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Herbal Plants Used by the Deori Tribe of Assam: An Ethnobotanical Study

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KEYWORDS
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ABSTRACT:
The Deori tribe of Assam, a prominent indigenous community, possesses a rich heritage of ethnobotanical knowledge passed down through generations. This study investigates the diverse herbal plants utilized by the tribe for medicinal, dietary, and cultural purposes, identifying key species and their traditional applications. The findings emphasize the critical role of this knowledge in promoting sustainable healthcare and biodiversity conservation. However, the practices face significant threats from modernization, biodiversity loss, and environmental degradation, risking the erosion of this cultural legacy. The paper underscores the urgency of preserving this heritage through community-based initiatives, sustainable harvesting practices, and integration with modern conservation and healthcare frameworks. By documenting and analyzing the Deori tribe's traditional practices, the study highlights their potential contributions to global medicinal research and ecological sustainability.

1. Introduction:

The Deori tribe, predominantly residing in the fertile landscapes of Upper Assam, is renowned for its rich cultural and ecological heritage. Rooted in a harmonious relationship with the natural environment, their traditional practices reflect a deep understanding of the region's diverse flora and fauna. For centuries, the Deori people have depended on the bounty of nature to meet their healthcare, dietary, and cultural needs. A cornerstone of their culture is the use of herbal medicine, which serves as a vital healthcare system utilizing locally available plants to treat a wide array of ailments.

Traditional herbal medicine among the Deori is more than a practice; it is an embodiment of indigenous knowledge passed down orally through generations. Healers and community elders play a pivotal role in preserving this knowledge, which not only addresses immediate healthcare needs but also aligns with principles of sustainability and ecological balance. The preparation and application of herbal remedies involve intricate methods and spiritual dimensions, reflecting the tribe's holistic view of health and well-being.

The significance of Deori ethnobotanical knowledge extends beyond its local utility. With rising global interest in natural remedies and sustainable healthcare systems, the medicinal practices of the Deori hold immense potential for contributing to global medicinal research. Plants traditionally used by the tribe could serve as sources for bioactive compounds, paving the way for the development of new drugs. Furthermore, their practices exemplify sustainable living, offering valuable lessons in biodiversity conservation, which is increasingly critical in the face of environmental challenges.

However, this invaluable heritage is under threat. The forces of modernization and urbanization have led to a cultural shift, particularly among younger generations, who often favor allopathic medicine and modern lifestyles over traditional practices. Concurrently, deforestation, habitat loss, and climate change are causing the depletion of many plant species essential to Deori medicine. These pressures not only endanger the ecological balance but also accelerate the erosion of indigenous knowledge systems.

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This study aims to document the herbal plants used by the Deori tribe, their methods of preparation and application, and the cultural significance attached to these practices. It also seeks to analyze the challenges threatening this heritage and explore strategies to integrate traditional knowledge with modern healthcare and conservation frameworks. In doing so, the study contributes to preserving the Deori tribe's ethnobotanical legacy and highlights its relevance in addressing global healthcare and ecological challenges.

2. Aim and Objectives of the Paper:

- **a.** To document the herbal plants used by the Deori tribe of Assam for medicinal and cultural purposes.
- **b.** To analyze the traditional knowledge associated with these plants.
- **c.** To identify the challenges to preserving ethnobotanical practices among the Deori tribe.
- **d.** To recommend strategies for integrating traditional knowledge with modern conservation and healthcare systems.

3. Methodology:

Study Area:

The research was carried out in the Lakhimpur and Dhemaji districts of Assam, regions known for their significant Deori population. These districts are characterized by tropical forests, wetlands, and agricultural landscapes, offering a rich and diverse range of plant resources essential for traditional practices. The ecological variety of these areas contributes to the extensive use of native plant species for medicinal, dietary, and cultural purposes.

