International Journal in Management and Social Science
Volume 11 Issue 12, December 2023 ISSN: 2321-1784 Impact Factor: 7.088
Journal Homepage: http://ijmr.net.in, Email: irjmss@gmail.com
Double-Blind Peer Reviewed Refereed Open Access International Journal

ENVIRONMENTAL CHANGES AND ITS IMPACT ON THE PASTORAL NOMADISM: A STUDY OF DHANGAR COMMUNITY

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Abstract:

The pastoral nomadic lifestyle has been an integral part of human history, adapting to diverse environmental conditions for centuries. However, with the rapid and unprecedented environmental changes observed in recent decades, pastoral nomadic communities are facing significant challenges to their traditional way of life. This research paper focuses on the Dhangar community, a prominent pastoral nomadic group in Maharashtra, and investigates the profound impact of environmental changes on their socio-economic and livelihood. The paper highlights how alterations in the local climate have disrupted the traditional migratory patterns of the Dhangar community, which were once finely tuned to seasonal variations and resource availability. Forced to give traditional occupation, changes in livelihood pattern, change in socio-economic status, the Dhangars have had to alter their livestock management practices and routes, leading to considerable adjustments in their socio-cultural norms and economic sustenance. this research paper sheds light on the intricate relationship between environmental changes and pastoral nomadism, specifically examining the case of the Dhangar community.

Key Words: Dhangar, Environment, Drought, Livelihood, Pastoral community

Introduction:

The pastoral nomadic lifestyle is a time-honored practice deeply rooted in human history, encompassing the art of adapting to diverse environmental conditions for sustenance and survival. For centuries, pastoral nomadic communities have roamed vast territories, following seasonal rhythms and exploiting available resources to support their unique way of life. However, in recent decades, the world has witnessed an unprecedented pace of environmental changes, posing daunting challenges to the traditional practices and livelihoods of these nomadic

groups. Among them, the Dhangar community, a prominent pastoral nomadic group in Maharashtra, India, faces a multitude of socio-economic and cultural disruptions due to these environmental transformations.

This research paper delves into the profound impact of environmental changes on the Dhangar community's socio-economic and livelihood patterns. The Dhangars have long thrived on the symbiotic relationship between their livestock and the natural environment. Their migratory patterns, intricately calibrated to the ebb and flow of seasons and the availability of resources, have ensured their survival and prosperity for generations. However, the altering climate dynamics have disrupted these finely tuned rhythms, leaving the Dhangar community grappling with unforeseen challenges. The objective of this study is to explore the extent of environmental changes experienced by the Dhangar community in Maharashtra and the consequent adjustments they have made to their way of life. As the Dhangar community navigates through the effects of climate change, droughts, and other environmental shifts, the consequences are felt across multiple dimensions of their lives. The disruptions in traditional migratory routes have necessitated changes in livestock management practices, leading to alterations in their socio-cultural norms and economic sustenance. Additionally, these environmental challenges have forced the Dhangars to reconsider their livelihood patterns and socio-economic status, prompting them to seek alternative occupations to diversify their income streams.

Review of Literature:

Pastoralists have been neglected in academic, policy, and research discourse for many years. Recently, Dhangar pastoralists have received little attention in academic studies, but their representation is lacking in policy discourse. Sheep rearing is a subsistence pattern in which Dhangars make their living by domesticating large herds of animals. The sheep rearing subsistence economy adapts to such conditions since it promotes converting low-quality plant resources into portable, high-quality animal foods (Patil et al., 2012). The study deals with Dhangar pastoral groups of Maharashtra state raising herds of sheep. Drought and related factors have forced them to leave their traditional transhumance way of life and settle along valleys. Some have settled in urban areas; others stick to the pastoral activities by changing the herd

composition. State policies regarding forests, agriculture, irrigation, fodder, famine, pastoral rights, and migration contribute to altering pastoral lifestyle. Galaty (1990) reported that external influences had caused changes in the traditional livelihood patterns of most pastoral groups, nomadic and transhumant alike. Hutchinson (1996) reported that pastoral behaviors are logical consequences of social-cultural systems that have evolved from centuries of adaptation to marginal environments. Environment and drought-related issues are affecting badly on the livelihood of the community. However, famine-related issues faced by pastoralists are rarely discussed in policy discourse. So in this context, it is essential to review the relationship between drought and livelihood. Therefore, this study attempts to understand the relationship between environment changes and the livelihood of Dhangars.

