

Socio-Geographical Dimensions of Medicinal Plant Trade in the Shekhawati Region, Rajasthan

Dr. Mukesh Kumar Sharma

Abstract—The Shekhawati region of Rajasthan, with its unique semi-arid climate and deep-rooted traditional knowledge systems, is a significant source of ethnomedicinal plants that anchor both local health cultures and livelihoods. This research paper critically analyzes the socio-geographical aspects of medicinal plant trade in Shekhawati, focusing on plant distribution, collection practices, community participation, market networks, and socio-economic benefits and challenges. Drawing on secondary data, field records, and historical ethnobotanical surveys from before 2015, the study reveals that trade is shaped by geographic resource clusters, caste/community specializations, gender roles, seasonality, and growing market demand. However, the trade faces challenges from resource depletion, unequal benefit distribution, limited policy support, and loss of traditional knowledge. Recommendations stress community empowerment, sustainable practices, and improved institutional linkages for equitable and resilient medicinal plant trade systems suited to the region's unique context.

Keywords: Shekhawati, ethnomedicinal plants, medicinal plant trade, socio-geography, Rajasthan, livelihoods, market networks, traditional knowledge

I. INTRODUCTION

The trade in medicinal plants is intertwined with the biophysical landscape, social structure, and economic opportunities of the Shekhawati region, which spans the districts of Jhunjhunu, Sikar, and Churu in northeastern Rajasthan. This trade is sustained by a legacy of traditional herbal medicine knowledge and serves as a vital source of income for rural communities facing climatic harshness and limited alternative livelihoods. Geographical distribution, resource abundance/scarcity, and local customs shape both plant resource use and the structure of medicinal plant markets across Shekhawati.

Shekhawati is characterized by semi-arid and arid conditions, with a landscape comprising sandy plains, low hills, and ephemeral streams. The region is rich in endemic and xerophytic medicinal plant species such as *Withania somnifera*, *Calotropis procera*, *Acacia nilotica*, and *Salvadora persica*, among others.

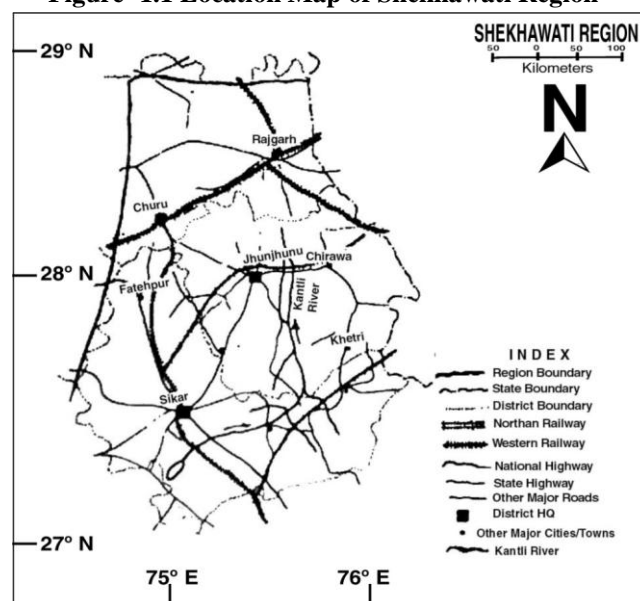
1. Resource localities: Hilly tracts (Lohargal, Khetri), forested patches (Shakambhari), and agro-pastoral fringes are principal collection zones.

2. Distribution patterns: Plants grow wild, on field bunds, wastelands, and as weeds in cultivated plots—setting the stage for decentralized but spatially patterned resource extraction.

II. STUDY AREA

Figure-1.1 shows the area under study i.e. Shekhawati region which is located in the north-eastern part of Rajasthan state and the region has geographical extension from 26°26' to 29°20' N latitude and 74° 44' to 76°34' E longitude on the map of Rajasthan.

