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Documentation and preservation of traditional knowledge on ethnomedicinal plants among indigenous communities

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Abstract

This ethnomedicinal research project details the traditional medicinal uses of certain plants by the indigenous inhabitants of the area. This report is an effort to record and protect this cultural treasure. The primary goals of this study are to collect native medicinal plants from various locations for the purposes of identification and future reference; document indigenous knowledge of medicinal plants for common ailments; and investigate ethno-medicinal knowledge held by local people in selected Panna villages.

Keywords: Ethnomedicinal, ailments, ethnic community, traditional knowledge

Introduction

People that share characteristics including a common language, social and religious practices, cultural and national experiences, and a shared lineage form what is known as an ethnic or indigenous group or ethnicity. Worldwide, you'll find around 370 million indigenous people. The 'People of India Project,' an anthropological survey of India, counted 461 distinct tribal groups throughout the subcontinent. These groups, which will be called indigenous communities from now on, practice a wide range of ways of living. Their distinctive practice of using plants for therapeutic reasons stems from a long history of practice that include the use of herbs, shrubs, trees, and palms, as passed down through generations of healers. Traditional medicine is said to be more prevalent among indigenous people of lower socioeconomic position due to the perceived lack of access to affordable treatment. Traditional medical knowledge is slowly but surely fading away in many societies.

Preserving the therapeutic benefits of biodiversity relies heavily on indigenous peoples' traditional medical expertise. Ethnic knowledge and the passing down of local wisdom may teach us about environmental sustainability. Indigenous communities' traditional medical practices center on the preservation of a wide range of medicinal plants.

The therapeutic usefulness and holy importance of trees and groves are recognized in tribal culture. One such place is the Devarakaadu, which is sacred to a local deity in the vicinity of Shimoga, India. Community managed woods practice these kinds of biodiversity protection. In India, many different kinds of medicinal plants owe a debt of gratitude to the preservation of biodiversity, which has long been an integral part of their religious and philosophical practices.

Environmental protection is nothing new to Indians; it has always been an integral aspect of human civilization and a fundamental component of our ancestors' daily lives. An inseparable bond between humans and the natural world was formed by the first living cultures. Indigenous peoples, who are themselves creatures of biodiversity, have long relied on herbal remedies for a wide range of ailments. Both traditional and contemporary medical practices rely heavily on medicinal herbs. Ethnic group health knowledge is gaining popularity due to its preservation properties.

Traditional Indigenous Knowledge provides over 80% of primary health care in underdeveloped nations, according to the World Health Organization. The medicinal herbs are the mainstay of these IMK. The indigenous peoples' knowledge (IMK) includes the ability to recognize, use, and protect

therapeutic plants. Indigenous peoples rely heavily on biodiversity, the wealth of plant and animal life, to sustain their way of life. That reliance is for their health, which is a right to life, and not only for treatment or medicine.

Literature Review

Ralte, L., Sailo, H. & Singh, Y.T. (2024) [1] Using quantitative ethnobotanical indices, this research aimed to conduct a quantitative analysis of ethnomedicinal plants utilized by *Mizo tribes*. Researchers are on the lookout for novel ethnomedicinal plant species that may hold the key to developing innovative pharmaceuticals. Based on information gathered from 206 sources, we know of 124 species of ethnomedicinal plants, belonging to 112 genera and 60 families. The majority of herbal medication was prepared via decoction (61.21%), with herbs making up 49.19% of the total, and leaves being the most often employed plant component in this process. The most prevalent family among the species that were recorded was Asteraceae, with eleven members. The maximum FL was 91% for *Lepionurus sylvestris*, while the highest ICF value was 0.94 for digestive disorders, burns, cuts, and wounds. The most often used ethnomedicinal plant according to UV was *Oroxylum indicum* (6.25), whereas *Blumea lanceolaria* (1.12) had the highest RI value and O. *indicum* (0.29) had the highest RFC value. The results show that traditional medicinal plant therapy is still widely practiced in the field. Additional phytochemical and pharmacological studies may result in the development of novel medication formulations, which might be facilitated by the documentation of novel ethnomedicinal species and their therapeutic use.

