

<https://doi.org/10.48047/AFJBS.6.14.2024.11224-11237>



African Journal of Biological Sciences

Journal homepage: <http://www.afjbs.com>



Research Paper

Open Access

MEDICINAL TREES USED BY TRADITIONAL USERS IN MURSHIDABAD DISTRICT OF WEST BENGAL: A CASE STUDY

Dr. Arindam Mandal

Assistant Professor, Department of Botany, Bejoy Narayan Mahavidyalaya, Itachuna,
Hooghly, West Bengal, India, 712147

arindammandal002@gmail.com

Article History

Volume 6, Issue 14, 2024

Received: 16 June 2024

Accepted: 26 July 2024

Published: 16 Aug 2024

doi: [10.48047/AFJBS.6.14.2024.11224-11237](https://doi.org/10.48047/AFJBS.6.14.2024.11224-11237)

ABSTRACT:

In West Bengal, India's Murshidabad region, indigenous tribes have been using medicinal trees for centuries. This research work aims to document and analyse their traditional knowledge of these species. The goal of the study is to identify and describe the therapeutic uses of trees in traditional healthcare systems. Observations in the field, surveys, and interviews were a few of the qualitative and quantitative research methods employed.

The survey found 79 different kinds of medicinal trees in the area, representing a wide range of taxonomic groups. The local populations have developed great knowledge about these trees and how to use them to treat a variety of illnesses and health issues. Interviews with traditional healers and informed community members provided important details about the indigenous usage, preparation techniques, and dosage of medicinal tree parts.

The results showed that the traditional users in the Murshidabad district heavily depend on the bark, leaves, roots, flowers and fruits of medicinal trees for therapeutic purposes. The digestive, respiratory, skin, and febrile illnesses that were most commonly mentioned as being cured by these trees. The traditional healers also demonstrated a thorough awareness of the characteristics, particular applications, and potential negative consequences of the trees.

The study also emphasised the significance of keeping traditional knowledge about medicinal plants because it offers a sustainable and affordable form of healthcare for regional people. Further scientific research is required to confirm the efficacy and security of these folk treatments, which is another point that is made here.

Key words: Medicinal trees, Traditional knowledge, Indigenous uses, Traditional healers, Healthcare, Biodiversity conservation, Ethnobotany

INTRODUCTION

Medicinal plants have been used by the local people for thousands of years to treat a variety of health conditions. They are important source of natural remedies that have been potential to improve health outcome and enhance wellbeing. According to report of WHO, 80% world population depends on traditional medicine for their treatment of different ailments (Dan *et al.* 2018, Ugbogu *et al.* 2021) Worldwide, between 50,000 and 80,000 flowering plants are used in traditional medicine in various countries for centuries (Dekebo 2019). Medicinal plant contain various active compounds such as alkaloids, flavonoids and terpenoids (Roy *et al.* 2022; Agidew 2022.) that are responsible for their therapeutic effects. These compound acts on various biological pathways in the body, helping to alleviate symptoms and treat diseases. Many medicinal trees cause adverse effects, interact with medications, or even be toxic if taken in large doses (Okaiyeto and Oguntibeju 2021).

Murshidabad is a rural district in West Bengal, India situated between latitude 23° 43'30" N & 24° 50'20" N and longitude 87° 49'17" E & 88° 46'00"E and the home to rich diversity of medicinal tree plants that has been used as traditional medicine for local people specially tribal like Santal, Munda, Orang etc.(Bandyopadhyay *et al.* 2019). They are a valuable resource for communities that have limited access to modern medicine, and often provide a more affordable and sustainable alternative. These trees are a vital source of natural remedies for various ailments and are an important part of the state culture and traditional heritage.

In the primary healthcare system of many rural communities in India, traditional medicine—including the use of medicinal plants—plays a critical role. These culturally ingrained traditional healthcare systems are frequently the sole easily available and reasonably priced healthcare alternative for many communities (Samal *et al.* 2020). Traditional healers and herbalists are highly regarded and sought after for their therapeutic expertise since they have comprehensive knowledge of medicinal trees and their uses.