Figure- 1.1 Location Map of Shekhawati Region



The area under study covers fully or partly three districts, namely Churu, Jhunjhunu and Sikar. Churu district's out of 7, only 3 tehsils fall under Shekhawati region (Churu, Rajgarh and Taranagar) whereas Jhunjhunu district as a whole with its six tehsils (Buhana, Chirawa, Khetri, Jhunjhunu, Nawalgarh and Udaipurwati) in which Buhana tehsil emerged out as a new tehsil on the map of Jhunjhunu district (2001), it was no more existence in the year of 1991 and Sikar district also covered fully with its six tehsils (Data Ramgarh, Fatehpur, Laxmangarh, Neem ka Thana, Sikar and Shri Madhopur). The region has 23 Panchayat Samitis in all. Thus, the region under study has 15 tehsils in total with its total 15343 sq. km. geographical area which makes 5.6% of the state's total. At the part of district-wise contribution by area point of view in Shekhawati region it is observed that part and portion of Churu district contributes 29%,

Jhunjhunu district contributes 31% and Sikar by 40%, respectively.

Among these tehsils area point of view, the tehsil of Churu is largest one and Buhana smallest, respectively. District-wise area point of view Sikar stands at first position which is followed by Jhunjhunu and lowest contribution is made by Churu i.e. 1683 sq. km. only.

At the part of population, Shekhawati region contributes 8.7 percent of the state's total in which sex-ratio is 948 females per thousand males in Total Population whereas it is very low i.e. 887 in Child Population for the area under study. The region obtains high Literacy rate which is about 10% more than that of the state's average. Among tehsils, Buhana ranks at first position while as Neem ka Thana contributes lowest in this aspect. The region obtains high density (244) i.e. 50 percent more than that of state's average which is 165 persons per sq. area 2001. The region has also Slum population but it is very low or to say negligible i.e. 2.5% only of the urban area's total.

The whole region has distribution of two types of soils; Sandy soil and Red Loamy soil. The former soil type has obvious distribution in Churu district, the areas of sand dunes topography; the later soil group is mostly distributed over the districts of Jhunjhunu and Sikar (classification based on dominancy, availability and agricultural productivity). The distribution of soil type and it's physical as well as chemical nature is a significant aspect from vegetation as well as plant species distribution point of view.

On the basis of another type of soil type classification according Prof. Thorpe and Smith based on the origin of the soil, the observations revealed in this direction that Remosols type of soil has distribution in the areas of sand dunes topography; all three tehsils of Churu districts have, Red sandy soil which is more alkaline in nature. Hilly topography soil and Riverine soil have their distribution according the distribution of habitat of study area.

III. SOCIO-ECONOMIC STRUCTURE AND COMMUNITY ROLES

The collection, processing, and trade of medicinal plants are embedded within village social structures:

1. Caste and community specialization: Traditional healers (Vaidyas), nomadic herbal vendors (Nats, Banjaras), agrarian communities, and women all play distinct roles in foraging, using, and trading species.

2. Gender and labor dynamics: Women are key collectors and processors, especially of herbs and roots in kitchen gardens and field fringes, while men dominate long-distance trade.

3. Livelihood significance: For resource-poor households, medicinal plant sale supplements income, especially during agricultural lean periods.

IV. TRADE AND MARKET NETWORKS

1. Local and Regional Markets

1.1. Primary markets: Village haats (weekly village markets) and regional mandis (wholesale markets) in Jhunjhunu and Sikar act as primary collection and aggregation points.

1.2. Trade routes: Traditional trade routes connect Shekhawati with major herbal drug/ayurvedic hubs in Jaipur, Delhi, and other North Indian cities.

2. Market Structure

2.1. Chain structure: Collectors → Intermediaries (middlemen, contractors) → Local traders → Regional wholesalers → Industrial buyers or exporters.

2.2. Value addition: Some processing occurs locally (drying, powdering, formulation) before sale; most raw material leaves the region at early stages, limiting local value capture.

2.3. Major traded species: *Withania somnifera*, *Asparagus racemosus*, *Calotropis procera*, *Acacia arabica*, *Cissus quadrangularis*, and others are most commercially significant.

