversations with them have been effective in receiving and recording the belief system, social systems, value of biodiversity in ecology, and worldview that they have. The database takes into consideration the opinions of those individuals about the current economic, social, medical, spiritual, and political systems that have an influence on their existence and the way they make their living. Novels, research papers, theses, documents, records and reports, histories, and census handbooks are some of the types of written works that are included in the secondary database that this study has compiled. A variety of websites have been helpful in understanding the social systems that have been established and are practised by indigenous peoples that live in the varied ecologies of many continents. Important sources of information for the current investigation are several literary texts on the cultural and social systems of indigenous people, forest and community ecology, postcolonial theory, and ecocriticism. As a means of gathering knowledge, many folk stories, folklore, folk songs, proverbs, and metaphors from a variety of various tribal groups have been collected and compiled.

3. RESULT:

Table: Nearby Villages Gathering Ethnobotanical knowledge

District	Block/Sub division	Village	No. of families	Population		Total
				Male	Female	
Paschim Medinipur	Jhargram	Bankati	30	60	54	114
	Salboni	Pathrajuri	24	45	31	76
		Bagmari	13	21	17	38
		Ashna Shuli	19	29	25	54
		Dhobasol	27	39	35	74
	Garbeta	Mugurasol	9	11	9	20
	Garbeta II	Humgarh	28	57	63	120
		Goaltore	21	41	37	78
	Garbeta III	Kiabani	33	67	63	130

Table: Exploration of the ethnobotanical knowledge of local people of Jangal Mahal

Botanical Name	Local Name	Family	Part Used	Used on disease area	No of village using Species	What % of people like
<i>Achyranthes aspera</i>	Apang	Amaranthaceae	Whole plant	Asthama, boils, cough	5	85
<i>Asparagus racemose</i> (L.)	Shatamuli	Liliaceae	Tubers, Young tendril	Diarrhea, bronchitis, tuberculosis, dementia, and diabetes	6	90
<i>Withania somnifera</i>	Aswagandha	Solanaceae	Root, Leaves	Asthama, boils, cough, Sex tonic, immunity buster	7	80
<i>Dioscorea bulbifera</i> (L.)	Bon alu	Dioscoreaceae	Bulbils leaf axils, stem and tubers	Piles, dysentery, syphilis, ulcers, cough, leprosy, diabetes, asthma,	8	95
<i>Solanum nigrum</i> (L.)	Kakmachi	Solanaceae	Whole plant	Toothache, cure cough and cold and asthma	4	60
<i>Andrographis paniculata</i> (L.)	Kalmegh	Solanaceae	Whole plant	Worms, skin, cough, liver	9	98
<i>Aristolochia indica</i> (L.)	Eswarmool	Aristolochiaceae	Root	Prevent seizures, increase sexual desire, boost the immune system, start menstruation	3	30
<i>Tinospora cordifolia</i> (M)	Gulanha	Menispermaceae	Whole plant	Fever, jaundice, chronic diarrhea, dysentery, bone fracture, pain, asthma, skin disease, poisonous insect, snake bite, eye disorders	7	75
<i>Asterantha longifolia</i> (L.)	Kulekhara	Acanthaceae	Whole plant	Phrodisiac, tonic, sedative and blood diseases	9	98
<i>Catharanthus roseus</i> (L.)	Nayantara	Apocynaceae	Whole plant	Diabetes, sore throat, lung congestion, skin infections, eye irritation	6	55
<i>Curcuma longa</i> (L.)	Holud	Zingiberaceae	Rhizome	Cough, diabetic wounds, hepatic disorders, rheumatism, and sinusitis.	8	75
<i>Vitex negundo</i> (L.)	Niswisinda	Lamiaceae	Whole plant	Motility of sperms, polycystic ovary disease, and menstrual cycle.	4	45
<i>Mesosphaerum suaveolens</i> (L.)	Bilati Tulsi	Lamiaceae	Whole plant	Stomach pain, hemorrhoids, cough, verminosis, ulcer, liver disease, fever, influenza, nasal congestion, inflammation	9	98