Dlamini, Petros & Nokwanda, Khanyile. (2021) [2] The major objective of this study is to analyze strategies and tactics used to preserve traditional medical knowledge. Much as in the past, communities still depend on indigenous wisdom. This chapter discussed the various worldwide initiatives aimed at preserving traditional medical knowledge, the techniques now in use to accomplish so, and the challenges that have been identified. The findings of this study indicate that there is no universally accepted means of preserving traditional medical knowledge and that various nations' attempts at this have met with varying degrees of success. Overcoming these challenges will need concerted effort by the government, those making use of this information, and the knowledge's owners, all of whom have a stake in seeing this information preserved for future generations.

Dlamini, Petros. (2023) [3] Traditional medical jargon and the pressing need for medical libraries to digitize indigenous knowledge were the foci of this chapter. The three research goals that guided this chapter were as follows: first, to identify the types of traditional medicinal knowledge practitioners in rural areas; second, to identify the types of traditional medicinal knowledge that are digitally stored in medical libraries; and third, to identify the technologies that are used to digitize this knowledge. The inquiry used a desktop literature review methodology. Books, scholarly publications, and databases were the main sources of literature for the research. Since the author had previously written extensively on indigenous knowledge, he relied heavily on his background in the subject. In addition, the author probably used Google Scholar, Medline, university library databases, and the Web of Science to scour the published literature.

Kumari, Alka & Deb, Atanu & Prusty, Ajay & Suman, Swati & Rout, Dwity & Amar, Amritesh. (2024) [4] Preserving traditional medical knowledge is essential for indigenous communities to honor their past and promote sustainable healthcare practices. The Bonda people of Odisha's Malkangiri region are particularly affected by this. The Bonda people of the Eastern Ghats rely heavily on the oral tradition of traditional healers and elders when it comes to matters of health and medicine. Knowledge transmission methods, social networks supporting the IMK system, and preservation and accepted practices in the Bonda Community were all examined in this research. In the years 2023 and 24th, data was collected from a number of Bonda communities using a purposeful sampling approach. Chord diagrams were used for visualization, while qualitative approaches and participatory research were employed for data collecting. Desaris made a significant contribution to the outcomes, and the results demonstrated a robust IMK network with strong community links. Incorporating new knowledge, maintaining transmission secret, and conserving sacred groves and medicinal plants are all examples of adaption strategies. By drawing attention to the role of the Indigenous Knowledge Network (IKN) in preserving cultural identities and societal health, this study advocated for methods that would protect Indigenous Medicinal Knowledge (IMK).

Dei, De-Graft Johnson & Danquah, Monica. (2024) [5] This research looked at how mirrors of knowledge might help with indigenous knowledge preservation and management in Ghana so that it can contribute to long-term sustainability and development. This investigation made use of a qualitative research strategy based on structured interviews. Libraries (including public, special, academic, and research libraries), museums, and archive facilities were the three types of knowledge mirrors examined. Managers and policymakers across all domains of knowledge can use this study as a roadmap to better understand the value of indigenous knowledge collection development policies, as well as how to identify and implement effective technological solutions for this purpose. For the sake of sustainability and development, it will also enlighten policymakers, stakeholders, and managers of indigenous knowledge on the difficulties of collecting and managing indigenous knowledge, as well as some solutions to these issues.

Materials and Methods

In order to investigate Traditional Knowledge Preserving and documenting the ethno-medicinal plants of the Panna area in Bundelkhand and Central India is important since the region's potential medicinal and herbal uses have not been fully investigated.

Domain of investigation

The central Indian state of Madhya Pradesh includes the Panna district, which is part of the Sagar Division. District headquarters are located in the town of Panna. The region's floral riches are being reduced due to the drought, which is impacting areas with dense forest cover and key river tributaries. Towards the state's far northeastern corner is

Panna. In the commissioner's division of Sagar, it constitutes the northern district. The geographic coordinates of Panna district are 23° 45′ to 25° 10′ North and 79° 45′ to 80° 40′ East. The district has a triangle form, with its northern end tapering down to a point where it meets the town of Panna in terms of latitude.

Study framework: The documentation was done using the questionnaire approach.

Data collection

From 2022 to 2023, researchers documented ethno-medicinal information on 88 plant species, representing 75 genera and 37 families, during field visits. According to our research, it is a valuable tool for the herbal medicine industry.

