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Contemporary Applications of Domesticated Medicinal Plants and Traditional Practices in Churu District, Rajasthan

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Abstract: ***Churu district, located in the arid zone of Rajasthan, demonstrates a rich tradition of medicinal plant use and domestication in household gardens, farms, and community spaces. This research investigates the applied use of domesticated medicinal plants in modern times, exploring how traditional remedies are integrated into contemporary healthcare. Data were collected through structured interviews with 125 households, 20 local pansaris, and 15 herbal vendors. The study documented over 50 domesticated plant species, including Tulsi, Aloe vera, Ashwagandha, Guduchi, Neem, Harad, and Amla, used for preventive and curative purposes. Findings indicate that traditional practices continue to be relevant, adapted to modern lifestyles while preserving cultural identity and supporting biodiversity conservation.***

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

1.1 Introduction

Medicinal plants have long been central to rural healthcare in Rajasthan. The harsh climatic conditions of Churu district have necessitated the domestication of drought-resistant medicinal species for household and community use. These plants are cultivated in home gardens, farms, and temples, serving both therapeutic and preventive functions. Despite the proliferation of modern pharmaceuticals, traditional practices persist and adapt to contemporary lifestyles. This paper examines the applied use of domesticated medicinal plants in Churu, highlighting their modern relevance and socio-cultural significance.

1.2 Historical Background

Churu has a rich heritage of traditional medicine, influenced by Ayurveda, Siddha, and local folk practices. Historical texts and oral traditions reveal the use of species such as Tulsi, Aloe vera, Ashwagandha, Guduchi, and Harad for treating common ailments. Domestication emerged as a strategy to ensure year-round availability and reduce dependence on wild harvesting. Pansaris and local healers have historically maintained knowledge of plant identification, preparation, and application, contributing to the continuity of traditional medicine in the district.

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 neghbourhood 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 underscores the importance of medicinal plant domestication and traditional practices. Jain (1981) provides foundational documentation of species and applications. Sharma and Meena (2007) highlight the role of home gardens in preserving medicinal plant diversity. Singh and Kaur (2010) analyze socio-economic and ecological implications of medicinal plant cultivation. Gupta and Kumar (2014) discuss the integration of traditional remedies with modern healthcare. Yet, detailed studies focusing on the practical application of domesticated medicinal plants in Churu are limited, necessitating this field-based study.

1.4 Objectives

1. Document domesticated medicinal plant species in Churu households and farms.

2. Explore the contemporary applications of traditional remedies.

3. Identify challenges in maintaining domesticated medicinal plants.

4. Recommend strategies for sustainable conservation and promotion.

1.5 Methodology

1. Study Design: Descriptive and ethnobotanical research.

2. Data Collection: Structured interviews with 125 households, 20 pansaris, and 15 herbal vendors; collection of plant specimens for botanical verification.

3. Plant Identification: Verified through standard references (Jain, 1981) and herbarium comparisons.

4. Data Analysis: Quantitative assessment of plant usage frequency and qualitative analysis of preparation methods and contemporary practices.

1.6 Study Area

As we know that the area under district i.e. Dry Land i.e. Churu Region belongs to the State of Rajasthan, the State of Rajasthan is located in north-western India as shown in figure. The district of Churu lies in the north-east of Rajasthan State at an altitude of 286.207 metres above the mean sea level. From geographical spread point of view has extension from 27°24' to 29° north latitudes and 73°40' to 75°41' east longitudes. It is bounded by Hanumangarh in north, Bikaner in west, Nagaur in south and Sikar, Jhunjhunu districts and boundaries of Haryana State in the east. It covers six tehsils namely : Taranagar, Rajgarh, Churu, Sardarshahr, Ratangarh and Sujangarh.

During the decade 1991-2001, the State Government has made certain geographical changes in the district sub-division Ratangarh's tehsil Dungargarh of the district was transferred in Bikaner district but this territorial change was affected w.e.f. 1.4.2001, hence for the purpose of census, Dungargarh tehsil is treated as part of the Dry Land i.e. Churu Region but here the author for the purpose of study area i.e. Dry Land i.e. Churu Region, Dungargarh tehsil is not treated as part of the Dry Land i.e. Churu Region.