<i>Gloriosa superba</i> (L.)	Ulata chandala	Colchicaceae	Tubers, seeds and flowers	Inflammation, ulcers, bleeding piles, skin diseases, impotency, snakebite	7	70
<i>Ixora coccinia</i> (L.)	Lal Rongon	Rubiaceae	Bark, Root, Stem	Dysentery, dysmenorrhea, leucorrhoea	3	30
<i>Bacopa monnieri</i> (L.)	Bramhi	Plantaginaceae	Whole plant	Alzheimer disease, brain booster	6	65

Botanical Name	Local Name	Family	Part Used	Used on disease area	No of village using Species	What % of people like
<i>Gymnema sylvestris</i> (L.)	Mes shringa	Asclepiadaceae	Body part	Diabetes, weight loss, and cough	3	15
<i>Phyllanthus fraternus</i> (L.)	Bhumi Amloki	Phyllanthaceae	Whole plant	Sluggish liver, jaundice. diuretic, cooling, astringent. Hepatitis-B.	4	45
<i>Datura innoxia</i> (L.)	Dhutra	Solanaceae	Whole pant	Fever, heart, fertility, sleep, childbirth, promoting hair and skin health.	7	70
<i>Wedelia calendulacea</i> (L.)	Bhimra	Asteraceae	Whole plant	Ulcer, sore throat, varicose, headache, fever	2	20
<i>Centella asiatica</i> (L.)	Thankuni pata	Apiaceae	Leaves	Varicose ulcers, eczema, psoriasis, diarrhoea, fever, amenorrhea, female genitourinary	7	70
<i>Celosia argentea</i> (L.)	Morog ful	Amaranthaceae	Whole plant	Headache, sores, ulcers, eye, skin eruption, menstruation, carpal tunnel syndrome.	5	40
<i>Catharanthus rosea</i> (L.)	Nayantara	Apocynaceae	Root, leaves	Hypotensive, antiviral, cancer, diabetes, menorrhagia, blood dysentery.	4	35
<i>Rauvolfia serpentina</i> (L.)	Sarpagandha	Apocynaceae	Whole plant	Hypertension, intestinal disorders, eye diseases, cuts, wounds, splenic diseases, uterine contraction, headache, and skin diseases	4	28
<i>Calotropis procera</i> (L.)	Akanda	Apocynaceae	Whole plant	Diarrhoea, stomatic, sinus fistula, and skin disease	6	55
<i>Carrisa carandas</i> (L.)	Koromcha	Apocynaceae	Whole plant	Acidity, indigestion, wounds, skin, urinary, ulcer, constipation, anemia	4	49
<i>Terminalia arjuna</i> (L.)	Arjune	Combretaceae	Stem, Bark	Ulcer treatment, fractures, cirrhosis of liver, ischaemic heart disease, and hypertension	8	90
<i>Adathoda vasica</i> (L.)	Basak	Acanthaceae	leaves, roots, flowers, and bark	Cough colds, asthma, sputum, bronchodilator, bronchial catarrh, bronchitis, tuberculosis.	9	95
<i>Ocimum sanctum</i> (L.)	Tulsi	Lamiaceae	Whole plant	Cough, colds, skin	9	99
<i>Allium cepa</i> (L.)	Piyaj	Amaryllidaceae	Whole plant	Gastrointestinal disorders, asthma, bronchitis	9	90
<i>Saraca asoca</i> (L.)	Asoke	Caesalpiniaceae	Stem, Bark, flower, seeds	Menorrhagia, leucorrhoea, internal bleeding, hemorrhoids, and hemorrhagic dysentery	6	55

<i>Sida acuta</i> (L.)	Bon Methi	Malvaceae	Whole plant	Headache, leucorrhoea, tuberculosis, diabetes, malarial	2	15
<i>Salvadora persica</i> (L.)	Parsi meswak	Salvadoraceae	Whole plant	Teeth, gum, gastro	1	10

