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Domesticated Medicinal Plants and Traditional Healing Practices in Jhunjhunu District, Rajasthan: Contemporary Perspectives

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Abstract: ***Jhunjhunu district, part of the Shekhawati region in Rajasthan, exhibits rich traditional knowledge of medicinal plants, many of which are domesticated in home gardens, farms, and community areas. This study explores the current applications of these plants in households and local healthcare, focusing on how traditional practices coexist with modern medicine. Primary data were collected through structured interviews with 120 households, 20 local pansaris, and 15 herbal medicine vendors. Key findings indicate that domesticated species such as Tulsi, Aloe vera, Ashwagandha, Guduchi, and Harad are widely used for preventive and curative purposes. The study emphasizes the cultural and economic importance of maintaining these practices while providing insights into the sustainable promotion of medicinal plant domestication in modern times.***

Keywords: Domesticated medicinal plants, Traditional healing, Jhunjhunu, Rajasthan, Ethnomedicine, Herbal remedies, Home gardens.

1.1 Introduction

Traditional medicine has been a cornerstone of healthcare in rural India. In Jhunjhunu district, arid climatic conditions have influenced the selection and domestication of drought-resistant medicinal plants, which are cultivated in households, farms, and public spaces. These plants serve both curative and preventive purposes, sustaining local health practices while offering economic opportunities. The interplay between modernization, urbanization, and traditional knowledge shapes current patterns of medicinal plant use. This research investigates the applied domestication of medicinal plants and their role in contemporary healthcare in Jhunjhunu.

1.2 Historical Background

Historically, Jhunjhunu has been a center of cultural exchange and trade, contributing to the dissemination of medicinal plant knowledge. Local manuscripts and oral traditions reveal the long-standing use of herbs like Neem, Tulsi, Aloe vera, Ashwagandha, and Guduchi in household remedies. Domestication practices emerged to mitigate the scarcity of wild plants, ensuring reliable access to therapeutic species. Pansaris played a critical role in the preparation and distribution of herbal medicines, forming a bridge between traditional knowledge and practical healthcare.

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.

Several scholars have examined medicinal plant use in Rajasthan. Jain (1981) provided comprehensive documentation of the ethnobotany of arid regions. Sharma and Meena (2007) highlighted the importance of home gardens in preserving medicinal plant diversity. Singh and Kaur (2010) discussed socio-economic and ecological aspects of traditional plant use. Gupta and Kumar (2014) explored integration of traditional remedies with modern healthcare. However, focused studies on applied domestication and modern utilization in Jhunjhunu remain limited, necessitating in-depth field research.

1.4 Objectives

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

2. Examine traditional healing practices and modern adaptations.

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 120 households, 20 pansaris, 15 herbal vendors; plant specimen collection for verification.

3. Identification: Botanical verification using Jain (1981) and local herbarium references.

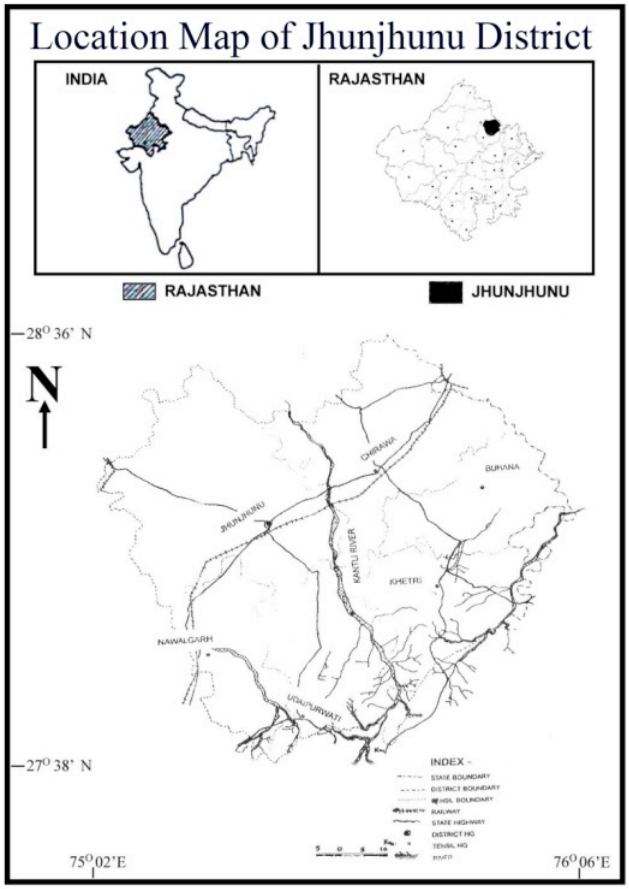
4. Analysis: Frequency of use, preparation methods, and qualitative documentation of traditional practices.

1.6 Study Area

Jhunjhunu district, located in northeastern Rajasthan, has a semi-arid climate with low rainfall (400–550 mm annually) and sandy loam soils. Agriculture, home gardens, and temple premises are primary sites for domestication of medicinal plants. The region is characterized by xerophytic flora adapted to arid conditions.