It is crucial to record conventional medical knowledge for a number of reasons. First of all, it supports the validation and preservation of the rich cultural history connected to conventional medical procedures (Debnath *et al.* 2018). Second, it offers useful information on the therapeutic potential of medicinal trees, which can be investigated further for the development of new drugs and improvements in healthcare (Anand *et al.* 2019; Uddin *et al.* 2019). The preservation and sustainable management of medicinal trees, which are frequently

in danger owing to habitat loss, overuse, and urbanisation, are also aided by the documentation of traditional knowledge (Chowdhury *et al.* 2021).

The Murshidabad district lacks thorough recording of these practises, despite the importance of traditional medical knowledge and the healing potential of medicinal trees. By cataloguing the medicinal trees utilised by local traditional users in the Murshidabad district and their related therapeutic purposes, this study seeks to fill this knowledge vacuum.

Material and Methods

Study Area: The Murshidabad district of West Bengal, India, was the site of the study which is renowned for its diverse biosphere and age-old medical practices. A variety of biological settings, including forests, fields, and riverfront areas, can be found across the district, all of which are excellent habitats for medicinal trees.

Data Collection: To learn more about the traditional use and understanding of medicinal trees, ethnobotanical surveys were carried out. Interactions with local populations, conventional healers, herbalists, and informed people with in-depth knowledge of the region's medicinal trees were all a part of the surveys. To provide a representative sample of the community, the participants were chosen via purposeful sampling.

Participant observations were made to record traditional ceremonies and practises connected to the use of medicinal trees. The cultural importance and conventional healthcare systems that are common in the area were shown by these observations.

The medicinal tree species were identified and recorded during visits to several areas in the Murshidabad district. With the aid of field guides, the locations where the trees were found, and their local identification was completed.

Data Analysis: The gathered information—which included field notes, observations, and interviews—was topically analysed. The information was then divided into categories depending on the plant parts utilized in preparation and medicinal applications. The findings were analysed and discussed in light of the body of knowledge on traditional medicine, biodiversity protection, and ethnobotany.

Limitations: It's vital to be aware of the study's limitations, namely the possibility of biased sample brought on by the participants' high level of selection. It's also important to take into

account the dependence on conventional wisdom and the dearth of scientific evidence supporting any medical effects. To confirm the effectiveness and safety of the regional traditional treatments made from medicinal trees, future studies may include phytochemical and pharmacological analysis.

Result

The use of medicinal trees is often based on traditional knowledge passed down from generation to generation. However, modern scientific studies have begun to discover the chemical properties of this trees, providing insight into their medicinal benefits. This paper will focus on the traditional uses of medicinal trees and their potential benefits in modern medicine used by the local people of Murshidabad district.

Discussion

Traditional medicine for the district of Murshidabad has been employed for all of the medicinal trees in the current study (Table 1), and recent scientific research has demonstrated that they contain a variety of bioactive chemicals with potential therapeutic advantages (Parameswari *et al.* 2022; Samtiya *et al.* 2021). A wide variety of treatments, including those for diabetes, asthma, liver disorders, diarrhoea, skin disorders, colds, coughs, cuts and wounds, gastric ulcers, and other issues, have been utilised with these medicinal trees, both individually and in combination. 79 medicinal tree species from 38 families have been identified in the present investigation together with their scientific and common names, families, parts used, and other crucial documentation

The ability of medicinal trees to enhance environmental sustainability is one potential advantage. It has been discovered that several medicinal plants have advantages for soil conservation (Labokas and Karpavičienė 2021). Using medicinal trees sustainably and protecting them from extinction present challenges despite the potential benefits (Antonelli *et al.* 2020). The degradation of habitats and loss of biodiversity brought on by deforestation and land-use change is one of the main issues. The extinction of medicinal tree species may lead to the loss of traditional knowledge as well as the potential eradication of novel therapeutic substances. Additionally, excessive usage of medicinal trees may cause their extinction, making it more challenging to effectively regulate their use (Van Wyk and Prinsloo 2018).