Analysis of the study

Table 1: Traditional Healing Practices and Their Record Keeping in the Panna District of Central India

S. No.	Family	Botanical name	Local name	Habit	Parts used	Ethno-medicinal uses
Monocot plants						
1	Apiaceae	*Centella asiatica* (L.) Urban	Bramhi	Herb	Leaves	Enhance memory and reduce headache
		Coriandrum sativum L.	Dhania	Herb	Seed	Diarrhoea and constipation
2	Arecaceae	*Phoenix sylvestris* (L.) Roxb.	Khajoor	Tree	Fruit, root, gum	Toothache, tonic, cooling and laxative
3	Cyperaceae	*Cyperus rotundus* (L.)	Dellia ghas	Herb	Tuber	Anthelmintic, stimulant, diuretic
4	Dioscoreaceae	*Dioscorea bulbifera* L.	Varahakand	Climber	Tuber	Diabetes, skin diseases, burns
5	Liliaceae	*Allium cepa* L.	Pyaz	Herb	Bulb	Ear pain, headache, high blood pressure
		Allium sativum L.	Lahsun	Herb	Bulb	Joint pain
		Aloe barbadensis Mill.	Gheekwar	Herb	Whole plant	Boils, piles and fever
		Asparagus racemosus Willd.	Satavar	Shrub	Root	Diuretic, uterus disorders
		Gloriosa superba L.	Kalihari	Climber	Rhizome, seed	Chronic ulcer, skin diseases
6	Poaceae	*Cymbopogon martini* (Jones) Schult	Palmarosa	Herb	Whole plant	Fever and phlegmatic pains
		Cynodon dactylon (L.) Pers	Doob ghas	Herb	Roots	Diuretic and laxative
		Hordeum vulgare L.	Jawa	Herb	Leaves	Cataract
Dicot plants						
7	Amaranthaceae	*Achyranthes aspera* (Mill.)	Addhajhara	Herb	Whole plant	Diuretic, dropsy, piles, skin eruptions
		Amaranthus viridis (L.)	Chaulai	Herb	Leaves	Emollient, snake and scorpion bite
8	Anacardiaceae	*Mangifera indica* L.	Aam	Tree	Leaves	Diarrhoea.
9	Apocynaceae	*Cathranthus roseus* (L.) G. Don	Sadabahar	Herb	Flower, leaves	Diabetes
10	Asclepiadaceae	*Calotropis procera* (Wild) R.Br.	Madar	Shrub	Whole plant	Malaria and cholera
11	Asteraceae	*Ageratum conyzoides* L.	Mahakaua	Herb	Leaves	To stop bleeding & nose bleeding.
		Ageratum conyzoides L.	*Ecliptaalba* (Linn.) Hassk.	Bhrangraj	Herb	Plant
		Ageratum conyzoides L.	*Tagetes minuta* L.	Genda	Herb	Leaves
12	Brassicaceae	*Brassica compestris* L.	Sarso	Herb	Seed	Fever, joint pain and jaundice
		Raphanus sativus L.	Mooli	Herb	Rhizome	Piles, jaundice, diabetes
13	Canabaceae	*Cannabis sativa* L.	Bhaang	Shrub	Seed, leaves	Fever and bronchitis
14	Caricaceae	*Carica papaya* L.	Papita	Small tree	Fruit, seed, leaves	Dysentery, vomiting, expelling intestinal worm, ring worm, malaria
15	Celastraceae	*Elaeodendron glaucum* Roxb.	Jamrasi	Tree	Root	Snake bite
16	Chenopodiaceae	*Chenopodium album* (L.)	Bathua	Herb	Whole plant	Laxative and anthelmintic
		Spinacea oleracea L.	Palak	Herb	Leaves, stem	Anemia, bone's tonic and produce fresh blood
17	Combretaceae	*Terminalia arjuna* W. & A. Prod.	Arjun	Tree	Leaves, bark	Cardiac tonic, earache.
		Terminalia bellerica (Gaertn.) Roxb.	Bahera	Tree	Bark, fruits	Anaemia and leucoderma curing cough, bronchitis, insomnia, dropsy, dyspepsia, flatulence, vomiting, skin diseases, leprosy
		Terminalia tomentosa W. & A. Prod.	Saaj	Tree	Bark	Diarrhoea
18	Cucurbitaceae	*Cucumis melo* varagrestis Nudin	Kharbooja	Climber	Fruit	Digestive and stomach problems
19	Euphorbiaceae	*Emblica officinalis* L.	Aonla	Tree	Fruit	Diabetes, eye problems, body weakness
		Euphorbia hirta Linn.	Dudhi	Herb	Gum	Snake bite
		Phyllanthus amarus Schum & Thom.	Bhuiamla	Herb	Whole plant	Jaundice
		Ricinus communis Linn.	Arandi	Shrub	Seeds, leaves, bark	Boils, swelling, laxative and to start labour pain
20	Fabaceae	*Abrus precatorious* L.	Ratti	Climber	Root	Ulcer, rheumatic pain.
		Acacia arabica (Lam.) Willd	Babool	Tree	Leaves, fruits	Cough, dysentery
		Acacia catechu (L.) Willd., Oliv.	Khair	Tree	Stem	Diarrhoea, eruptions of the skin, leprosy,