3. Geographic and Socio-Economic Drivers

3.1. Agro-ecological diversity: Varied micro-climates and soil types enable different species mixes (e.g., dunes for xerophytes, hilly zones for perennial shrubs).

3.2. Access to markets: Villages with better road and transport links are more integrated into formal trade networks, enabling higher trade volumes and prices.

3.3. Socio-cultural drivers: Ethnic knowledge, ritual importance of certain plants, and cultural taboos influence species selection and collection intensity.

V. SOCIO-ECONOMIC BENEFITS AND CHALLENGES

1. Benefits

1.1. Livelihood security: The sale of medicinal plants offers resilience to rural households during crop failure or drought.

1.2. Women's empowerment: Women's participation in medicinal plant trade enhances household incomes and traditional knowledge transmission.

1.3. Community cohesion: Collective collection and knowledge sharing promote social capital.

2. Challenges

2.1. Resource depletion: Overcollection and lack of regulated harvest have led to local scarcity and increased collection effort over time.

2.2. Market dependency and inequity: Middlemen capture most of the value; collectors receive a small share, especially unorganized or marginal groups.

2.3. Loss of knowledge: Modernization, migration, and generational gap are causing a rapid decline in ethnobotanical knowledge, threatening sustainable practice.

2.4. Policy gaps: Weak implementation of forest and biodiversity conservation laws, and lack of access to market information and formal credit, hamper sustainable trade.

VI. RECOMMENDATIONS

1. Strengthen community-based resource management to ensure sustainable collection, benefit sharing, and resource regeneration.

2. Promote local value addition (processing, packaging) to improve returns and incentives for sustainable harvest.

3. Facilitate women's cooperatives for collective bargaining power and knowledge preservation.

4. Enhance market access by developing infrastructure, market information systems, and institutional partnerships with industry.

5. Document and transmit traditional knowledge through education and involvement of youth in ethnobotanical studies.

VII. CONCLUSIONS

The socio-geographical dimensions of medicinal plant trade in Shekhawati are shaped by a complex interplay of natural resource distributions, community traditions, and evolving market opportunities and risks. Community empowerment, institutional support, and a nuanced strategy marrying market incentives with conservation are imperative for a sustainable, just, and resilient trade system suited to semi-arid Rajasthan.

REFERENCES

- [1.] Katewa, S.S. & Galav, P.K. (2005). Traditional herbal medicines from Shekhawati region of Rajasthan. *Indian Journal of Traditional Knowledge*, 4(3), 237–245.
- [2.] Lalita Yadav et al. (2014). Studies on Ethno-Medicinal Plants of Shekhawati Region of Rajasthan. *Journal of Life Sciences*, 4(2), (pp. 100-105).
- [3.] Family Wise Distribution of Medicinal Plants of Shekhawati Region, Rajasthan
- [4.] Charan, A.K. (1992) *Plant Geography*, Rawat Publication, Jaipur
- [5.] Sharma, M.K. (2007). *Medical Plant Geography*, Rachna Publication, Jaipur.

Dr. Mukesh Kumar Sharma, Principal, Bloom College, Chirawa, Jhunjhunu, Rajasthan

Dr. Mukesh Kumar Sharma (Bhatt), Bhatt Pansari was born in 1977 in a modest family in the town of Khetri, Jhunjhunu District (Rajasthan) India. Dr. Sharma completed his early education at the Government Jai Singh Higher Secondary School in the same town. He obtained his undergraduate degree in Science from Maharaja College, University of Rajasthan, Jaipur in 1998. Dr. Sharma obtained his Master's degree and Ph.D. in Geography from the

University of Rajasthan, Jaipur in 2000 and 2006, respectively.

Dr. Sharma has authored over Several research papers and books to date. He has presented research papers at national and international conferences Several research scholars have completed their research under his supervision. He is engaged in teaching and research in the fields of Ayurveda, Environmental Geography, Applied Geography, Bio-Geography, Phyto-Geography, Medical Geography and Integrated Area Development. Dr. Sharma holds the membership of various International, National and Regional Academic Societies contributing in most valuable manner.