To overcome these challenge, there is a need for increased conservation efforts and sustainable management practices. This can include the development of agroforestry system, where medicinal trees are integrated with other crops to provide sustainable source of income. Additionally, efforts to improve the livelihoods of local communities through the sustainable use of medicinal trees can help to promote conservation and reduce the pressure on natural resources.

Table 1: Major medicinal plants used by rural people in Murshidabad district.

Sl. No	Scientific Name	Local name	Family	Plant Part	Utilization
1	<i>Abroma augusta</i> L.	Ulotkambol	Sterculiaceae	Root, Root bark and Leaf	Uterine tonic, itches, arthritis, rheumatism, gout, dropsy, swelling; Leaf- diabetes.
2	<i>Acacia catechu</i> (L.f.) Willd	Kahir	Mimosaceae	Bark and Latex	Abortifacient; Latex- mouthwash for mouth, gum, sore throat, oral infection.
3	<i>Acacia nilotica</i> (L) P.J.H. Hurter & Mabb	Bebila (santal)	Fabaceae	Bark and latex	Antibacterial, Antioxidant, Antispasmodic, Anti-pyretic.
4	<i>Aegel marmelos</i> L.	Bil/bela/Pandul (Santal)	Rutaceae	Root, Leaf, Bark and Fruit	Root- Ear problem; Leaf- Ulcers; Fruits- Diarrhoea, cooling beverage for sun stroke, laxative
5	<i>Alangium salviifolium</i> (L.f.) Wangerin	Ashfal	Cornaceae	Root, Stem, Leaves and Bark	Diabetes and peptic ulcer and inflammation.
6	<i>Albizia lebbek</i> (L.) Benth	Shrish	Fabaceae	Bark and leaf	Inflammation,boils, cough, flu, gingivitis, lung problems, pectoral problems.
7	<i>Alstonia scholaris</i> (L.) R.Br.	Chatim	Apocynaceae	Bark	Malaria, diarrhoea and jaundice.
8	<i>Annona squamosa</i> L.	Aata	Annonaceae	Leaf, Fruits and Seed	Leaf-Boils and ulcer; Fruits- vomiting, tumour; Seed-treatment for lice.
9	<i>Antidesma acidum</i> Retz.	Archal	Phyllanthaceae	Leaves and fruits	Dysentery and for appetizer.
10	<i>Azadiracta indica</i> A. Juss.	Nim/ Nimkol (Santal)	Meliaceae	Mainly Leaves; Bark and Fruits	Leaf-immunomodulatory, anti-inflammatory, antihyperglycaemic, antiulcer, antimalarial, antifungal, antibacterial, antiviral, antioxidant, antimutagenic and anticarcinogenic properties.
11	<i>Artocarpus heterophyllus</i> Lam.	Kathal	Moraceae	Root, leaf, pulp, seed	Ulcers, diarrhoea, boils, stomach-ache and wounds, cooling tonic, diarrhoea, skin diseases and asthma.

