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ETHNO BOTANICAL INVESTIGATION OF PLANTS USED BY LOCAL PEOPLE OF MADHYA PRADESH

Antimbala Dawar

Research Scholar Department of Botany Sunrise University, Alwar, Rajasthan antimdawar9589125228@gmail.com

ABSTRACT

The documentation of biodiversity and its traditional as well as medicinal uses by ethnic groups has become a top issue due to the widespread misuse and loss of biodiversity, the growing hazards of bio piracy, and the expanding patent battles on bio resources. Medicinal plants are essential in the production of many medications, since they were used by our forefathers to treat a range of ailments thousands of years ago. As a result, these medicinal plants are today used in the production of numerous pharmaceuticals as well as the treatment of a variety of disorders.

There are several ethnobotany articles dealing to certain tribes, but the present study's goal was to assess vascular plant diversity, ethno medicinal potential, and conservation status across Madhya Pradesh, India. Only medicinal plants, their native names, and their medical applications were addressed in this research. The data was gathered from local informants with medicinal plant experience, including as Vaidyas, Hakeems, and Ayurvedic Practitioners, among others. Many medicinal plants utilized by the Bheel tribe of Madhya Pradesh, India, are discussed in this text. The paper identifies 25 medicinal plant species from eighteen distinct families that Bheel tribes use to cure various human and animal ailments.

Key-words: Ethnobotany, Ethno medicinal, Medicinal Plants, Multidisciplinary Science, Tribes.

INTRODUCTION

Ethnobotany, a multidisciplinary study that explores the link between plants and people, is defined by plant-human interaction. Plants and human communities are linked through the use of plants for religious ceremonies,

ornamentation, and health care, in addition to their usage for food, clothing, and shelter.

Modern ethnobotany is concerned with the documentation, description, and explanation of complex relationships between cultures and plants, focusing primarily on how plants are used, managed, and perceived among human societies (for example, as food; as medicines; in divination; in cosmetics; in dyeing; in textiles; as tools and construction materials, and as clothing; in literature; and so on.)

The basic structure of ethno botanical research is to investigate the dynamic relationship between human populations, cultural values, and plants, while acknowledging that plants pervade many aspects of culture, both physically and metaphorically, and that nature is not merely a spectator of human activity, but is actively involved in it. Individuals who have lived in a given region for a long time seem to have substantial collections of knowledge and cognition about plants and the local environment, according to evidence.

Others were able to elicit a preliminary examination of ethno botany's social and cultural values. Because of its capacity to document the hidden uses of plants, ethnobotany has become an important part of our world's history. Recent examinations of tribal plant knowledge are an inevitable fact in ethno botanical research; people have been mending themselves with ancient medicines and old treatments since the beginning of time. Humans have found therapies in their natural environment and have selected a number of strategies based on the climate, phyto geographic and faunal factors, as well as each region's distinctive culture and socio-structural

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typologies. Traditional healers pass on the bulk of this knowledge to succeeding generations via oral transmission and discipleship.

Aside from that, the World Health Organization claims that over 80% of the world's population uses traditional medicine to cure ailments, with 84 percent of India's population relying on the traditional system of health care. Botanical training is required, for example, to identify and preserve plant specimens; anthropological training is required to comprehend the cultural concepts that surround plant perception; linguistic training is required, at the very least, to be able to transcribe local terms; and native morphology is required because indigenous healers are often hesitant to accurately share their knowledge with outsiders.

To present, pharmacologically active plantderived components have been discovered in roughly 74 percent of instances. For health maintenance, people in Asia and India are already adopting plant-based medicine into their everyday routines. At the 32nd session of the United Nations Educational, Scientific, and Cultural Organization (UNESCO) in Paris in 2003, the Convention on the Safeguarding of Intangible Cultural Heritage was adopted, stating for the first time that knowledge and practices concerning nature and the universe are part of our cultural heritage. This implies that ethnobotany, ethnobiology, folk medicine, and pharmacological expertise are today considered intrinsically related to culture and hence worthy of preservation.

Herbal medicine has played an important part in medicine from ancient times to the present. Ethno botanical pharmacology has been practiced from the beginning of mankind. The Rigveda, written between 4500 and 1600 BC, and Ayurveda, written between 250 and 600 BC, were the earliest documented records of plant medicine in India. Although ethnobotany was first recognized as a scholarly field in China in the late 1970s, ethnobotanical

knowledge may be traced back to very ancient periods in Chinese culture. The vast volume of literature on Chinese Materia Medica, agriculture, and horticulture bears witness to this history. In a similar spirit, the Unani system is very popular across the subcontinent, especially in Pakistan.

