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The Shepherd (Dhangar) Community of India: Perspective on The Importance of Preserving Transhumance Practices with Special Reference to Haveli and Daund Tehsil

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Abstract:

Transhumant pastoralism is a critical Indigenous Knowledge System (IKS) that supports sustainable resource management, climate adaptation, and cultural continuity among pastoral communities. The Dhangar tribe of Maharashtra practices sheep-goat pastoralism through seasonal migration, a livelihood strategy shaped by climatic uncertainty, drought, and fluctuating access to pasture and water resources. Despite its ecological and cultural value, this system remains under-researched and increasingly vulnerable.

This ethnographic study, conducted in 2025, examines the significance of preserving Dhangar transhumance with special reference to Haveli tehsil in Pune district. Using participant observation, focus group discussions, in-depth interviews, and life histories, the research engaged over 233 shepherds along migration routes from Hingangaon to Handalwadi. The findings demonstrate that herd mobility is central to risk management, sustainable grazing, and the efficient communal use of natural resources in a semi-arid environment.

The study further explores pastoralists' perspectives on resilience, governance, and adaptation, revealing a disconnect between traditional pastoral systems and contemporary policy frameworks. In line with NEP 2020, the paper emphasizes the need to recognize transhumant pastoralism as an IKS that contributes to sustainability, biodiversity conservation, and rural livelihoods. Protecting transhumance practices is essential for ensuring ecological balance and safeguarding the cultural heritage of India's pastoral communities

Keywords: Transhumant Pastoralism, Dhangar Community, Indigenous Knowledge Systems (IKS), Sustainable Natural Resource Management, Climate Adaptation.

Introduction:

Pastoral communities have historically played a crucial role in sustaining rural economies, managing fragile ecosystems, and preserving Indigenous Knowledge Systems (IKS). Despite this significance, pastoralists have long remained marginal within academic research, development planning, and policy discourse. In India, pastoral nomadic groups such as the Dhangars of Maharashtra continue to be underrepresented in both scholarly literature and governance frameworks, even as their livelihoods face growing environmental and socio-political pressures (Narbat, 2023). This neglect is particularly evident in discussions surrounding drought, famine, and natural resource governance, where pastoral perspectives are rarely fore-grounded.

The Dhangar community primarily practices sheep-based pastoralism, a subsistence

strategy well adapted to semi-arid and drought-prone environments. Sheep rearing enables the conversion of low-quality vegetation into mobile and high-value animal products, allowing pastoral households to survive under ecological uncertainty (Patil et al., 2012). Traditionally, Dhangars relied on transhumance seasonal movement between grazing zones to access pasture and water resources. However, recurring droughts, shrinking commons, and restrictive state policies related to forests, agriculture, irrigation, and migration have significantly altered these practices. As a result, many Dhangars have been compelled to abandon mobility, settle along river valleys, migrate to urban areas, or modify herd composition in response to changing conditions (Narbat, 2023; Patil et al., 2012).

Scholars have long argued that pastoral livelihoods are not irrational or primitive, but rather represent complex socio-cultural systems shaped by centuries of adaptation to marginal environments (Hutchinson, 1998). External interventions ranging from land-use regulations to market integration have disrupted traditional pastoral systems across the globe, leading to profound transformations in nomadic and transhumant societies (Galaty & Pollini, 2021). Yet, the relationship between drought and pastoral livelihoods remains inadequately explored within Indian policy debates, particularly in relation to famine vulnerability and climate resilience. This gap underscores the need for focused empirical studies examining how environmental stressors interact with pastoral strategies.