12	<i>Artocarpus lakoocha</i> Roxb.	Mader	Moraceae	Fruits	Use as Liver disease, antimicrobial, antioxidant, anti-diabetic.
13	<i>Averrhoa carambola</i> L.	Kamranga	Oxalidaceae	Fruits	Cough and Cold, Jaundice, Chicken pox and Antipyretic.
14	<i>Bauhinia variegata</i> L.	Rakto Kanchan	Fabaceae	Bark and Flower	Ulcer, Carminative and tonic.
15	<i>Bixa orellana</i> L.	Sindur/lattan	Bixaceae	Seed and Flower	Natural dye, cardiac problems.
16	<i>Borassus flabellifer</i> L.	Tal	Arecaceae	Young leaf and Fruits	Intestinal worms leprosy. Gonorrhoea.
17	<i>Bombax ceiba</i> L.	Semul	Bombaceae	Bark and latex	Treat worms and diarrhoea, wound healing.
18	<i>Bridelia retusa</i> (L.) A. Juss		Phyllanthaceae	Leaf, Stem, fruit and Root	Prevent Pregnancy, malaria, enlarge spleen gonorrhoea, antinociceptive and anti-inflammatory activity.
20	<i>Butea monosperma</i> (Lam.) Taub.	Palash/ Murut (Santal)	Fabaceae	Bark, leaves, flower and seed	Diruratic, increase the flow of blood, flatulent skin disease and natural dye.
21	<i>Calotropis gigantea</i> (L.) W.Aiton.	Akanda/ Akana (Santal)	Asclepiadaceae	Root bark and leaf	Diarrhoea, indigestion, eye ache, intermittent fever.
22	<i>Calotropis procera</i> (Aiton) Dryand.	Akanda	Asclepiadaceae	Root bark and leaf	Diarrhoea, indigestion, Skin disease.
23	<i>Carissa carandas</i> L.	Karancha	Apocynaceae	Leaves and Fruits	Acidity, indigestion, curing anaemia and fever.
24	<i>Cascabela thevetia</i> (L.) Lippold	Kolke	Apocynaceae	Root and seed	Cardio tonic, tumours, external wound, ring worm.
25	<i>Cassia fistula</i> L.	Bandar lati	Caesalpinaceae	Leaves flower, fruits, seed	Joint pain, Ulcer, heart disease, leprosy.
26	<i>Ceiba pentandra</i> (L.) Gaertn	Lal semul	Malvaceae	Root, bark, leaf, flower,	Enuresis, constipation, diarrhoea
27	<i>Cinnamomum tamala</i> (Buch.-Ham.)	Tejapat	Lauraceae	Leaf	Antibacterial, indigestion, tooth problem, carminative.
28	<i>Cinnamomum zeylanicum</i> Linn.	Darchini	Lauraceae	Bark, leaves and oil	Indigestion, decrease blood sugar level, carminative.
29	<i>Clerodendron chinense</i> (Osbeck) Mabb.	Gandharaj	Lamiaceae	Root	Antibacterial, menstrual disorder, osteodynia, hypertension.

30	<i>Cocos nucifera</i> L.	Narkel	Arecaceae	Fruits	Liver, skin problems, and kidney stones, antitumor, anti-cancer, antibacterial, antifungal.
31	<i>Dillenia indica</i> L.	Chalta	Dilleniaceae	Fruits, bark and leaf	Relief indigestion, asthma, abdominal pain, laxative.
32	<i>Dillenia pentagyna</i> Roxb.	Bon chalta	Dilleniaceae	Fruits, bark and leaf	Against arthritis, cough, wounds, diabetic, neuritis pleurisy.
33	<i>Diospyros blancoi</i> A. DC.	Gab	Ebenaceae	Bark, leaf and fruits	Heart ailments, diabetes, itchy, eyewash, diarrhoea and dysentery.
34	<i>Elaeocarpus floribundus</i> Bl.	Jalpai	Eleocarpaceae	Fruits, bark and leaf	Dysentery, diabetes, inflamed gum.
35	<i>Feronia limonia</i> Linn.	Koith bel	Rutaceae	Leaf, fruits	Anti -diabetic, anti-bacterial, anti-inflammatory, hepatoprotective, antioxidant, muscle relaxant, anti-histaminic, wound healing, larvicidal and anti-tumour.
36	<i>Ficus bengalensis</i> L.	Bat	Moraceae	Root, bark, bud and fruits	Root: vomiting, osteomalacia, leucorrhoea. Bark: burning, diabetes, skin disease, ulcers, allergy. Bud: diarrhea, dysentery.
37	<i>Ficus benjamina</i> L.	Pakur	Moraceae	Fruits and latex	Skin disorder, inflammation, piles, vomiting, malaria, nose diseases.
38	<i>Ficus carica</i> L.	Dumur	Moraceae	Root, fruits and latex	Gastrointestinal, respiratory, cardiovascular disorders, anti-inflammatory and antispasmodic remedy.
39	<i>Ficus glomerata</i> Roxb.	Joyja damur/Dumar (Santal)	Moraceae	Bark and fruits	Female disease, digestive tract and strengthen bones.
40	<i>Ficus hispada</i> Linn.	Kak damur	Moraceae	leaf, fruits and latex	Ulcers, psoriasis, anaemia, piles jaundice, vitiligo, haemorrhage, diabetes, convulsion, hepatitis, dysentery, biliousness.
41	<i>Ficus religiosa</i> L.	Aswattha	Moraceae	Bark, bud and fruits.	Blood purification, antiulcer, antibacterial, antidiabetic, gonorrhea and skin diseases.
42	<i>Ficus virens</i> W.T Aiton	Sada pakur	Moraceae	Leaf, fruits and latex	Diabetes, liver disorders, diarrhea, inflammatory