Botanical Name	Local Name	Family	Part Used	Used on disease area	No of village using Species	What % of people utilise
<i>Phyllanthus emblica</i> (L.)	Amloki	Phyllanthaceae	Dried and fresh fruit	Hair Care, reduces stress, eye care, respiratory, treats anemia, blood Purifier, diuretic	6	75
<i>Rubia cordifolia</i> (L.)	Maddar	Rubiaceae	whole plant	Antiseptic, styptic, anodyne, depurative	3	20
<i>Holarrhena pubescens</i> Wall. Ex.	Kurchi	Phyllanthaceae	Dried and fresh fruit	Hair Care, reduces Stress, eye care, respiratory Health, anemia, blood purifier, diuretic	1	3
<i>Gmelina arborea</i> (L.)	Gamar	Apocynaceae	Root, leaves, bark, fruit	Diarrhea, amoebic dysentery, liver disorders, irritable bowel syndrome, and bleeding pile	1	4
<i>Alstonia scholaris</i> (L.)	Chatim	Apocynaceae	Bark, fruit	Malaria, jaundice, gastrointestinal troubles,	4	45
<i>Azadirachta indica</i> A. Juss	Nim	Meliaceae	seed, bark, leaves and roots	Treat dental and gastrointestinal disorders, malaria fevers, skin diseases, and as insects repellent	9	97
<i>Stereospermum tetragonum</i> DC	Parul	Bignoniaceae	Roots, bark	Diuretic, piles, nervous disorders	1	2
<i>Aegle marmelos</i> (L.)	Atha Bel	Rutaceae	fruits, bark, leaves, seeds, roots	Constipation, diarrhea, indigestion, ulcer, piles	9	95
<i>Terminalia bellirica</i> (Gaertn.) Roxb	Bohara	Combretaceae	Fruits	Hepatitis, bronchitis, asthma, dyspepsia, piles, diarrhea, coughs, eye diseases	8	85
<i>Bauhinia purpurea</i> (L.)	Raktakanchan	Fabaceae	Bark	Dropsy, pain, rheumatism, convulsions, delirium, and septicemia	4	28
<i>Oroxylum indicum</i> (L.) Benth. ex Kurz	Sonak	Oroxyleae	Root bark, stem bark, fruits, seeds, and leaves	Ulcer, diarrhea, dysentery, wound healing, inflammation, cough, enlarged spleen, jaundice, scabies, skin diseases	2	12
<i>Erythrina variegata</i> (L.)	Parijat ful	Fabaceae	Bark, flower, leaves	Nervine sedative, collyrium in ophthalmia, antiasthmatic	1	2
<i>Mimosa pudica</i> (L.)	Lojja boti	Mimosae	Root	Urogenital disorders, piles, dysentery, sinus, wounds	3	21

4. DISCUSSION: For many generations, our species has relied on plants for food, shelter, medicine, and even the satisfaction of our deepest, most fundamental emotions. Because of this, they have developed a distinct body of knowledge about the management and preservation of plant genetic resources. One hundred and fifty plant species provide for the bulk of the world's inhabitants. Yet, the indigenous inhabitants of Jangal Mahal employ anything from 200 to 300 different plant species in their daily lives. During ethnobotanical research on six indigenous populations (the Santal, Munda, Bhumij, Lodha, Savar, and Kora), researchers discovered almost 10 previously unknown species of edible plants. Tribal groups have known about and made use of the healing potential of plants for a long time. The tribal elders have a wealth of information about the medical plants and medications that may save lives in the face of specific illnesses. The Jangal Mahal region, the indigenous people's plant-based medicines are accompanied by a number of fascinating qualities. Even while other sections benefit might be gained from the plants in certain cases qualities, many times a single objective may need the utilisation of several different plants. For instance, the fruits and seeds of *Achyranthus aspera*, *Aegle marmelos*, *Terminalia bellirica*, *Alstonia scholaris*, *Phyllanthus emblica*, *Holarrhena pubescens*. The utilization of plants by