The ancient Indian medicinal systems of Ayurveda, Siddha, Unani, Homeopathy, and Allopathy may be distinguished in the following ways: Ethnomedicine is a branch of medicine that examines drugs derived from plants, animals, or minerals and utilized to cure a variety of diseases and disorders using indigenous pharmacopoeia, folklore, herbal charm. It's a burgeoning area of research that's gaining traction. For over 5000 years, herbal medicine has been utilized for medicinal reasons. Over 2500 plant species have been legally recognized for medicinal purposes, and over 6000 plants are reported to be under investigation for use in traditional, folk, and herbal medicine. Much ethnobotanical literature in India may be traced back to Vedic literature, with Charak and Shusruta and the Charak Samhita, among others, being the most noteworthy works. There had been relatively little concerted effort in the region until roughly twenty years ago. Several studies have been conducted on the ethnobotany of northern, southern, and central India, among other topics. India has a broad assortment of flora and fauna due to its wide range of climatic and altitudinal zones, as well as the diversity of biological habitats.

The word "diversity" refers to the overall variance found in all living organisms and ecological systems. Out of all the many types of forests, the tropical dry deciduous forest covers the most acreage in Central India. Madhya Pradesh, together with the newly formed state of Chhattisgarh, has the country's largest forest acreage. As a consequence of rising development activities and other causes, the forest area of Madhya Pradesh, like that of other states, has been diminished both

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quantitatively and qualitatively. Madhya Pradesh is located in the geographic center of India, between latitudes 21.2°N and 26.87°N, and longitudes 74°02' - 82°49' E.

By population, it is India's most populous state. The Narmada River, which runs east and west between the Vindhya and Satpura mountain ranges, divides the state; these mountains, together with the Narmada, have long functioned as natural boundaries between India's northern and southern areas. The most prevalent kind of forest in Central India is tropical dry deciduous forest, which is the most widespread of the different varieties of forests. Madhya Pradesh is home to a large indigenous minority that has been mostly excluded from mainstream development for many years. As a consequence, Madhya Pradesh is one of India's least developed states, with an HDI (Human Development Index) score of 0.375 (2011), which is much lower than the national average.

Indigenous people in Madhya Pradesh depend on wild plants to meet their fundamental requirements, and each ethnic group has its own hidden library of ethno medicinal and ethno pharmacological knowledge about the plants that thrive in their environs. As a consequence of changing lifestyles, severe secrecy of traditional healers, and adolescent disinterest, folk medicine practice and reliance among ethnic cultures is quickly declining globally. As a consequence, ethno botanical exploitation and recording of indigenous knowledge about the use of such a large pool of genetic resources is necessary.

Natural resources, as well as traditional knowledge and tribal cultures, have been depleting at an alarming rate in recent years as a result of haphazard development programs, the expansion of modern healthcare facilities, and the impact of modern civilization on this region's natural resources, traditional knowledge, and tribal cultures. As a result, it's vital to explore and document the tribe group's unique and indigenous traditional knowledge

before it's lost to future generations of well-informed people.

In addition, documenting of indigenous and traditional knowledge is necessary for future critical studies that will lead to the sustainable use of natural resources, as well as for dealing with biopiracy and third-party patenting of indigenous and traditional knowledge. As a consequence, we picked a few villages for ethno-medicinal research since this area has a lot of phyto-diversity and tribal people, and we wanted to concentrate our efforts there.

In the state of M.P., the current research area is It's between 23'53" and 26'06" north latitude and 76048'30" and 78016'70" east longitude. It is defined by the coordinates 23'53" N and 26'06" N, as well as 76048'30" E and 78016'70" E. It is the administrative district in Madhya Pradesh that is located on the Parbati River's bank. It is located in the northeastern area of the nation, in the northernmost region of the Malwa Plateau.

The western boundary of the District is clearly defined by the Parbati River. The Parbati River is the main river that runs along India's western border, traveling through Madhya Pradesh's Rajgarh District and Rajasthan's Jhalawarh and Kota Districts before entering India. Shivpuri and Kota are located in the north, while Vidisha, Bhopal, and Rajgarh are in the south. The district's eastern boundary is marked by the Sindh River, which passes through it. The region is situated at a height of 482 meters above sea level on average.

MATERIALS AND METHODS

By categorizing the plants specimens from the many districts regions according to their overall utility, it was decided that they were valuable in the study field. Researchers obtained knowledge on plants that were historically utilized to treat viral illnesses of folkloric origin during an ethno botanical investigation in Madhya Pradesh.