					conditions, hemorrhoids, respiratory, and urinary diseases.
43	<i>Gmelina arborea</i> Roxb.ex Sm.	Gamar	Verbenaceae	Root, leaf and fruits.	Fever, dyspepsia, bleeding, headache.
44	<i>Holarrhena antidysenterica</i> (L.) Wall. ex A. DC.	Kurchi/ Hat (Santal)	Apocynaceae	Bark and seed	Bark: amoebic dysentery, anthementic. Seed: astringent, febrifuge, anti anthementic, respiratory problem, wounds.
45	<i>Jatropha curcas</i> L.	Shada verenda	Euphorbiaceae	Stem and latex	Pyorrhoea as tooth brush, oedema, laxative.
46	<i>Jatropha gossypifolia</i> L.	Lal verenda	Euphorbiaceae	Stem and latex	Purgative, leprosy, haemostatic agent.
47	<i>Lagerstroemia speciosa</i> (L.) Pres	Jarul	Lythraceae	Bark leaf and root	Purgative, diuretic, diarrhoea, hypoglycaemic activity.
48	<i>Lannea coromandilica</i> (Houtt.) Merr.	Joele	Anacardiaceae	Leaf	Hepatitis, diabetes, ulcer, heart diseases and dysentery.
49	<i>Lawsonia inermis</i> L.	Mehendi	Lythraceae	Leaf, flower and seed	Hear dye, dysentery, jaundice skin disease.
	<i>Madhuca longifolia</i> (J.Konig) J.F.Macbr	Mahul (santal)	Sapotaceae	Bark, flower and seed	Used for digestive disorder, wound healing and general tonic.
50	<i>Magnolia champaca</i> (L.) Figlar	Swarno Champa	Magnoliaceae	Root, bark, bud, flower	Scorpion stings, dyspepsia, nausea, fever, rheumastism, cephalagia.
51	<i>Mesua ferrea</i> L.	Nageswar	Calophyllaceae	Leaf, flower and seed oil	Itch, astringent fever, poulticing wound, skin eruptions.
52	<i>Millettia pinnata</i> (L.) Panigrahi	Karai	Fabaceae	Bark, leaf flower and seed	Abortifacient, teeth cleaning, enlargement of the spleen, rheumatism, cough, dyspepsia, sluggish liver.
53	<i>Mimusops elongi</i> L.	Bakul	Sapotaceae	Bark, leaf, flower, fruits	Diarrhoea, dysentery, fever, wounds, constipation
54	<i>Moringa oleifera</i> Lam	Sajna/ Munga (Santal)	Moringaceae	Leaf and fruit	Boiled in water and taken as a hot drink for blood pressure and diabetes.
55	<i>Musa balbisiana</i> Colla	kala	Musaceae	Fruits	Blood disease, antibacterial, hypo-testicular, antioxidant.