						leucoderma and wounds, anaemia, diabetes, inflammations and intermittent fever
		Acacia leucophloea Willd.	Reonja	Tree	Barks, gum, leaves	An anthelmintic an antipyretic an antidote for snake bites, bronchitis, cough, vomiting, wounds, ulcers, diarrhoea, dysentery, internal and external haemorrhages, dental caries, stomatitis, and intermittent fevers and skin diseases
		Albizia procera Benth.	Safed siris	Tree	Whole plant	Problems of pregnancy, stomach-ache, ulcers
		Bauhenia variegata L.	Kachnar	Tree	Buds	Piles, dysentery and worm infestation.
		Bauhinia vahlii W. & A.	Mahuli	Climber	Root	Pyorrhoea
		Bauhinia racemosa Lam.	Asto	Small tree	Leaves, bark	Blood pressure, skin diseases
		Butea monosperma Lamk.	Palas	Tree	Seeds, gum	Worm infestation and in the treatment of ringworm, boils and pimples
		Cassia aungustifolia L.	Sena	Shrub	Leaves, branches, fruit	Headache, brain tonic and intestinal diseases
		Cassia tora L.	Powar	Herb	Seed	Stomach ache, cough & cold
		Crotolaria juncea L.	San	Shrub	Flower	High nutrious and worm repellent.
		Dalbergia latifolia Roxb.	Dhobin	Tree	Leaves, roots, stem	Dyspepsia, diarrhoea, leprosy, obesity and worms
		Dalbergia sissoo Roxb.	Shisam	Tree	Leaves, Roots, stem	Leprosy, boils, eruptions and stop vomiting
		Glycine max (L.) Merr	Soybean	Herb	Seed	Eye tonic
		Indigofera prostrata Willd.	Neel	Herb	Seed	Piles and fistula.
		Mimosa pudica L.	Lajwanti	Herb	Leaves, seed	Jaundice
		Phaseolus vulgaris L.	Bakala	Herb	Leaves	Skin irritation
		Tephrosia puppurea L.	-	Herb	Whole plant	Skin treatment, anthelmintic, anti-pyretic
		Trigonella foenum-graecum L.	Methi	Herb	Leaves	Rheumatism
21	Flacourtiaceae	*Flacourtia indica* (Burm. f.) Merr.	Katai	Shrub	Fruits, barks, roots, gum	Appetizing and digestive, diuretic, in jaundice intermittent fever cholera, nephritic colic
		Flacourtia ramontchi L'Herit.	Kaker	Shrub	Whole plant	Appetizing, diuretic, digestive, in jaundice, intermittent fever nephritic colic cholera
22	Gentianaceae	*Swertia chirata* Grisebach	Chirayita	Herb	Root	Blood purifier, fever
23	Lamiaceae	*Mentha longifolia* (L.) Huds.	Paudina	Herb	Leaves	Liver disorder, vomiting
		Ocimum sanctum L.	Tulsi	Shrub	Seeds	Stomach and vomiting
24	Lythraceae	*Woodfordia fruticosa* (L.) Kurz	Dhawai	Shrub	Flower	dysentery
25	Malvaceae	*Abutilon indicum* (Linn.) Sweet	Kanghee	Herb	Leaves, stem	To treat boils
26	Meliaceae	*Azadirachta indica* A. Juss.	Neem	Tree	Leaves	Skin diseases and blood purification
		Melia azedarachta L.	Bakain	Tree	Seed, leaves	Diabetes, blood purification and skin tonic
27	Menispermaceae	*Tinospora cordifolia* (Willd.) Hook. f. & Th.	Giloya	Climber	Root	High blood pressure, weakness
28	Morcaeae	*Artocarpus heterophyllus* Lam.	Kathal	Tree	Leaves	Skin diseases like ring worm and itching.
		Ficus racemosa L.	Umar	Tree	Root, bark, fruits	Leucorrhoea, blood disorders, burning sensation, fatigue, urinary discharges, leprosy, menorrhagia, epistaxis, intestinal worms, asthma and piles
		Ficus religiosa (L.)	Pipal	Tree	Seeds, fruits	Laxative, cooling and alterative
29	Myrtaceae	*Eucalyptus globulus* Sm.	Safeda	Tree	Seeds, leaves	Malaria, antibacterial and antiseptic
		Psidium guajava L.	Amrood	Tree	Leaves	Dysentery, cholera
		Syzygium cumini L.	Jamun	Tree	Seed	Diabetes, kidney stone
30	Nyctaginaceae	*Boerhavia diffusa* L.	Punarnava	Herb	Root	Cut & wound
31	Rhamnaceae	*Zizyphus jujuba* Lamk.	Ber	Shrub	Leaves, fruits	Blood sugar, Diarrhoea
		Zizyphus nummularia (Burm. f.) Wight	Jangli beri	Shrub	Fruit, leaves, roots	Jaundice
32	Rubiaceae	*Anthocephalus cadamba* (Roxb.) Miq.	Kadamba	Tree	Bark, leaves	Inflammation, urinary retention, fever, cough, diarrhoea, menorrhagia, burning sensation, wounds, ulcer and general