Globally, seasonal pastoralism has been recognized as a significant socio-economic and cultural phenomenon, particularly in mountainous regions of Southern Europe. In countries such as Spain, France, Italy, and Greece, transhumance historically structured rural economies, settlement patterns, and inter-regional social relations (Costello & Svensson, 2018). Seasonal livestock movements shaped landscapes through routes, grazing sites, shelters, and water infrastructures, leaving enduring material and cultural imprints. These practices have attracted sustained scholarly attention from ethnographers, archaeologists, historians, and geographers, who view transhumance as a key driver of long-term cultural diffusion and landscape formation (Adriansen, Hanne Kirstine, 2005; Chapman, 1979).

Archaeological research across European mountain systems has further demonstrated that pastoral use of upland zones dates back to prehistoric periods, though not necessarily as a continuous or static practice (Pescini, et al. 2024). These findings highlight that pastoralism is dynamic, evolving in response to environmental, technological, and social changes rather than representing a timeless tradition. Drawing from these global insights, this study situates Dhangar transhumance within a broader comparative framework, while remaining grounded in local realities.

By examining the relationship between drought and livelihood among Dhangar pastoralists in Maharashtra, this paper seeks to contribute to a deeper understanding of transhumant pastoralism as an adaptive, knowledge-rich, and sustainable livelihood system. In doing so, it advocates for greater recognition of pastoral IKS within contemporary policy and sustainability discourse.

Objectives:

1. To document and analyze the transhumance practices of the Dhangar shepherd community with special reference to Haveli and Daund tehsil, focusing on seasonal migration patterns, herd composition, and grazing routes.

2. To examine the role of transhumant pastoralism in sustaining livelihoods and cultural identity among the Dhangar community, with emphasis on Indigenous Knowledge Systems and traditional ecological practices.
3. To assess the impact of environmental challenges, particularly drought and shrinking pasturelands, on the continuity and adaptation of transhumance practices among Dhangar shepherds.
4. To explore the perceptions of the Dhangar community regarding governance, policy interventions, and preservation, and to identify measures required for safeguarding transhumant pastoralism as a sustainable livelihood practice.

Research Methodology:

Nature of the Study:

The present study is empirical and descriptive, with a strong ethnographic orientation. It seeks to understand transhumance as a lived practice rather than merely as an economic activity. Since the objectives focus on pastoral mobility, cultural identity, environmental stress, and governance perceptions, a qualitative-dominant approach supported by primary field data was adopted.

Study Area:

The fieldwork was carried out in Haveli tehsil of Pune district, Maharashtra, covering seasonal migration stretches from Hingangaon village to Handalwadi, located at the border of Daund tehsil. The region experiences semi-arid climatic conditions with frequent droughts, making it appropriate for studying transhumant pastoral systems.

Sampling Design:

The study used purposive sampling, as only those households actively involved in shepherding and seasonal migration were relevant to the research. This was supplemented by snowball sampling, where initial respondents helped identify other pastoral families along the migration route. A total of 233 Dhangar shepherds of different age groups were included, ensuring representation of elders, active herders, women, and youth.

Methods of Data Collection:

Primary data were collected through the following methods:

- **Participant Observation:** The researcher stayed with shepherd groups during seasonal movement, observing daily routines, grazing decisions, interactions with host communities, and coping strategies during water scarcity.
- **In-depth Interviews:** Semi-structured interviews were conducted to document life histories, migration experiences, and perceptions of change over time.
- **Focus Group Discussions:** Group discussions were organized on themes such as drought impact, pasture availability, cultural traditions, and future aspirations of pastoral families.
- **Household Questionnaire:** A structured questionnaire was used to systematically collect comparable information across respondents.

Review of Literature:

Pastoralism has long been recognized as a sophisticated livelihood system adapted to ecological uncertainty, particularly in arid, semi-arid, and mountainous regions. Early anthropological studies established that pastoral societies are not environmentally destructive or economically inefficient, but instead rely on mobility, collective resource use, and adaptive

strategies developed over centuries (Dyson-Hudson & Dyson-Hudson, 1980; Galaty et al., 1990). Mobility, rather than settlement, has been identified as the core principle through which pastoralists manage climatic variability and pasture regeneration.