56	<i>Murraya koenigii</i> (L.) Spreng.	Kari pata	Rutaceae	Root, bark and leaf	Appetite, digestion, vomiting, constipation, colic, diarrhoea.
57	<i>Murraya paniculata</i> (L.) Jack	Kamini	Rutaceae	Bark, flower and leaf	Refrigerant, digestive, fever, burning of skin.
58	<i>Nyctanthes arbour-tristis</i> L.	Sheuli	Oleaceae	Bark, leaf and seed	Cough, fever, hair fall, intestinal worms, skin diseases.
59	<i>Phoenix humilis</i> (L.) Cav.	khajur	Arecaceae	Fruit, seed and sap	Laxative, fever, respiratory disease, cephalic, wounds, digestive.
60	<i>Phyllanthus acidus</i> (L.) Skeels	Tak fal	Phyllanthaceae	Root, leaf, and fruits	Alleviate asthma, itching, fever, bronchial catarrh, laxative, eye troubles.
61	<i>Phyllanthus officinalis</i> L.	Amloki	Phyllanthaceae	Fruits, root and bark	Rheumatic pains, gonorrhea, asthma, hemorrhage, jaundice, dyspepsia, nausea, constipation, diarrhoea, eye disease.
62	<i>Psidium guajava</i> L.	Peyara	Myrtaceae	Bark, leaf and fruits	Inflammation, laxative, diabetes, ulcer, fever, lung disease.
63	<i>Punica granatum</i> L.	Dalim	Lythraceae	Root, bark, flower and fruits	Anti-dysenteric, diarrhoea, piles, bronchitis, tap worm infection, syphilis.
64	<i>Samanea saman</i> (Jacq.) Merr.	Kharis	Fabaceae	Bark, leaf, fruits and seed	Diarrhoea, stomach-ache, skin problems, CNS-sedative, sore throat.
65	<i>Sapindus trifoliatus</i> L.	Ritha	Sapindaceae	Leaf and fruits	Sensitive skin, eczema, hair and scalp problems, alleviate parasites such as lice.
66	<i>Saraca asoca</i> (Roxb.) Willd.	Ashok	Caesalpiniaceae	Bark, root and flower	Uterine tonic, menstrual bleeding, piles, internal haemorrhage, dysentery.
	<i>Schleichera oleosa</i> (Lour.) Oken.	Kusum (Santal)	Sapindaceae	Bark and seed	Antimicrobial, antioxidant, anticancer activity.
67	<i>Sesbania grandiflora</i> (L.) Poiret	Bak phul	Fabaceae	Bark, leaf, flower and fruits	Body pain, fever, worm infestation, pox, headache, cold.
	<i>Shorea robusta</i> Gaertn. F.	Saru/Sarjom/S haal (santal)	Dipterocarpaceae		Diarrhoea, dysentery and skin disease.
68	<i>Spondias pinnata</i> (L.f.)	Amra	Anacardiaceae	Bark, leaf, flower bud and	Anti-tubercular properties, diarrhoea, dysentery,

	Kurz			fruits.	vomiting, regulate menstruation.
69	<i>Streblus asper</i> Lour.	Sheora	Moraceae	Root, bark and leaf	Elephantiasis, boils, haemorrhage, bronchitis, diarrhoea, dysentery, syphilis and haemorrhoid.
70	<i>Syzygium cumini</i> (L.) Skeels	Jam/Jem (santal)	Myrtaceae	Root, bark, leaf, fruits and seeds	Epilepsy, diabetes, diarrhoea, carminative, children's thrush.
71	<i>Strychnos nux-vomica</i> L.	Kuchila	Loganiaceae	Seed	Neurodisorders, arthritis and vomiting.
72	<i>Tamarindus indica</i> L.	Tetul	Fabaceae	Bark, flower and fruits	Hyperacidity, leucorrhoea, ulcers, anaemia, epilepsy, dysentery, diarrhoea.
73	<i>Tectona grandis</i> L.f.	Sagun	Verbenaceae	Wood, bark, flower and seeds	Eczema, ringworms, inflammation, bronchitis, swelling of the eyelids, diuretic.
74	<i>Terminalia arjuna</i> (Roxb.) Wight and Arn.	Arjun	Combretaceae	Bark, leaf and fruits	Heart disease, cough, skin disease, bleeding, ear-ache, febrifuge.
75	<i>Terminalia bellerica</i> (Gaertn) Roxb.	Bahera	Combretaceae	Fruits	Digestive, astringent, throat, laxative, hair tonic, chest infection.
76	<i>Terminalia catappa</i> L.	Kathbadam	Combretaceae	Leaves, bark and fruit	Dysentery, leprosy, jaundice, indigestion, headaches and colic, Skin disease.
77	<i>Terminalia chebula</i> Retz.	Harataki	Combretaceae	Fruits	Laxative, stomachic, tonic, constituent of triphala.
78	<i>Vitex negundo</i> L.	Nishinda	Verbenaceae	Leaves	Astringent, febrifuge, sedative, tonic and vermifuge, headache, bacterial dysentery.
79	<i>Ziziphus mauritiana</i> Lam.	Kul	Rhamnaceae	Root, leaf and fruits	Blood purifier, anthelmintic, antibacterial, anti-fungal.

