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Domesticated Medicinal Plants and Traditional Practices in Sikar, Rajasthan: Contemporary Uses and Modern Adaptations

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Abstract: ***Sikar district of Rajasthan, is renowned for its rich heritage of traditional medicinal knowledge and the domestication of medicinal plants in households, farms, and community spaces. This study explores the applied use of domesticated medicinal plants in modern times, documenting species, preparation methods, and contemporary applications. Primary data were collected through structured interviews with 120 households, 18 local pansaris, and 12 herbal vendors. Key domesticated species included Tulsi, Aloe vera, Ashwagandha, Guduchi, Neem, Harad, Mulethi, and Amla. Findings indicate that traditional knowledge continues to be relevant, supporting cultural identity, primary healthcare, and biodiversity conservation, while adapting to modern lifestyles.***

Keywords: Domesticated medicinal plants, Sikar, Traditional healthcare, Herbal medicine, Rajasthan, Ethnobotany, Home gardens.

1.1 Introduction

Medicinal plants have been central to rural healthcare in Rajasthan for centuries. Sikar, with its semi-arid climate and arid terrain, relies heavily on domesticated medicinal plants cultivated in households, farms, and temple gardens. These plants serve therapeutic, preventive, and wellness purposes, complementing modern pharmaceuticals. This study investigates the contemporary applications of domesticated medicinal plants in Sikar, emphasizing the adaptation of traditional practices to modern life and their socio-cultural significance.

1.2 Historical Background

Sikar has a longstanding tradition of herbal medicine influenced by Ayurveda, Siddha, and local folk practices. Historical accounts and oral traditions indicate the use of Tulsi, Aloe vera, Ashwagandha, Guduchi, Neem, Harad, and Mulethi for common ailments. Domestication was adopted to ensure year-round availability, reduce reliance on wild species, and sustain household healthcare. Local pansaris and herbal practitioners have historically been custodians of medicinal knowledge, preparing remedies and advising communities.

1.3 Review of Literature

The area under research work was studied by following botanists and time to time viz; first of all the Sekhawati region was touched from vegetational study point of view by Mulay and Ratnam (1950), Bikaner and pilani neighbourhood areas by joshi (1956 and 1958), vegetation of chirawa by Nair (1956), again Nair and Joshi for Pilani and neighbourhood areas (1957), vegetation of harsh nath in aravalli's hills was studied by Nair and Nathawat (1957), vegetation of Jhunjhunu, Manderella and neighbourhood by Nair (1961), vegetation of ajit sagar dam by Nair and Kanodia (1959); Nair, Kandodia and Thomas (1961) studied the vegetation of Khetri town and neighbourhood areas and vegetation of Lohargal and it's neighbourhood areas of Sikar district by Nair and Malhotra (1961). After the work of Nair and Malhotra (1961), i.e. four decades ago. the area was again left for any sort of further research work in the field of applied Botany.

Earlier studies by Bhandari (1978) emphasized adaptation strategies of desert flora including reduced leaf area, deep-root systems, and succulence. Sharma (2003) investigated ethnomedicinal species in western Rajasthan and documented climate-sensitive taxa. Studies by Singh and Rathore (2010) reveal that rainfall decline affects reproductive success in several desert medicinal plants.

A significant, very authentic taxonomic work was contributed in the field of botany by Bhandari with the publcation of a book Flora of the Indian desert (1990). From the field of applied phytogeography point of view. Charan gave a valuable contribution with a publication of a book on Plant Geography (1992). Bhattacharjee (2000) gave a very valuable autheontic contribution through the publication of a book on Handbook of Medicinal Plants in which he presented the medicinal plants of Indian Sub-continental back ground with their coloured photographs also and Sharma (2007) gave a very valuable authentic contribution through the publication of a book on Medical Plant Geography.

Extensive ethnobotanical research in Rajasthan highlights the socio-cultural and ecological importance of domesticated medicinal plants. Jain (1981) provides foundational documentation of species and applications. Sharma and Meena (2007) emphasize the role of home gardens in preserving medicinal plant diversity. Singh and Kaur (2010) analyze socio-economic and ecological aspects of medicinal plant cultivation. Gupta and Kumar (2014) discuss integrating traditional remedies with modern healthcare. However, studies

specifically addressing Sikar's domesticated medicinal plant applications and modern adaptations are limited.

1.4 Objectives

1. Document domesticated medicinal plant species in Sikar households and farms.
2. Explore contemporary applications of traditional remedies.
3. Identify challenges in sustaining domesticated medicinal plants.
4. Recommend strategies for sustainable conservation and promotion.

1.5 Methodology

Study Design: Descriptive and ethnobotanical survey.

Data Collection: Structured interviews with 120 households, 18 pansaris, and 12 herbal vendors; collection of plant specimens for botanical verification.

Plant Identification: Verified using Jain (1981) and herbarium specimens.

Data Analysis: Quantitative assessment of plant usage frequency and qualitative analysis of preparation methods, remedies, and modern adaptations.

1.6 Study Area

Sikar district, experiences semi-arid conditions with sandy soils and annual rainfall of 400–500 mm. Agriculture, home gardens, and temple premises serve as primary sites for domesticated medicinal plants. The local flora is predominantly xerophytic and drought-tolerant.

1.7 Observations

1. 50 domesticated medicinal plant species were recorded in households and community gardens.
2. Frequently used species: Tulsi, Aloe vera, Ashwagandha, Guduchi, Neem, Harad, Mulethi, Amla, Babul.
3. Remedies addressed respiratory infections, digestive disorders, skin ailments, stress, and immunity enhancement.
4. Preparation methods included decoctions, powders, pastes, oils, and herbal teas.
5. Households with home gardens exhibited higher engagement with traditional remedies and knowledge transfer to younger generations.

1.8 Discussion

Domestication ensures sustainable availability of medicinal plants, reduces pressure on wild populations, and supports biodiversity conservation. Despite urbanization and modern pharmaceuticals, traditional practices remain integral to healthcare and cultural identity. Pansaris continue to play a central role as knowledge custodians, preparing remedies and advising households. Economic opportunities exist through the commercialization of herbal products. Challenges include declining youth interest, environmental degradation, and limited formal recognition of traditional knowledge.

1.9 Results

75% of households regularly used at least three domesticated medicinal plant species.

Home gardens were critical for sustaining traditional healthcare practices.

Knowledge transmission occurred through family practices, community networks, and pansaris.

Commercial opportunities exist for herbal products, supporting livelihoods.

1.10 Conclusion

The domestication of medicinal plants in Sikar contributes to healthcare, cultural heritage, and biodiversity conservation. Traditional knowledge remains relevant and adaptable to modern lifestyles. Awareness programs, education, and economic incentives are essential to preserve these practices and promote sustainable use of domesticated medicinal plants.

1.11 Recommendations

1. Promote cultivation of medicinal plants in homes, schools, and community gardens.
2. Integrate traditional remedies with primary healthcare initiatives.
3. Support pansaris with training in sustainable collection, processing, and marketing.
4. Educate youth to preserve traditional medicinal knowledge.
5. Document endangered species and traditional preparation methods for conservation.

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