Data Collection Methods:

The methodology involved multiple data collection techniques to ensure a comprehensive understanding of the Deori tribe's ethnobotanical practices:

i. Field Surveys:

Field surveys were conducted across various Deori villages to identify commonly used herbal plants. During these surveys, plant samples were collected and systematically identified using botanical keys and floras, ensuring accurate classification and documentation of species.

ii. Interviews and Focus Group Discussions:

Semi-structured interviews were held with local healers, elders, and knowledgeable community members to gather detailed information about plant usage, preparation, and traditional applications. Focus group discussions were also organized to cross-verify the information obtained and enrich the dataset through collective insights from multiple participants.

iii. Observation:

Direct observation of plant collection, preparation, and application methods was employed to gain practical understanding and contextual knowledge. Observing these practices firsthand allowed for accurate recording of techniques and uses as practiced in everyday life.

iv. Ethnobotanical Analysis:

An ethnobotanical analysis was conducted by categorizing plants based on their primary uses—medicinal, dietary, or cultural. The frequency and significance of each plant species in traditional practices were assessed to determine their role and importance within the community. This categorization provided a structured understanding of the traditional knowledge systems present among the Deori tribe and the ongoing usage patterns of local flora.

4. Discussions and Findings:

Herbal Plants Used by the Deori Tribe:

The Deori tribe relies on a rich variety of herbal plants for medicinal, dietary, and cultural purposes, showcasing their deep connection to the natural environment. Key findings from the study include:

a) Medicinal Plants:

1. Andrographis paniculata (Kalmegh): Known for its bitter tonic properties, it is commonly used to treat fever, malaria, and digestive disorders.
2. Centella asiatica (Manimuni): Renowned for its wound-healing and memory-enhancing qualities.
3. Terminalia chebula (Hilikha): Utilized as a remedy for respiratory issues and digestive ailments.

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4. Ocimum sanctum (Tulsi): Widely employed for managing colds, coughs, and various skin conditions.

b) Dietary Plants:

1. Colocasia esculenta (Kochu): A versatile staple food, particularly during periods of flooding, providing sustenance in adverse conditions.
2. Ziziphus mauritiana (Bogori): Consumed for its nutrient-rich fruits, offering a vital source of vitamins.
3. Caryota urens (Fishtail Palm): The plant is used in preparing traditional beverages and snacks, reflecting its importance in the Deori diet.

c) Plants with Cultural Significance:

1. Ficus religiosa (Sacred Fig): Revered in religious rituals and central to community worship, symbolizing spiritual and cultural identity.
2. Areca catechu (Tamol): Plays a vital role in social ceremonies and hospitality, serving as a cultural bridge during interactions.

These findings illustrate the multifaceted role of herbal plants in the Deori tribe's daily life, extending beyond utility to encompass cultural identity, ecological sustainability, and community well-being. This ethnobotanical knowledge reflects their holistic approach to life and underscores the need for preservation amidst modern challenges.

5. Preparation and Usage of Herbal Plants:

The Deori tribe has developed intricate methods of preparing and utilizing herbal plants for a variety of purposes, reflecting their deep understanding of the natural environment. These practices are rooted in traditional knowledge and continue to hold cultural, medicinal, and nutritional significance.

A. Medicinal Applications:

The Deori people have mastered the art of transforming raw plant materials into effective remedies for various ailments. Medicinal plants are often prepared in forms such as fresh extracts, dried powders, or decoctions. For instance, leaves of Kalmegh (Andrographis paniculata) are boiled to create a bitter tonic, commonly used to treat fevers and improve digestion. Traditional healers frequently combine multiple herbs to enhance their therapeutic effects, leveraging their synergistic properties. These combinations are based on generations of empirical knowledge, ensuring the remedies address complex health issues effectively. The meticulous preparation and precise application of these herbal medicines underscore their vital role in the tribe's healthcare system.

B. Dietary and Nutritional Practices:

The dietary habits of the Deori tribe are closely tied to their natural surroundings, with wild leafy vegetables and tubers forming an integral part of their daily meals. These plants, rich in essential nutrients, not only fulfill dietary needs but also act as preventive medicine by boosting immunity and overall health. For example, wild greens are harvested during their peak growing seasons and consumed fresh or preserved for later use. Seasonal fruits, such as those from the Ziziphus mauritiana (bogori), are processed and stored to ensure a consistent food supply during lean periods. This sustainable approach to utilizing available resources highlights their resilience and ecological adaptability.

C. Rituals and Festivals:

Herbal plants hold profound cultural significance within the Deori community, particularly in rituals and festivals. Items such as Ficus religiosa (Sacred Fig) leaves and Areca catechu (Tamol) are indispensable in traditional ceremonies, symbolizing spiritual and social values. These plant-based elements serve as mediums to connect the tribe with their ancestors, deities, and natural surroundings, reinforcing their cultural identity.