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The ethno botanical and Participatory Rural Appraisal (PRA) approaches were used to conduct the surveys between April 2011 and March 2013. Between April 2011 and March 2013, they were carried out. Interviews were conducted with local inhabitants, herders, Vaidyas, Hakims, and plant collectors, who were separated into age and gender categories based on the demography of the region. Medicinal plants, fuel plants, timber plants, fodder plants, fruits, vegetables, condiments, spices, and decorative plants, as well as plants used for fences, dyes, and ornamental plants, are all included in the content.

Following the field walks, the herbal healers' knowledge (particularly plant names and ailments treated) was validated in evening meetings with the herbal healers, the tribe headman, and any other tribal community members who want to attend. The results were confirmed as a consequence of examining and comparing the information acquired on plant consumption in the region with existing literature. These numbers and information have been classified according to their native applications and are presented in a tabular format. This research documented the local population's dependency on plant resources, as well ethno-medicinal as and cultural characteristics, as well as the level of their preservation. For the numerous uses of the plant, it includes the voucher number, scientific names, local/common names, family names, habitats and habits, as well as the flowering and fruiting seasons.

The survey's purpose was clearly specified, and permission was granted for the findings to be disseminated on a national and international scale. With the exception of a few plants, the healers were emphatic about not disclosing the exact compositions and dosages since they feared it would jeopardize their professional interests. The plants were arranged alphabetically by their generic and specific names, followed by synonyms, the family name (including vernacular names), English,

Sanskrit, and regional names, distribution, a brief description of the systematic account (including flowering and fruiting), habitat ecology, material examined (including voucher specimen numbers), parts used, and folk uses gleaned from personal field research.

RESULTS

Researcher especially interested in medicinal plants that had been reported for their therapeutic capabilities by local people, such as Vaidhays, Hakeems, Ayurvedic Practitioners, and tribal locals, who resided in and near the study location. As part of the present investigation, sixteen medicinal plants were collected from the survey area, validated by a recognized institution, and identified from relevant literature.

Table lists the medicinal plant species found in the region, with a brief description of each.

Table 1: Traditionally used medicinal plants in various areas

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S.	Scientific	Local
No.	Name	Name
1	Accacia	Khair
	catechu	
2	Acacia	Babul
	nilotica	
3	Aegle	Bel
	marmelos	
4	Allium cepa	Pyas
5	Allium	Lahson
	sativum	
6	Aloe vera	Gwarpata
7	Annona	Sitaphal
	squamosa	
8	Azadirachta	Neem
	indica	

DISCUSSION

9	Bauhinia	Gwiar
	racemosa	
10	Bombax ceiba	Semal

The ethno botanical research that follows provides information on the medicinal characteristics of medicinal plants used to cure a range of ailments and problems. There are eighteen families that make up the twenty-five plant species that have been listed. The vast majority of plant species were discovered in the wild, with just a handful being cultivated and used as spices, vegetables, and medicines. According to the findings of the study, there are a great number of medicinal plants in our near proximity that are both beneficial to our

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health and might be used as a simple source for phonological research. It also shows that medicinal plants come in a wide variety of forms, each with its own set of therapeutic properties.

In the study of ethnobotany, tribal cultures' traditional knowledge is very useful. Many plants and their various parts, such as roots, leaves, stems, flowers, and fruits, are used for medicinal purposes in a variety of ways, as medicinal plants and their extracts have enormous potential for the management and treatment of a wide range of diseases, as well as phyto medicines, which are used by the local people to treat a variety of diseases and are inexpensive and easily accessible. Hundreds of plant species were employed by Indian herbalists to cure conjunctivitis, fever diabetic keto acidosis, malaria. leucorrhoea, whooping cough, and hepatitis.

Many of the anti-diabetic plants identified in the Bellary area of Karnataka, India, have been determined to derive from holy plants, which is rather unusual. Regardless of their age, sex, or health conditions, many Hindus use the leaves of Aegle marmelos and Vitex nigundo, as well as the flowers of Senna auriculata, Leucas aspera, and Hibiscus rosa-sinensis, for prayer on auspicious occasions and consume them in small quantities as prasada (food graced by God).

The methanol extract of Azema tetracantha is used to treat wounds as an ointment and an injection, while the alcoholic extract of Colderia procumbens leaves has been proven to have analgesic properties. Here is a detailed list of 125 plant species, ranging from herbs to trees, that are commonly used by Indian natives for the treatment of a variety of ailments. The species, which belongs to 22 genera and 17 families, is given a brief morphological description as well as its current botanical and local names.