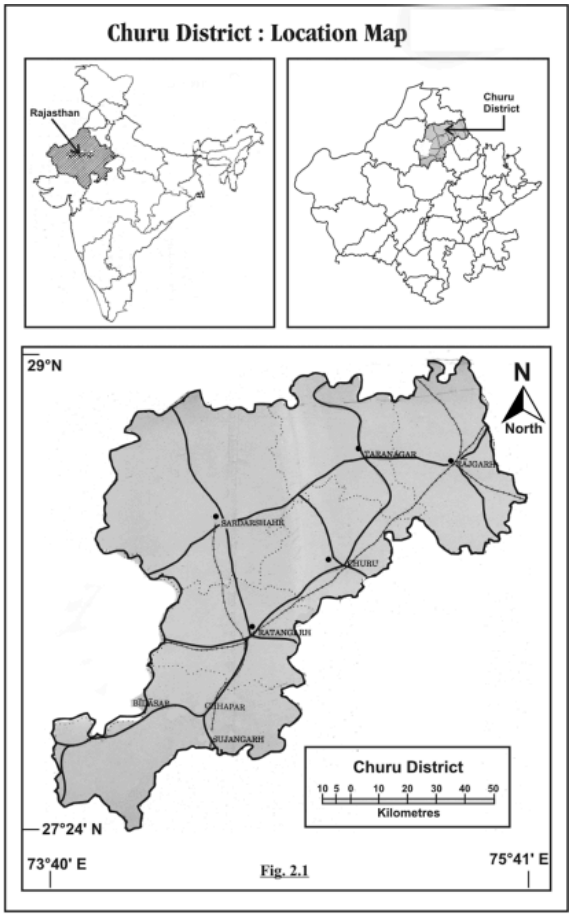

Fig. 2.1

Source : Based on Survey of India Map with The Permission of the Surveyor General of India

The total area of Dry Land i.e. Churu Region consist 1354623 sq. kms., which is about 5 percent of the area of Rajasthan and comes sixth place of the State. It is second bigger district in Bikaner division. The district is extended up to 150 kms. in east to west and 120 kms. in north to south. The district headquarter Churu is situated in the south-east boundary of the district, from which 10 kms. south-east the boundary of Jhunjhunu district is situated. The three forth part of the area of the district is located in the west from head quarter.

According the census of India (2011) Dry Land i.e. Churu Region covers about 2.97 percent of the total State's population. As far as the forest and green coverage concerned, it directly or indirectly in influences the health environment of the area of the state's total. The density of population of the study area very low i.e. 148 persons per square kilometre. Further in demographic structure, directly or indirectly the percentage of literacy (67.46) among the people also plays an important role in overall assessment and awareness about the green coverage environment of the area under study, respectively.

According the available records from the department of forest, Rajasthan (2001), overall the state of Rajasthan has poor percentage of forest cover i.e. 9.49 percent only. Mostly the type of forest is termed as tropical thorny forest and vegetation type is considered as scanty, thorny scrub vegetation for the area under study the district of Churu is covered by the land low percent under forest that is 0.48 percent only.

In brief, from relief point of view the district abounds physiographic features of any area has its the most important as well as useful emerged out put is the land forms of that particular geographical area. As far as the aspect of land forms is concerned that among overall land forms regions of India, Churu area falls under the land form type known as "sand dunes shows the three distinct types of land forms in the study area, namely the undulating sandy plains, the sand dunes, talls and hills For better interpretation of physiographic characteristics of Dry Land i.e. Churu Region, the area under study.

1.7 Observations

1. 52 domesticated medicinal plant species were recorded in households and farms.

2. Key species: Tulsi, Aloe vera, Ashwagandha, Guduchi, Harad, Neem, Mulethi, Amla, Babul (Acacia nilotica).

3. Common ailments addressed: respiratory infections, digestive disorders, skin problems, stress management, and immunity enhancement.

4. Preparation methods: decoctions, powders, pastes, oils, and herbal teas.

5. Households with home gardens had higher reliance on traditional practices and maintained knowledge transfer to younger generations.

1.8 Discussion

Domestication ensures the sustainable availability of medicinal plants, minimizing pressure on wild populations. While modernization and urbanization influence the pattern of usage, traditional practices remain integral to healthcare and cultural identity. Pansaris continue to provide vital services, acting as knowledge custodians and providers of herbal products. Opportunities for economic empowerment exist through the commercialization of locally produced herbal remedies. Challenges include habitat degradation, declining interest among youth, and lack of formal recognition of traditional knowledge.

1.9 Results

1. 70% of surveyed households regularly used at least three domesticated medicinal plant species.

2. Home gardens were central to maintaining traditional healthcare practices.

3. Knowledge transmission occurred primarily through family traditions, community networks, and pansaris.

4. Potential for livelihood generation exists via the marketing of herbal products and sustainable cultivation.

1.10 Conclusion

The domestication of medicinal plants in Churu supports healthcare, cultural heritage, and biodiversity. Traditional practices remain relevant despite modern influences. Sustainable strategies, including awareness programs, education, and economic incentives, are essential to preserve these practices and promote domesticated medicinal plant use.

1.11 Recommendations

1. Encourage cultivation of medicinal plants in homes, schools, and community spaces.

2. Integrate traditional remedies with primary healthcare systems.

3. Support pansaris with training in sustainable collection, processing, and marketing.

4. Educate younger generations to preserve traditional knowledge.

5. Document endangered species and traditional preparation methods for knowledge conservation.

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