Through these diverse applications, the Deori tribe demonstrates a holistic approach to health, nutrition, and spirituality, emphasizing the symbiotic relationship between humans and nature.

6. Threats to Ethnobotanical Practices:

The ethnobotanical heritage of the Deori tribe faces significant challenges in the contemporary era, driven by sociocultural, ecological, and economic changes. These threats not only endanger the preservation of traditional knowledge but also undermine the sustainable use of medicinal plants.

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a. Modernization and Cultural Shift:

Modernization has introduced transformative changes to the lifestyle and worldview of the Deori people, particularly the younger generations. Exposure to urban lifestyles, formal education systems, and allopathic medicine has diminished interest in traditional practices. The shift towards modern healthcare solutions, often perceived as more convenient and effective, has resulted in a gradual erosion of traditional knowledge. As the younger population shows less inclination to learn the intricacies of plant-based remedies, the oral transmission of ethnobotanical wisdom from elders to descendants is disrupted, threatening its continuity.

b. Biodiversity Loss:

The increasing pace of deforestation, habitat destruction, and agricultural expansion in Assam poses a direct threat to the availability of medicinal plants. Many plant species that are integral to Deori medicine are disappearing due to land conversion for cultivation, urbanization, and logging activities. This loss of biodiversity not only impacts the ecological balance but also limits the availability of essential resources for traditional healing practices.

c. Climate Change:

Climate change has exacerbated environmental challenges, altering the growth patterns and distribution of plant species. Unpredictable rainfall, prolonged droughts, and extreme weather events adversely affect the survival and regeneration of plants used in Deori herbal medicine. The shifting ecological dynamics disrupt the delicate relationship between the tribe and their natural environment, making it increasingly difficult to source certain herbs critical to their healthcare practices.

d. Overharvesting:

The rising demand for herbal products in urban and global markets has led to the overexploitation of medicinal plants. Unsustainable harvesting practices often prioritize commercial gain over ecological considerations, resulting in the depletion of plant populations. This exploitation not only diminishes the availability of resources for the Deori tribe but also threatens the long-term viability of these species in their natural habitats.

Addressing these threats requires urgent intervention through conservation initiatives, community engagement, and sustainable practices to safeguard the Deori tribe's ethnobotanical legacy.

7. Conclusion:

The Deori tribe's extensive use of herbal plants showcases a profound understanding of the environment and sustainable living practices, cultivated over generations. Their ethnobotanical knowledge, which interweaves healthcare, nutrition, and cultural traditions, not only forms a cornerstone of their identity but also offers significant insights for broader applications in global healthcare and biodiversity conservation.

This study emphasizes the urgent need to document and safeguard such invaluable traditional knowledge, which is increasingly at risk due to modernization, biodiversity loss, and cultural shifts. By capturing the traditional practices of the Deori tribe, we not only honor their heritage but also unlock possibilities for integrating their ecological wisdom into contemporary scientific research and sustainable healthcare systems.

To preserve this heritage, a multifaceted approach is necessary. Community-based initiatives can play a pivotal role by involving the Deori people in the conservation and sustainable management of their natural resources. Programs focusing on ethnobotanical education can help pass on traditional knowledge to younger generations, fostering pride and continuity in their cultural practices. Similarly, sustainable harvesting practices must be encouraged to ensure that the plants integral to their traditions remain abundant and accessible for future use.

Collaboration between local communities, researchers, and policymakers is vital in addressing the challenges faced by the Deori tribe. Researchers can work with tribal healers and elders to systematically document the medicinal, dietary, and cultural uses of plants, while policymakers can create frameworks that recognize and protect indigenous knowledge systems. This includes legal measures for intellectual property rights and community-led conservation strategies that align with traditional practices.

The Deori tribe’s ethnobotanical legacy stands as a testament to the symbiotic relationship between humans and nature. Preserving this legacy is not merely about maintaining cultural traditions but also about enriching

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global efforts toward sustainability and healthcare innovation. By bridging traditional wisdom and modern science, we can ensure that the Deori tribe's invaluable contributions continue to thrive amidst contemporary challenges.

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