This article describes a 1995 ethnopharmacological investigation of the Kheri district woodlands in Uttar Pradesh, India, and gives firsthand information on folk medicine utilized by the local populations. Local medicine men (Khar Vaidyas), according to the data, use 101 plant species from 89 genera and 54 families as folk medicines in the area. In addition, 169 well-known folk recipes have been recorded, together with their route of administration and therapeutic dosage.

Several researchers conducted an ethnomedicinal investigation in the secluded Hindu-kush-Himalayan valleys of Utror and Gabral in Pakistan, which resulted in the documenting of 36 prominent traditional medical cures from the area. In addition, traditional medicinal plant collection and processing procedures were studied.

The indigenous knowledge system of herbal practice is still very rich and extensively diffused among the people, according to the tribal group of Jhabua area in Madhya Pradesh. In many rural areas, the construction of modern medical health clinics is already begun, and it is expected that this will gradually disrupt the current pattern of indigenous knowledge-based health-care delivery [26]. In addition, Wagh and Jain discovered in 2010 that tribal groups' traditional knowledge in the Jhabua region is ethno botanically relevant.

They employ a range of plants and their various components in a variety of ways, including roots, leaves, plant latex, bark, tubers, and seeds. The researchers looked at the plants and plant components that were used in Alirajpur to treat different diseases and manufacture medicine throughout the research. The root and leaves are the most often used medicinally for various ailments, according to the study's results, followed by fruits, seeds, bark, and the whole plant.

The number of plant species used by the tribe to treat some of the most important and common diseases is shown in parenthesis: digestive problems, cough, uterus

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displacement, leucoderma, tuberculosis, white discharge from a scorpion bite, pneumonia; increase sexual vigour; male impotency; menorrhea: increase memory; abortion; diabetes; and sexual weakness. Plants used for therapeutic reasons may be found growing and easily available in the surrounding region, and they are often available right away as a consequence of their accessibility. A wide range of plant species are employed in various treatments. Butea monosperma Taubert and Butea monosperma Taubert are two common plant species used to treat scorpion bites by tribal people in the region. Traditional healers in the region provided plant remedies for the treatment of human and livestock health concerns.

Other researchers have conducted a detailed folklore claims investigation on numerous therapeutic plants used by the Bheel tribes of Madhya Pradesh, and their results have been published. In tribal-inhabited parts of Madhya Pradesh, a large variety of plant species may be found. It is now more necessary than ever to document indigenous people's knowledge in order to protect their intellectual property rights. The residents of Bheel village are wellversed in a wide range of plant applications.

Aside from medicinal uses, the tribes of the area have a wealth of knowledge about the diverse ethno botanical uses of plants. They know a lot about herbal medicine and how to use it to treat their cattle. The treatment method is traditional, and drugs are only given in their most basic form. A group of researchers in Madhya Pradesh acquired information on vegetable species that were traditionally used by tribal tribes in the districts in 2012. Vegetables have a long history of being utilized as herbal medicine in Madhya Pradesh, where they have been used to treat a broad variety of diseases. As a consequence, we learned about the ethnomedicinal plants identified in the Madhya Pradesh area.

Conclusions

From the preceding debate, it is clear that tribal communities are inherently intelligent and ecologically cognizant, and that they have established a self-sufficient and self-reliant food system. Bheel and Sahariya are fully dependant on plants for their livelihood since they live in rural areas. The Bheel and Sahariya tribes of Madhya Pradesh are, in general, highly diverse and distinct. Each tribe, like all others, has its own distinct traits and specialties, and a close inspection of their way of life, daily routines, residences, work, hobbies, and other activities reveals that the tribal civilization is committed to nature. They care deeply about the environment and are used to incorporating natural resources into their daily lives.

Agriculture and livestock husbandry are their major sources of income. Plants are clearly active in the course of their lives, as seen by their annual agricultural calendar and daily routine. The results of ethno botanical study undertaken among tribal groups in several districts indicate specific features of their plant intake and management methods, which are detailed below. Despite having a rich ethno botanical heritage, it is gradually vanishing due to rapid acculturation, industrialization, and technological innovation. Several ethno botanical studies have already been completed. However, since there was no systematic ethno botanical research on tribal groups and their environments available, it was considered that such a study was required to address this gap. The findings of this study revealed that local traditional healers in Madhya Pradesh, India are well-versed in ethno-medicinal knowledge, and that the vast majority of people rely on plant-based remedies for common health problems like headaches, body aches, constipation, indigestion, cold, fever, diarrhea, dysentery, boils, wounds, skin diseases, urinary troubles, fractures, round worms, and so on. According to the findings of the research, all traditional healers have a strong conviction in ethno medicine, despite their lack of interest in recording and preserving

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ethno medicinal traditions and medicinal plants.

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