In the Indian context, pastoral communities such as the Dhangars, Raikas, Gujjars, Bakarwals, and Maldharis have received comparatively limited scholarly attention. Saberwal (1999) and Gadgil and Malhotra (1983) highlight that Indian pastoral systems are deeply embedded in local ecologies and social institutions, yet remain marginal in land-use planning and policy frameworks. Studies on common property resources demonstrate that pastoralists play an important role in sustaining rangeland biodiversity through seasonal grazing and herd movement (Karlsson, 2008; Ostrom, 1990).

Research on the Dhangar community of Maharashtra indicates that sheep-based pastoralism is a key subsistence strategy in drought-prone regions. Patil et al. (2012) show that sheep rearing enables pastoral households to convert sparse and low-quality vegetation into valuable animal products, ensuring livelihood continuity under environmental stress. However, Narbat (2023) notes that recurring droughts, declining pasturelands, and policy restrictions have forced many Dhangars to abandon traditional transhumance or alter herd composition, leading to increased vulnerability.

Environmental stress, particularly drought, has emerged as a central factor affecting pastoral livelihoods across South Asia. Scoones (1994) and Nori et al. (2005) argue that pastoral adaptation strategies such as herd diversification and route flexibility are often undermined by rigid administrative boundaries and conservation policies. Bhasin (2011), in her work on Himalayan pastoralists, similarly observes that state interventions frequently disregard indigenous ecological knowledge, accelerating livelihood erosion.

Globally, transhumance has been extensively studied in Europe, where it is recognized as both a cultural heritage practice and a sustainable land-use system. Research from Spain, France, and Italy demonstrates that seasonal livestock movement historically shaped settlement patterns, social networks, and rural economies (Davies & Hatfield, 2007; Costello & Svensson, 2018). Archaeological and historical studies further reveal that pastoral mobility contributed to long-term landscape formation, though practices evolved over time rather than remaining static (Walsh et al., 2014; Carrer & Angelucci, 2017).

Recent scholarship increasingly frames pastoralism within sustainability and resilience discourses. Transhumant systems are now acknowledged for their low carbon footprint, biodiversity conservation potential, and climate adaptability (FAO, 2022; Nori & Gemini, 2011). In India, the National Education Policy (NEP) 2020 explicitly calls for the integration of Indigenous Knowledge Systems into research and education, creating new opportunities to re-examine pastoral practices as valuable knowledge systems rather than residual livelihoods (Government of India, 2020).

Despite this growing recognition, pastoral communities like the Dhangars remain underrepresented in policy debates related to drought mitigation, land governance, and rural development. Existing literature underscores the need for grounded, community-based studies that document pastoral voices and situate transhumance within contemporary sustainability frameworks. This study contributes to that gap by examining the lived realities of Dhangar shepherds and emphasizing the relevance of

transhumance as an adaptive, knowledge-rich, and sustainable livelihood system.

Data Analysis and Interpretation:

Descriptive statistics such as frequencies and percentages were used to summarize demographic and livelihood characteristics in the research. Inferential analysis was carried out using the chi-square test to examine associations between key categorical variables such as drought perception, migration duration, and policy awareness. Statistical significance was tested at the 5 per cent level. The collected data were analyzed using descriptive statistical techniques, including frequencies and percentages, to understand transhumance practices, livelihood patterns, environmental challenges, and policy awareness among the Dhangar shepherd community. The analysis is structured in accordance with the framed research objectives.

Demographic and Occupational Profile of Respondents:

Out of the total 233 respondents, the majority were actively engaged in pastoral activities throughout the year. Most respondents belonged to families traditionally involved in sheep and goat rearing for generations, indicating a strong hereditary continuity of pastoral knowledge. Livestock rearing emerged as the primary occupation, with agriculture and wage labour serving as supplementary income sources during non-migratory periods.

