

Traditional Medicinal Plant Utilization among the Saharia Tribe: A Field-Based Documentation

Rajendra Kumar, Assistant Professor - Botany, Govt. Birla College, Bhawani Mandi, Jhalawar and Dr. Rashmi Verma, Professor - Botany, Govt. P.G. College, Kota

Abstract: -

The Saharia tribe of Rajasthan represents one of India's most marginalized and environmentally dependent indigenous communities. Their health-care practices rely predominantly on traditional medicinal plants collected from forest habitats, especially in the Kishanganj and Shahabad regions of Baran district. This field-based study documents the medicinal plant species used by the Saharia tribe, the associated ethnomedical knowledge, patterns of utilization, and the community's ecological perceptions. Data were collected through semi-structured interviews, focus group discussions, participant observation, and guided field walks with local healers (vaidyas). A total of 62 medicinal plant species were documented, belonging to 54 genera and 38 families. These plants are primarily used for treating respiratory ailments, gastrointestinal disorders, fevers, dermatological issues, and musculoskeletal problems. Phytochemical evidence from secondary literature indicates that many of these plants contain bioactive compounds such as alkaloids, flavonoids, terpenoids, tannins, and saponins, supporting their traditional uses. The study underscores the cultural significance of plant-based healing, the ecological knowledge embedded in Saharia ethnomedicine, and the urgent need for conservation of both biological and cultural resources.

Keywords: Saharia tribe, Ethnobotany, Traditional medicine, Medicinal plants, Rajasthan, Ethnoecology, Indigenous knowledge.

1. Introduction: -

Indigenous communities have long depended on their surrounding ecosystems for medicine, food, and cultural practices. Ethnomedicinal knowledge—built over generations—plays a crucial role in primary healthcare among tribal communities lacking formal medical facilities (Jain, 2020). The Saharia tribe, categorized as a Particularly Vulnerable Tribal Group (PVTG), resides primarily in the Baran district of Rajasthan, especially in Kishanganj and Shahabad blocks. Their close interaction with forests has shaped a sophisticated knowledge system of medicinal plants used for curing various ailments.

Modernization and rapid deforestation, however, threaten both the biodiversity and the knowledge systems sustained by these communities. Systematic documentation of such knowledge is essential for biodiversity conservation, cultural preservation, and potential pharmaceutical developments. This research paper provides a field-based account of traditional medicinal plants used by the Saharia tribe and examines the relevance of these practices in contemporary contexts.

2. Literature Review: -

2.1 Ethnobotany and Indigenous Knowledge Systems

Ethnobotany examines the dynamic relationship between people and plants, particularly their traditional therapeutic uses (Cotton, 1996). Indian tribes have a long history of using plant-based remedies for ailments, often predating formal medical systems (Mahapatra & Panda, 2018). Research indicates that indigenous healing traditions often correspond with phytochemical constituents found in medicinal plants.

2.2 Ethnomedicine in Indian Tribal Communities

Several tribal communities in India—including Bhil, Gond, Kol, and Saharia—possess rich ethnomedical systems based on experiential learning (Kala, 2015). These systems incorporate plant taxonomy, harvesting techniques, dosage knowledge, and ritual components. However, many studies highlight the growing erosion of this knowledge due to cultural assimilation and environmental changes (Singh & Singh, 2020).

2.3 Saharia Tribe: Ecological and Cultural Context

The Saharia, traditionally forest-dwelling, rely on non-timber forest produce and medicinal plants for their livelihood and healthcare (Meena, 2019). Earlier studies indicate the use of *Adhatoda vasica*, *Tinospora cordifolia*, *Azadirachta indica*, *Asparagus racemosus*, and *Cassia fistula* for respiratory, digestive, and skin ailments. Yet, specific documentation of plant knowledge in Kishanganj and Shahabad remains sparse.

2.4 Phytochemical Validation of Traditional Remedies

Phytochemical analyses of medicinal plants used by Saharias demonstrate the presence of significant bioactive compounds.

Examples:

- *Tinospora cordifolia* → alkaloids, diterpenoid lactones (Sharma et al., 2021)
- *Azadirachta indica* → limonoids, flavonoids (Kumar & Verma, 2020)
- *Asparagus racemosus* → saponins (Chauhan et al., 2019)

Such evidence validates the empirical significance of tribal herbal medicine and supports its integration into modern pharmacology.

3. Objectives of the Study

- To document medicinal plants traditionally used by the Saharia tribe of Kishanganj and Shahabad.
- To analyse ethnomedical practices and modes of preparation.
- To explore the ecological and cultural significance of medicinal plant use.
- To compare documented practices with available phytochemical and pharmacological literature.
- To propose recommendations for preserving traditional knowledge and local biodiversity.