Conclusion

This study has identified and documented the most common medical trees planted in Murshidabad and their medicinal properties, providing insights into the potential of these resources in traditional and modern medicine. My findings are consistent with previous studies that have documented the rich diversity of medicinal plants and trees in the region (Mistry 2022). The traditional uses of medical trees documented in this study suggest that these trees have the potential to provide affordable and accessible healthcare to communities in Murshidabad and beyond.

However, the lack of scientific evidence on the efficacy and safety of these remedies poses a challenge to their integration into modern medicine (Poddar *et al.* 2020). Therefore, there is a need for more research on the pharmacological properties of these trees and the development of standardized protocols for their use. This study adds to the growing body of literature on the medicinal properties of plants and trees and their potential applications in healthcare (Baliga *et al.* 2013; Mbuni *et al.* 2020).

Moreover, my findings have implications for the conservation of biodiversity in the region. Many of the medical trees identified in my study are threatened by deforestation and habitat destruction, consistent with previous studies on the impact of anthropogenic activities on biodiversity in the region (Carugati *et al.* 2018). Therefore, there is a need for sustainable management practices that balance the conservation of biodiversity with the utilization of these resources for healthcare.

In conclusion, the study contributes to the growing body of knowledge on natural remedies and their role in healthcare. We hope that our findings will stimulate further research on the medicinal properties of medical trees and contribute to the development of evidence-based healthcare practices that are accessible, affordable, and sustainable.

Acknowledgement

I am very much thankful to the local people of Murshidabad district for their valuable cooperation.

References:

1. Agidew MG. Phytochemical analysis of some selected traditional medicinal plants in Ethiopia. Bulletin of the National Research Centre. 2022 Dec;46(1):1-22.
2. Anand U, Jacobo-Herrera N, Altemimi A, Lakhssassi N. A comprehensive review on medicinal plants as antimicrobial therapeutics: potential avenues of biocompatible drug discovery. Metabolites. 2019 Nov 1;9(11):258.
3. Antonelli A, Smith RJ, Fry C, Simmonds MS, Kersey PJ, Pritchard HW, Abbo MS, Acedo C, Adams J, Ainsworth AM, Allkin B. *State of the World's Plants and Fungi* (Doctoral dissertation, Royal Botanic Gardens (Kew); Sfumato Foundation), 2020.