Since ancient times, sheep rearing and income through this is the primary source of their livelihood. The subsistence of this pastoral group is dependent on the primary herd animal (Dandekar, 1998). About 40 percent of their rural population in arid zones depend on animal husbandry. Sheep in India are owned mainly by nomads or semi-nomadic peoples (Prasad, 1994). They get their sustenance through various economic activities, including the sale of sheep, wool, aging animals, manure, male goats, and lambs. The liberalization, privatization, and globalisation (LPG) affect their traditional modes of livelihood patterns. Urbanization, industrialization, and destruction of traditional and tenure systems have drastically shrunken the pasture areas and rendered spatial strategies of livestock production maladaptive. Accordingly, successive policies of the forest department have focused almost exclusively on attempts to reduce shepherd grazing pressures (Saberwal, 1999; Rao and Casimir, 2003).

Jost (2002) reported that two important aspects of animal husbandry in pastoral societies are herd composition and size. Both are ruled by environmental conditions, family subsistence needs, cultural precedent and the need to minimize risk. The livelihood of the Dhangar community depends on the rainfall in the area. As the study area is drought-prone, day by day, the community is facing many problems in terms of their livelihood needs. Drought is forcing people to diversify their livelihood. Getting into other occupations is difficult as there is no scope. There have been changes in the community's livelihood with this effect as the area is experiencing

many droughts. Recently, some of the groups from this community have settled down and changed their occupation, lifestyle, and nomadic way of life. According to Gemtessa, K. (2005), ' the pastoralists' livelihood has diversified into crop production, pretty trades, wage remittance, firewood and charcoal production (p.1). This trend is also observed in the area with the effect of the drought. Many pastoralists are experiencing livelihood risks due to the drought. In the migrated place, they do not get suitable accommodation, nutritious food, or even drinkable water, so they face many health problems. Lack of electricity and shelter, they reside in huts where malaria-like diseases can affect them.

Objectives of the Study:

- To study the impact of environmental changes on the Dhangar community's socio-economic and livelihood patterns.
- To explore the extent of environmental changes experienced by the Dhangar community in Maharashtra and the consequent adjustments they have made to their way of life.

Research Question:

1. How has the socio-economic situation of the Dhangar community evolved over the past few decades, and what factors have influenced these changes?
2. How do environmental changes, such as shifts in rainfall patterns and grazing land availability, affect the diversity and sustainability of their livelihood sources?
3. What are the specific vulnerabilities that the Dhangar community faces during drought periods?

Methodology:

Research Methods:

The study has adopted a mixed-methods approach, which refers to the integration of quantitative and qualitative research within a single project. By combining both quantitative and qualitative research methods, the study aims to comprehensively examine the community's situation during drought and its ensuing consequences.

Research Designs:

Due to the unavailability of existing literature on this particular community, an exploratory research design was employed to delve into the livelihood issues of the community in the context of drought. This approach was chosen to facilitate a thorough exploration and understanding of the community's circumstances, making it highly suitable for the study.

Universe:

The scope of this study encompasses the Dhangar community residing in the drought-prone region of Satara district.

Sampling:

The selection of villages was purposive, targeting areas with a significant Dhangar population. From these villages, participants were chosen based on their traditional migratory routes. For the household survey, convenience sampling was used to select study participants, and those willing to participate were also selected using a convenience sampling method.