The age distribution revealed that a substantial proportion of shepherds were between 30 and 55 years, suggesting that transhumance remains economically viable for the working-age population, though participation among younger generations showed a gradual decline.

Seasonal Migration and Transhumance Practices:

The analysis of seasonal migration patterns indicates that transhumance remains central to the livelihood of the Dhangar community.

Table 1: Duration of Seasonal Migration (n = 233)

Duration of Migration	Number of Shepherds	Percentage
3-5 months	48	20.6
6-8 months	129	55.4
9-12 months	56	24
Total	**233**	**100**

A chi-square test was applied to examine the relationship between perceived drought frequency and duration of seasonal migration among Dhangar shepherds. The variables were categorized as drought frequency (occasional, frequent, every year) and migration duration (3-5 months, 6-8 months, 9-12 months).

The analysis revealed a **statistically significant association** between drought perception and migration duration (χ^2, $p < 0.05$). Shepherds who perceived drought as an annual phenomenon were more likely to report longer migration periods exceeding six months. This indicates that increasing environmental stress directly influences mobility decisions and reinforces transhumance as a risk-coping mechanism.

The above table reveals that more than half of the respondents reported migrating for 6–8 months annually, reflecting a semi-nomadic pattern closely linked to monsoon cycles and pasture availability. This finding demonstrates the adaptive ecological knowledge embedded within transhumant practices, where mobility is used as a strategy to balance grazing pressure and livestock health.

Indigenous Knowledge Systems and Livelihood Sustainability:

A significant proportion of respondents acknowledged that traditional knowledge guides grazing routes, fodder selection, animal health management, and climate forecasting. Shepherds relied on indigenous indicators such as vegetation changes, wind patterns, and animal behaviour to make migration decisions.

The data suggest that transhumance is not merely an economic activity but a holistic system integrating ecology, culture, and livelihood. This aligns strongly with the Indigenous Knowledge Systems (IKS) framework recognized under NEP 2020, which emphasizes the preservation of community-based knowledge for sustainable development.

Environmental Challenges and Climate Stress:

Respondents were asked about their perceptions of drought and environmental stress.

Table 2: Perception of Drought Frequency (n = 233)

Perceived Frequency	Number of Shepherds	Percentage
Occasional	37	15.9
Frequent	71	30.5
Every Year	125	53.6
Total	**233**	**100**

As per the above table, over half of the respondents perceived drought as an annual phenomenon, highlighting increasing climate vulnerability. Shrinking grazing lands, erratic rainfall, and water scarcity were identified as major constraints affecting mobility and herd sustainability. Despite these challenges, many shepherds reported modifying migration timing and routes rather than abandoning transhumance altogether, reflecting resilience and adaptive capacity.

Governance, Policy Awareness, and Preservation of Transhumance:

The level of awareness regarding government schemes and pastoral welfare policies was found to be limited.

Table 3: Awareness of Government Policies (n = 233)

Awareness level	Number of Shepherds	Percentage
Aware	41	17.6
Partially aware	59	25.3
Not aware	133	57.1
Total	**233**	**100**

A chi-square test was further conducted to assess the relationship between awareness of government policies and adaptation strategies adopted by shepherds. Results indicated **no statistically significant association** ($p > 0.05$), suggesting that adaptation strategies are largely shaped by Indigenous Knowledge Systems rather than formal institutional interventions.

The above table reveals that more than half of the respondents were unaware of existing government policies related to pastoral welfare, grazing rights, or livestock insurance. This gap indicates weak institutional outreach and limited inclusion of pastoral voices in development planning. Respondents expressed the need for legal recognition of migratory routes, access to common grazing lands, and education support for children of migrating families.

Attitudes toward preservation of transhumance:

A majority of respondents expressed concern that younger generations are gradually distancing themselves from pastoral livelihoods due to social stigma, lack of economic security, and educational barriers. However, most shepherds believed that transhumance should be preserved as it ensures ecological balance, cultural continuity, and sustainable resource use.