4. Baliga MS, Thilakchand KR, Rai MP, et al. Aegle marmelos (L.) Correa (Bael) and its phytochemicals in the treatment and prevention of cancer. *Integr. Cancer Ther.* 2013;12:187-196.
5. Bandyopadhyay B, Mandal M, Pal A, Dey S R, De M. 2019. Ethno –Botanical Documentation of some Sacred Groves of Murshidabad district, West Bengal, India. *International Journal of Advancement in Life Sciences Research.* 2(3) 22-29. doi: 10.31632/ijalsr.2019v02i03.003
6. Carugati, L., Gatto, B., Rastelli, E. Martier, M.L., Coral, C., Greco, S. and Danovaro R. 2018. Impact of mangrove forests degradation on biodiversity and ecosystem functioning. *Scientific Report.* 8, 13298. <https://doi.org/10.1038/s41598-018-31683-0>
7. Chowdhury, A. R., Mandal, U. K., Gangopadhyay, M., & Kumar, S. (2021). Ethnomedicinal plants used by local communities of West Bengal, India for traditional healthcare and conservation strategies. *Journal of Ethnopharmacology*, 272, 113949.
8. Dan MM, Sarmah P, Vana DR, Dattatreya A. Wound healing: concepts and updates in herbal medicine. *Int J Med Res Health Sci.* 2018 Jan 1;7(1):170-81.
9. Debnath, M., Mitra, A., Banerjee, R., & Dutta, S. (2018). Ethnobotanical studies on medicinal plants used by traditional healers in Raghunathpur subdivision of Purulia district, West Bengal, India. *Journal of Ethnopharmacology*, 224, 65-88.
10. Dekebo A. Introductory chapter: Plant extracts. In *Plant Extracts* 2019 Sep 4. IntechOpen.
11. Labokas J, Karpavičienė B. 2021. Development of a Methodology for Maintenance of Medicinal Plant Genetic Reserve Sites: A Case Study for Lithuania. *Plants (Basel).* 10(4):658. doi: 10.3390/plants10040658.
12. Mbuni YM, Wang S, Mwangi BN, Mbari NJ, Musili PM, Walter NO, Hu G, Zhou Y, Wang Q. Medicinal Plants and Their Traditional Uses in Local Communities around Cherangani Hills, Western Kenya. *Plants (Basel).* 2020 Mar 5;9(3):331. doi: 10.3390/plants9030331.
13. Okaiyeto K, Oguntibeju OO. 2021. African herbal medicines: adverse effects and cytotoxic potentials with different therapeutic applications. *International Journal of Environmental Research and Public Health.* 18(11):5988. doi: 10.3390/ijerph18115988.
14. Parameswari RP, Lakshmi T. Microalgae as a potential therapeutic drug candidate for neurodegenerative diseases. *Journal of Biotechnology.* 2022 Sep 16.
15. Poddar S, Sarkar T, Choudhury S, Chatterjee S. 2020. Indian traditional medicinal plants: A concise review. *International Journal of Botany Studies.* 5(5):174-190.
16. Roy A, Khan A, Ahmad I, Alghamdi S, Rajab B S, Babalghith A O, Alshahrani M Y, Islam S and Islam M R. 2022. Flavonoids a Bioactive Compound from Medicinal Plants and Its Therapeutic Applications. *Biomed Research International.* 2022: 5445291. doi: 10.1155/2022/5445291.
17. Samal, J., Mohanta, G. P., Sarma, R. K., & Sahoo, M. R. 2020. Traditional medicinal knowledge of ethnic communities and its implications in healthcare system: A critical review. *Journal of Ethnopharmacology*, 253, 112643.

18. Samtiya M, Aluko RE, Dhewa T, Moreno-Rojas JM. Potential Health Benefits of Plant Food-Derived Bioactive Components: An Overview. *Foods*. 2021 Apr 12;10(4):839. doi: 10.3390/foods10040839.
19. Uddin, M. Z., Hassan, M. A., Sarker, M. M. R., & Rahman, M. A. (2019). Medicinal plants and their utilization practices by traditional healers in Thanchi, a remote area of Bandarban district of Bangladesh. *Journal of Ethnobiology and Ethnomedicine*, 15(1), 39.
20. Ugbogu OC., Emmanuel O, Agi GO., Ibe C, Ekweogu CN., Ude VC., Uche ME., Nnanna RO. and Ugbogu EA. 2021. A review on the traditional uses, phytochemistry, and pharmacological activities of clove basil (*Ocimum gratissimum* L.). *Heliyon*, 7 (11): e08404.
21. Van Wyk AS, Prinsloo G. Medicinal plant harvesting, sustainability and cultivation in South Africa. *Biological Conservation*. 2018 Nov 1;227:335-42.