Tools of Data Collections:

In-depth interviews

The data collection process involved conducting in-depth interviews with two distinct groups of respondents, namely the Dhangar (shepherd) population (both traditional and settled) and the villagers along the migratory route. An interview guide was employed to structure these interviews, addressing various aspects of their livelihoods.

Furthermore, an interview schedule was utilized to gather data pertaining to the socio-economic profile of the respondents and evaluate the state's response to the livelihood challenges faced by the Dhangars.

FGDs:

Data collection from the study participants was conducted through focus group discussions (FGDs) utilizing the FGD guide. This approach facilitated gathering

information in a group setting, specifically addressing the drought-associated vulnerabilities of the respondents.

Sources of data

Primary sources

Primary data was collected from the members of the Dhangar Community and key informants from the selected study villages who are knowledgeable about the community's situation.

Secondary sources

Secondary data was collected from books, journal articles, newspaper reports, official documents, etc.

Scope of the Study:

This study holds significant importance in shaping a policy framework tailored to the needs of the Dhangar community. Its findings have the potential to pave the way for further exploration of pastoral communities' situations, bridging the gap between tradition and modernity. Moreover, this research will stand as a distinct and valuable contribution to the knowledge domain, given the scarcity of studies on this subject matter.

Discussion:

The research centers on the interplay of environment changes, drought and livelihood within the Dhangar pastoral nomadic community residing in the eastern region of Satara District. Specifically, the study was conducted in the Maan block, representing a significant area of the eastern part of Satara.

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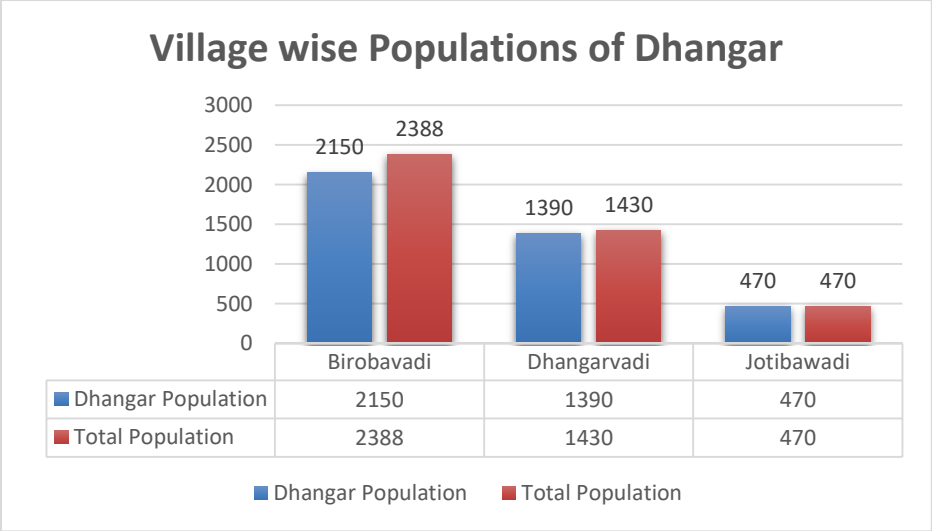
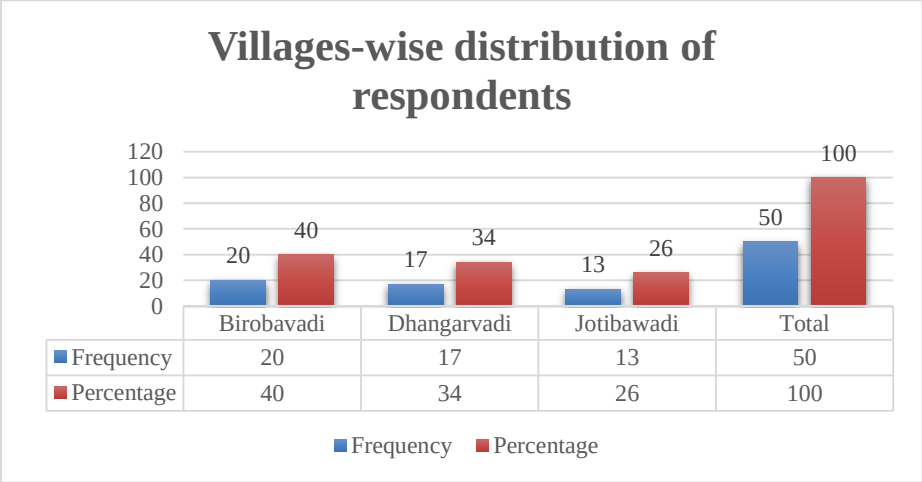
Demographic Profile of the Villages:

Village wise distribution of the Dhangar Population



The depicted graph illustrates the population distribution of Dhangars across different villages. The data clearly demonstrates that all the villages are predominantly inhabited by Dhangars. Notably, Jotibavadi village stands out with the highest Dhangar population, comprising 100% of the total inhabitants among the selected villages.

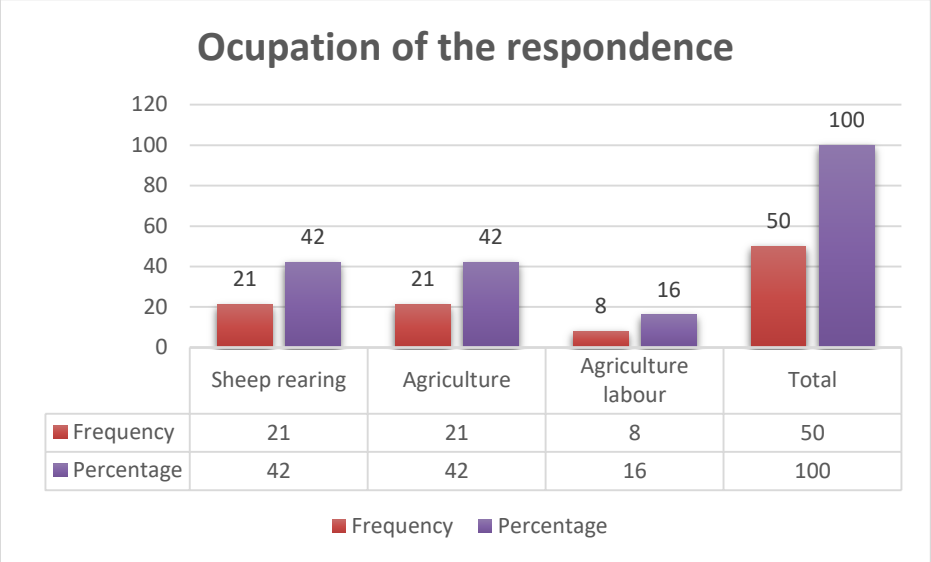
Villages-wise distribution of respondents



The graph represents the distribution of respondents across various villages. Notably, approximately 40 percent of the respondents hailed from Birobavadi village, followed by 34

percent from Dhangarvadi and 26 percent from Jotibavadi village. The majority of respondents were from Birobavadi village.

Occupation of the Respondence:



Analysing the occupation pattern of the respondents holds significant importance. the above graph reveals that the primary occupations of the respondents include sheep rearing, agriculture, and agricultural labor. Notably, approximately 42 percent (N=21) of the respondents are involved in both sheep rearing and agriculture work, while only eight individuals or 16 percent are engaged in agricultural labor.

Status of Employment:

The FGD discussion has provided valuable insights into the community's employment situation. Educated individuals from the Dhangar community tend to migrate to urban areas and find jobs in the government or private sectors, where they settle permanently. They rarely visit their villages except during festival times, as they do not actively contribute to providing educational guidance to villagers. The Dhangars are classified under the NT-C category in the state list, with a population of around one crore in Maharashtra and a reservation of 3.5 percent. Due to intense competition, a significant number of young Dhangars face unemployment as a result of these circumstances.