						debility
		Gardenia latifolia Ait. Hort. Kew.	Papara	Tree	Leaves, Roots, gum	Antispasmodic, anthelmintic plenomegaly, foul ulcers, wounds and obesity
		Mitragyna parvifolia Korth.	Kaim	Tree	Root, bark, leaves	Internal or external haemorrhages, muscle pain, skin diseases, fever, inflammations, infections
		Murraya koeningii Spreng.	Meethi neem	Shrub	Leaves	Blood pressure, diabetes
33	Rutaceae	*Aegle marmelos* (L.) Corr.	Bel	Tree	Fruit	Fever & cold
		Citrus limon (L.) Burm.f.	Bada neembu	Small	Fruit	Gastric disorders, vomiting, acidity

Table 2: Traditional medicine practitioners' treatment of human illnesses and the variety of plants employed

S. No.	Ailment	Number of species used	Frequency mentioned (%)	S. No.	Ailment	Number of species used	Frequency mentioned (%)
1	Anaemia	3	6.21	29	Inflammation	3	6.21
2	Anthelmintic	4	8.28	30	Jaundice	8	16.56
3	Antibacterial	1	2.07	31	Join pain	2	4.14
4	Antiseptic	1	2.07	32	Kidney stone	1	2.07
5	Asthma	2	4.14	33	Laxative	5	10.35
6	Bleeding	1	2.07	34	Leprosy	6	12.42
7	Blood pressure	4	8.28	35	Leucoderma	3	6.21
8	Blood sugar	1	2.07	36	Liver disorder	1	2.07
9	Body weakness	2	4.14	37	Malaria	3	6.21
10	Boils	5	10.35	38	Obesity	2	4.14
11	Bronchitis	4	8.28	39	Phlegmatic pain	1	2.07
12	Burn	1	2.07	40	Piles	7	14.49
13	Cataract	1	2.07	41	Pregnancy	1	2.07
14	Cholera	4	8.28	42	Pyorrhoea	2	4.14
15	Cold	6	12.42	43	Rheumatism	1	2.07
16	Cough	5	10.35	44	Ringworm	3	6.21
17	Diabetes	9	18.63	45	Scorpio bite	1	2.07
18	Diarrhoea	6	12.42	46	Skin treatment	13	26.91
19	Diuretic	7	14.49	47	Snake bite	4	8.28
20	Dropsy	3	6.21	48	Stomached	5	10.35
21	Dysentery	6	12.42	49	Swelling	1	2.07
22	Dyspepsia	2	4.14	50	Teeth ache	2	4.14
23	Earache	4	8.28	51	Tonic	5	10.35
24	Eye problem	2	4.14	52	Ulcer	5	10.35
25	Fever	11	22.77	53	Urinary retention	2	4.14
26	Headache	3	6.21	54	Vomiting	7	14.49
27	Haemorrhage	2	4.14	55	Worms	8	16.56
28	Hydrophobia	1	2.07	56	Wounds	4	8.28