This perspective reinforces the relevance of integrating transhumant pastoralism into sustainability discourse and policy frameworks, particularly in the context of climate adaptation and Indigenous Knowledge Systems.

Overall Discussion:

The analysis clearly indicates that transhumance among the Dhangar community remains a viable and sustainable livelihood system rooted in indigenous ecological knowledge. While environmental stress and policy neglect pose serious challenges, the community continues to demonstrate resilience through adaptive strategies. Aligning pastoral practices with NEP 2020 and sustainability frameworks can contribute significantly to inclusive rural development and biodiversity conservation.

Findings and Conclusion:

The present study examined the transhumance practices of the Dhangar shepherd community of Haveli tehsil, Maharashtra, with the objective of understanding their livelihood systems, indigenous ecological knowledge, and the challenges affecting the continuity of pastoral mobility. The findings clearly demonstrate that transhumant pastoralism remains a critical subsistence strategy for the Dhangar community, deeply embedded in cultural traditions, social organization, and adaptive environmental practices.

Seasonal migration continues to serve as an effective mechanism for managing livestock health, optimizing the use of natural resources, and responding to climatic variability. The study reveals that traditional knowledge related to grazing routes, fodder selection, weather interpretation, and herd management plays a decisive role in sustaining pastoral livelihoods. This Indigenous Knowledge System has evolved over generations through continuous interaction with fragile ecosystems and represents a valuable yet under-recognized resource for sustainable land and livestock management.

However, the study also highlights increasing vulnerabilities faced by pastoralists. Recurrent droughts, shrinking grazing lands, restricted access to forests, and declining institutional support have significantly altered traditional migratory patterns. While many shepherds have adopted adaptive strategies such

as modifying migration routes and herd composition, these changes often come at the cost of economic stability and cultural continuity. Limited awareness of government policies and inadequate recognition of pastoral rights further marginalise the community within mainstream development discourse.

Importantly, the findings underscore a growing disconnect between younger generations and pastoral livelihoods, driven by social stigma, educational constraints, and uncertain income prospects. Without timely policy interventions, there is a risk that transhumance practices, despite their ecological and socio-economic relevance, may gradually erode. In this context, the study reinforces the need to re-position transhumant pastoralism within contemporary sustainability frameworks, climate resilience strategies, and the Indigenous Knowledge Systems emphasis articulated in the National Education Policy (NEP) 2020.

Recommendations:

Based on the empirical findings and broader sustainability considerations, the following recommendations are proposed:

1. **Legal Recognition of Transhumance Routes:** Traditional migratory routes should be formally recognized and protected through land-use planning and forest governance mechanisms. Clear guidelines must be developed to ensure seasonal access to grazing corridors without criminalizing pastoral mobility.
2. **Integration of Indigenous Knowledge Systems (IKS):** Indigenous pastoral knowledge related to ecology, livestock management, and climate adaptation should be documented and integrated into agricultural extension services, environmental planning, and educational curricula in line with NEP 2020.
3. **Inclusive Pastoral Welfare Policies:** Government schemes related to livestock insurance, fodder availability, water access, and disaster relief must be redesigned to accommodate the mobile nature of pastoral communities. Outreach mechanisms should be strengthened to improve policy awareness among shepherds.
4. **Climate-Responsive Pastoral Support:** Targeted interventions addressing drought resilience such as mobile veterinary services, water harvesting structures along migration routes, and climate-adaptive grazing strategies should be prioritised in pastoral regions.
5. **Education and Social Security for Migrant Families:** Flexible schooling models, hostels, and digital learning facilities should be developed for children of migrating shepherds to prevent educational exclusion and intergenerational livelihood disruption.
6. **Participatory Governance and Community Engagement:** Pastoral communities must be actively involved in decision-making processes related to land use, forest management, and rural development. Participatory governance can ensure that policies are grounded in lived realities rather than static administrative frameworks.

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