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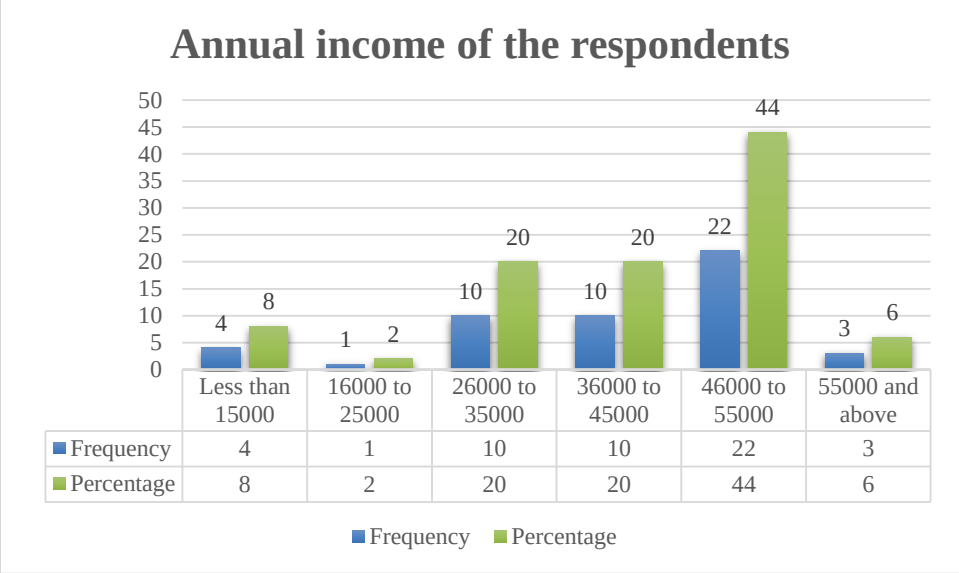
Annual Income of the Respondence



The above graph represents the annual income of the respondents from all sources. Approximately 44 percent (N=22) of the respondents reported a yearly income ranging from Rs. 46,000 to Rs. 55,000. Merely 6 percent (N=3) of the respondents indicated an income of Rs. 55,000 and above. Meanwhile, four respondents reported an income of less than Rs. 15,000 per annum.

Livelihood sources

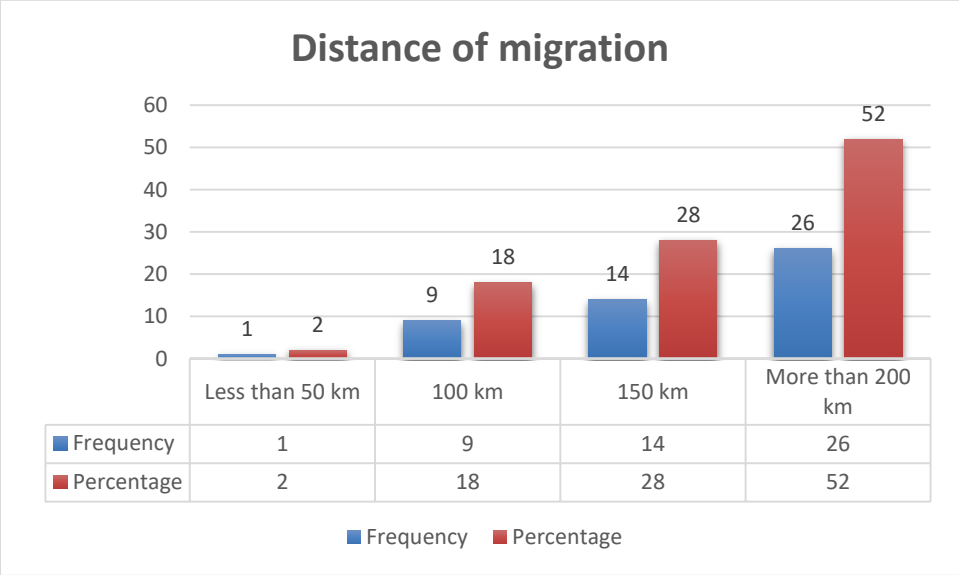
'Traditional Dhangars migrated from one place to another; mainly livelihood sources were sheep rearing, wool production, and milk production. Settled Dhangar's livelihood is agricultural income, poultry farming, daily wages, and work on other farms. Some Dhangars migrated to the urban area they are worked on construction lines.'