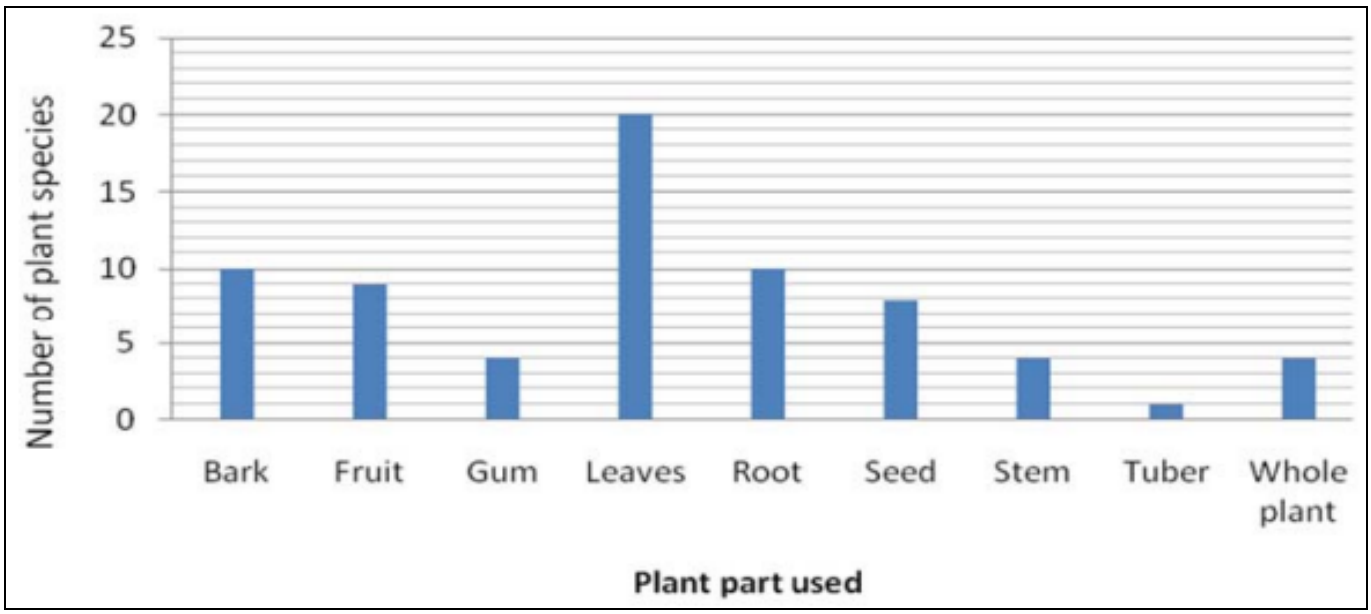

Fig 1: Ethnomedicinal plant based on number of species as plant part used.

The role of medicinal libraries in preserving traditional medicinal knowledge

Preserving and disseminating traditional medical knowledge and information in print and electronic form is the primary role of medicinal libraries. The information management skills of medical libraries make them ideal institutions for the preservation of traditional medicinal knowledge. its mission to gather, store, and disseminate medical knowledge and information agencies determines its function. Thus, librarians play an important part in making sure that traditional medical knowledge is successfully preserved. A librarian is "an active intermediary between users and resources," according to the IFLA (1994). The library's collection of traditional medical knowledge, both written and in print, should be expanded by librarians.

To further their community engagement, librarians should devise strategies to connect with people who hold traditional medicinal knowledge in order to identify it. Western medicine, rather than traditional medicine, was the primary emphasis of the medical library. As a result, the medical library was advised to establish strategies for the growth of its collections that would bolster conventional medical knowledge. By doing so, we can ensure the continued use of traditional medical knowledge while also protecting it.