The district is irregular hexagon in shape in the northeastern part of the State lies between 2702" east longitudes. It is surrounded by Churu district on the northwestern side Hissar and Mahendragarh district of Haryana State in the northeastern part and by Sikar district in the west, south and south eastern part-2. For the propose of administration the district is divided into five administrative subdivision viz, Chirawa, Udaipurwati, Jhunjhunu, Khetri and Nawalgarh Six Tehsil viz Jhunjhunu, Chirawa, Khetri, Nawalgarh, Buhana, Udaipurwati and eight Panchyat Samities viz Jhunjhunu, Chirawa, Khetri, Nawalgarh, Buhana, Udaipurwati, Alsisar and Surajgarh.

The total geographical area of the district is 2928 square Kms. This stands at 1.73 percent of the total area of the state from the points of area, Jhunjhunu district stand at 22nd place among the existing 33 districts of the state most of the part of the district is coerce by blow sand and dunes which for part of the great that desert sand shifting and active dunes are main hazards to cultivation. Soil erosion is the Result of constant deforestation and mining activity which have resulted in baring the slopes.



The district encompasses of three distinct geomorphic units.

1. The hilly area in south eastern part of district is characterized by hills of Aravalli range, running in north easterly direction. The highest peak, 1051 m high is in the south of Lohagar village bordering Sikar district. Hills are almost barren of vegetation except a few bushes of acacia and cactus.

2. The undulating area with small isolated hills having steep slope lies in the south western part of district. The major portion of hills is found in Khetri and Udaipurwati tehsils. The general elevation above mean sea level rests between 300 and 450m Quaternary level forms are represented by sand and colluvial deposits of talus and scree at piedment slopes.

3. The desertic plain generally lying at an altitude of about 300m amsl occupies the northern part of the district and is covered with sand dunes. The general slope of the area is from south to north. Sand dunes are drifting in nature.

District Jhunjhunu is situated in Arid Rajasthan plain known as Rajasthan. It comprises of Rolling hills, some of the arrival ranges in the southeastern side running in the south eastern Direction and range of the Aravali Hills in extreme southeastern of Udaipurwati existing towards Singhana and Khetri in the east, viz Nawalgarh-Khetri upland its general elevation above means sea level is between 300 to 450 meters. The highest peek is in the south of Lohagarh village and its height is 1051 meters, this is no perennial river in the district katti and Dohan are only seasonal rivers. River katti originated from Khadela hill sides of Shrimadhopur Tehsil. Sikar and

enters near south west of Udaipurwati tehsil running towards north –west direction and ultimately disappears in the sandy tracks of the Churu District. This river, however, divides the district almost into two parts. Similarly Dohan River also originates from Shrimadhopur hills and flows to north –eastern direction passing through some eastern part and ultimately disappears in sandy tracks of Mahendragarh district of Haryana Besides, there. Major streams of Udaipur Lohagarh ki nadi chandrawati and sukh nadi. There is no lake in the district however small tanks are in existence in some areas. There are only four tanks used for irrigation purposes. There is also a bound of "Ajit Sagar" about 11Km. from Khetri on Nizampur road.

1.7 Observations

1. 45 domesticated medicinal plants were recorded across households and community spaces.

2. Key species: Tulsi, Aloe vera, Ashwagandha, Guduchi, Harad, Neem, Mulethi (Glycyrrhiza glabra), Amla (Phyllanthus emblica).

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

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

5. Households with home gardens showed higher engagement in traditional practices and knowledge transmission to younger generations.

1.8 Discussion

Domestication ensures continuous availability of medicinal plants, reducing reliance on wild collection and supporting biodiversity. Modern influences, such as urbanization and the introduction of pharmaceuticals, have altered the use patterns of some remedies. Despite these changes, traditional knowledge remains robust, especially in rural households. Economic potential exists for local herbal products, enhancing livelihood opportunities for pansaris and households engaged in cultivation. Challenges include urban migration, habitat degradation, and declining interest among youth.

1.9 Results

1. 72% of households actively used at least three domesticated medicinal plants.

2. Home gardens proved to be crucial for both medicinal and preventive healthcare.

3. Traditional knowledge is effectively transmitted through family practices and local community networks.

4. Market opportunities for herbal products provide economic incentives for sustainable domestication.

1.10 Conclusion

The domestication of medicinal plants in Jhunjhunu supports traditional healthcare, cultural heritage, and biodiversity conservation. Modernization has modified practices but has not diminished the relevance of traditional remedies. Sustainable strategies, including education, documentation, and economic incentives, are necessary to preserve this heritage.

1.11 Recommendations

1. Encourage cultivation of medicinal plants in home gardens, schools, and community areas.

2. Integrate traditional remedies into primary healthcare frameworks.

3. Provide training and support to pansaris for sustainable collection and processing.

4. Develop awareness programs to educate youth about traditional medicinal knowledge.

5. Document endangered species and traditional preparation methods to ensure knowledge preservation.

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