indigenous peoples is likewise characterized by a wide variety of options. The bulk of the world's population relies on about 100 to 150 plant species to provide the vast majority of their nutritional needs. On the other hand, the indigenous people who live in Jangal Mahal make use of between 500 and 1000 different plant species. Therefore, many different kinds of plants are utilized as long time chronic diseases. Some examples include *Gymnema sylvestris*, *Phyllanthus fraternus*, *Datura innoxia*, *Wedelia calendulacea*, *Centella asiatica*, *Celosia argentea*, *Catharanthus rosea*, *Rauvolfia serpentina*, *Calotropis procera*, *Carrisa carandas*, *Terminalia arjuna*, *Adathoda vasica*, *Ocimum sanctum*, *Allium cepa*, *Saraca asoca*.

Tribal cultures have, for thousands of years, had a long-standing history of recognizing the potential therapeutic value of plants and making use of such traits. All of the community's residents have access to the information necessary to gain knowledge about the popular medicinal plants found in their region. On the other hand, the more senior members of the community have a significant amount of expertise in both the plants used in medicine and the treatments available for a variety of conditions that are potentially fatal. Indigenous people use plants either singly or in combination. *Vitex negundo* is used to treat motility of sperms, polycystic ovary disease, and menstrual cycle while *Aristolochia indica* is used to treat curing prevent seizures, increase sexual desire, boost the immune system, and start menstruation. These are just a few examples of how the same plant may be used to treat a variety of conditions.

Holarrhena pubescens, *Gmelina arborea*, *Stereospermum tetragonum*, *Erythrina variegata*, and *Salvadora persica*, are some medicinal plants that are rarely used by local people. We observed that some tribal people used those plants for various diseases. That traditional knowledge's will soon be lost.

5. Conclusion: It can be concluded that the native people who live in the region studied make use of a variety of different medicinal plant species to cure a wide range of illnesses. Many of the indigenous population continue to rely on traditional medicine. There is access to the advanced medical services that are offered. This demonstrates the value of traditional medicines that focus on plant-based ingredients. The discoveries that we have uncovered provide the foundational facts necessary to forge a relationship between the communities of traditional health practitioners and scientific researchers. This might be a significant factor in the identification of new drugs. For the purpose of environmentally responsible and ethical management of medicinal plant species, ethnobotanical data is of critical importance to conservation managers and policymakers.

REFERENCES

- [1] Shah, N. & Kapoor, L. (2008). Botany of *Tylophora indica* (Burm. f.) Merr. *Pharmaceutical Biology*. 14. 27-34. 10.3109/13880207609081902.
- [2] Ponman, Bruce & Bussmann, Rainer. (2012). *Medicinal Plants and the Legacy of Richard E. Schultes*.
- [3] Nolan, Justin & Turner, Nancy. (2011). *Ethnobotany: The Study of People-Plant Relationships*. 10.1002/9781118015872.ch9.
- [4] Cotton, C. M. (1996). *Ethnobotany: Principles and applications*. Chichester, England: John Wiley and Sons.
- [5] Meeta Munshi. Significance of Cinema in Shaping Cultural Values of Young Consumers. *Asian J. Management*; 2017; 8(4):983-988. doi: 10.5958/2321-5763.2017.00152.4
- [6] https://en.banglapedia.org/index.php/Hunter_Commission
- [7] Dalton E. T. (1872). *Descriptive ethnology of bengal*. Office of the Superintendent of government printing. Retrieved March 17 2023 from <http://books.google.com/books?id=9w>
- [8] Chakrabarti, S. B. (1982). [Review of *The profiles of the marginal and pre-farming tribes of central-eastern India*, Special Series No. 26, by L. P. Vidyarthi]. *Indian Anthropologist*, 12(2), 193–195. <http://www.jstor.org/stable/41919459>