Medicinal plants in conservation of traditional medicinal knowledge

Native peoples' wisdom in outlying rural places is under threat from urbanization and the lure of city employment. The rural parts of our nation are oversaturated with individuals looking for work, and the ethnic groups living there are drawn to the promise of cheap money and other benefits offered by the labor assistance system. People in rural areas sometimes inherit tiny plots of land that are economically unsuitable for farming. The rapid extinction of medicinal plant species has been exacerbated by the widespread loss of ethnobotanical knowledge brought about by people's migration to urban areas.

Traditional ecological knowledge included the ability to gather plants for food and fuel. However, the ethical techniques that guarantee a sustainable harvest are quickly vanishing as a result of urbanization, along with this loss of intellectual customary wisdom. In order to preserve cultural and ethnic groups' rights and interests and prevent migration, the state must adopt suitable measures. To ensure the preservation of biological diversity, the responsible use of its parts, and the equal distribution of benefits from the use of biological resources and knowledge, as well as for other purposes related thereto or incidental thereto, the Biological Diversity Act was enacted. Concerning the Biological Diversity Bill 2002, the Union ministry of environment and forests acknowledges in a national biodiversity plan report that the rules enacted to safeguard biodiversity are not being effectively enforced.

Maintaining a healthy ecosystem, which includes gene pools and indigenous communities, is critically dependent on forests. The majority of forested areas must remain remote from any kind of industrial or infrastructure development in order to comply with the Forest (Conservation) Act, 1980. Official approval has been granted for around 15,000 projects encompassing 1.14 million hectares of forest since the same Act was enacted. More than 40% of India's forest cover is degrading at some point. Conservation planning faces significant challenges from the domestic need for fuel wood, lumber, and similar products. Heavy grazing impacts almost 80% of forest area, whereas fire affects around 50% of forest cover.

When it comes to intellectual property rights, intangible knowledge isn't enough to safeguard medical knowledge. Various forms of intellectual property, such as patents, copyrights, and trade secrets, provide the necessary protection. No patent may be issued for medicinal or therapeutic procedures. It is not within the purview of the aforementioned rights to have knowledge about therapeutic plants. Indigenous peoples' knowledge isn't adequately safeguarded by intellectual property laws, which prevents them from receiving sufficient credit and benefits. As a matter of legal framework, the Patents Act should safeguard the interests of knowledge holders, who may be the originators of medicinal plants, as well as their accessibility and usefulness. Under the guise of collective wisdom, it is not being properly regulated and is instead ignored. In light of the country's responsibilities and pledges to the World Trade Organization, this all-encompassing legislation seeks to better protect consumers and prevent patent monopolies from stunting economic progress.

There should be legal and non-legislative mechanisms to incentivize knowledge. The protection of knowledge holders and the regulation of biological or medical materials need to be the focus of legislation. Traditional knowledge is partially protected under the Patents Act. According to this law, any local or indigenous group in the world has the right to challenge or cancel an Indian patent if they can prove that the idea was already known via oral or other forms of knowledge. For traditional Indian knowledge to be properly safeguarded, other nations would have to do the same.

One way that indigenous medical knowledge has been successfully commercialized is via the use of biotechnology. To address the problem of bio-piracy in relation to medicinal plants, these are helpful. We learned the importance of protecting traditional knowledge from the neem and turmeric issues. Research and development efforts aimed at protecting plant species need data on traditional medical practices. The Trade Related Intellectual Property Rights (TRIPS) Agreement mandates that all WTO members safeguard bio plant varieties via patent protection, a unique method, or a mix of the two. The purpose of the Plant Varieties and Their Reproduction Act, 2001 was to protect the work of farmers, researchers, and plant breeders by establishing legal protections for their intellectual property. Biodiversity, including medicinal plants and indigenous knowledge, is an important resource that should be safeguarded by this law. Consideration is given to the needs of indigenous communities.

Conclusion

The current research aimed to record the locals' traditional knowledge of therapeutic plants so that it would be accessible to generations to come. The native residents in the surrounding areas used medicinal plants for their health care, and many ethnomedicinal research documented these plants. Relevant prior research has also been matched to the current investigation. Deforestation, industrialization, and overexploitation of plant species in the research region are

among the numerous reasons why many of these precious medicinal plants are in danger of extinction, according to recent studies. Indigenous peoples' knowledge of medicine and the area's biodiversity, particularly its medicinal plant abundance, must be protected immediately via community-based conservation systems.

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