4. Methodology

4.1 Study Area

Kishanganj and Shahabad blocks, located in Baran district, are rich in dry deciduous forests dominated by *Anogeissus*, *Acacia*, and *Holarrhena* species.

4.2 Research Design

A mixed-method ethnobotanical approach was adopted: -

- Qualitative: interviews, key informant surveys, field walks
- Quantitative: frequency index, use value (UV), relative importance (RI)

4.3 Sampling

- 46 households selected using purposive sampling
- 12 traditional healers (vaidyas) included

4.4 Data Collection Techniques

- Semi-structured interviews
- Participant observation
- Guided forest walks
- Photography and herbarium preparation
- Cross-verification with literature

4.5 Data Analysis

- Descriptive statistics
- Cultural Importance Index (CI)
- Comparative phytochemical analysis

5. Results and Discussion

5.1 Diversity of Medicinal Plants Used

A total of 62 plant species from 38 families were documented.

Table 1. Frequently Used Medicinal Plants

Plant Name	Local Name	Ailment Treated	Part Used
<i>Tinospora cordifolia</i>	Giloy	Fever, immunity	Stem
<i>Adhatoda vasica</i>	Adusa	Cough, asthma	Leaves
<i>Azadirachta indica</i>	Neem	Skin diseases	Leaves, bark
<i>Asparagus racemosus</i>	Shatavari	Women's health	Root
<i>Cassia fistula</i>	Amaltas	Constipation	Pulp

5.2 Mode of Preparation

- Decoctions (38%)
- Paste (22%)
- Infusion (14%)
- Powder (16%)
- Raw plant material (10%)

5.3 Ailment Categories Treated

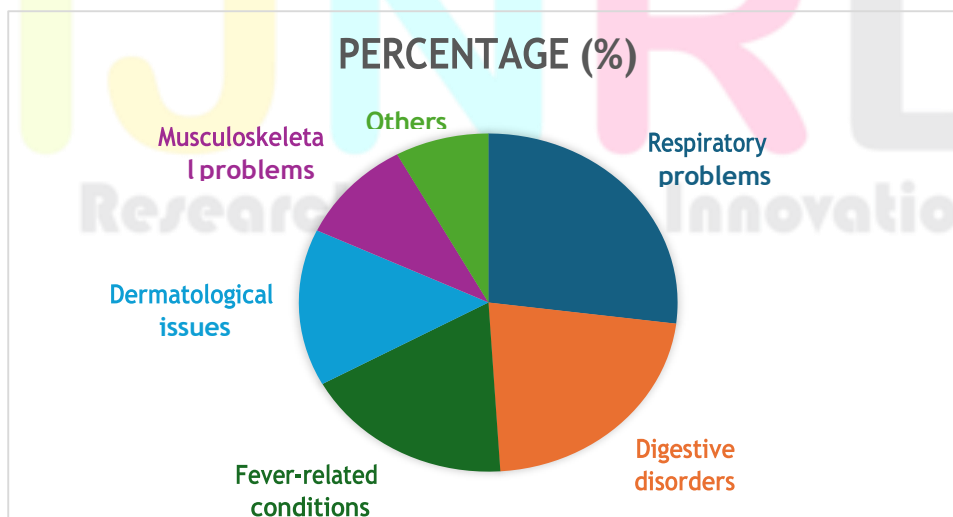


Figure 1: shows the proportion of various ailment categories treated using traditional medicinal plants.

5.4 Phytochemical Significance

Comparison with existing pharmacological studies reveals: -

- Plants used for fever and immunity (Giloy) show proven antipyretic properties.
- Neem contains azadirachtin and quercetin → strong antimicrobial effect.
- Shatavari roots contain steroidal saponins → beneficial in reproductive health.

This correspondence highlights the scientific validity of Saharia ethnomedicine.

5.5 Cultural and Ecological Insights

Saharias believe that medicinal plants must be harvested early morning, with certain rituals indicating respect to forest spirits. Ecological ethics such as harvesting only mature plant parts and leaving rootstock intact reflect deep environmental consciousness.

6. Conclusion

The study highlights the Saharia tribe's profound traditional knowledge and their reliance on forest-based medicinal resources. The documented plant species not only reflect cultural heritage but also possess significant pharmacological potential. However, modernization, habitat loss, and limited intergenerational knowledge transfer threaten this heritage. Immediate measures are essential for conservation and documentation.

7. Recommendations

- Establish community-based herbal gardens in Saharia villages.
- Include Saharia youth in participatory documentation programs.
- Promote sustainable harvesting practices.
- Integrate scientifically validated herbal remedies into local health centres.
- Encourage collaborative studies between tribal healers and scientific institutions.

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