Long-distance migration

Long-distance migration is a prevalent practice among nomadic tribes and traditional communities who move to various locations in search of fodder and water for their livestock. The migratory routes are carefully planned based on the availability of these vital resources. The graph given bellow showcases that all the respondents engage in long-distance migration

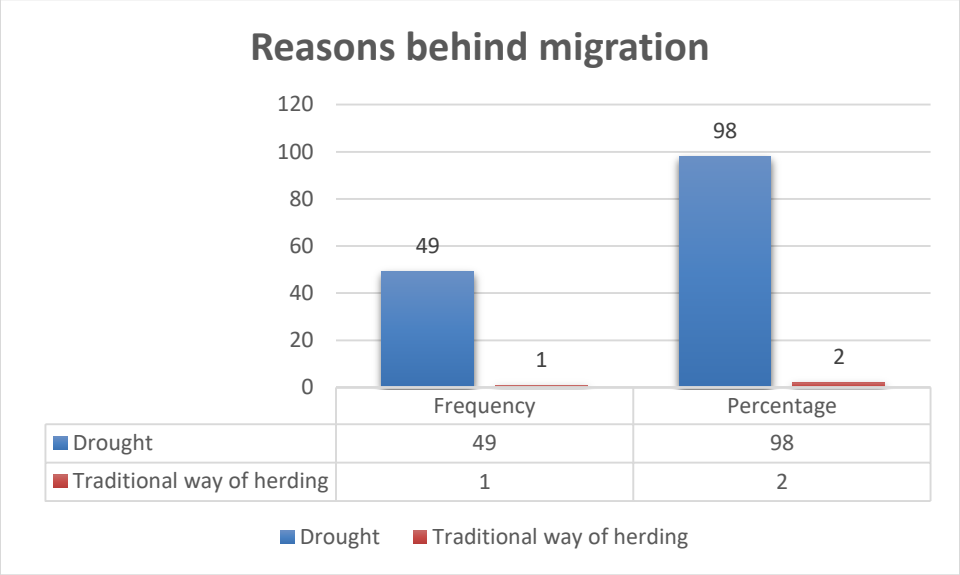
alongside their livestock, which follows a seasonal pattern. The movement is dictated by the presence of pasture within specific areas, necessitating the adoption of either seasonal or circular migration patterns.

In work of Nitya Ghotge (2004) highlights that migratory and semi-migratory systems of livestock rearing continue to be practiced in semi-arid regions to this day. As part of this tradition, community members follow pre-established routes, passed down through generations since their ancestors' times. These migratory routes are defined by the community's traditional relationships with migratory or halt villages.



The graph above illustrates the migration distance of the respondents. The highest number of respondents, accounting for 52 percent (N=26), migrated more than 200 km in search of fodder and water. Additionally, 28 percent (N=14) of respondents traveled to a distance of 100 km, while 18 percent (N=9) migrated to 150 km. Only a minimal 2 percent of respondents covered a distance of less than 50 km, indicating that distress migration is prevalent due to the scarcity of water and grazing resources. The continuous drought situation compels respondents to undertake long journeys in search of adequate grazing and water sources for their livestock.

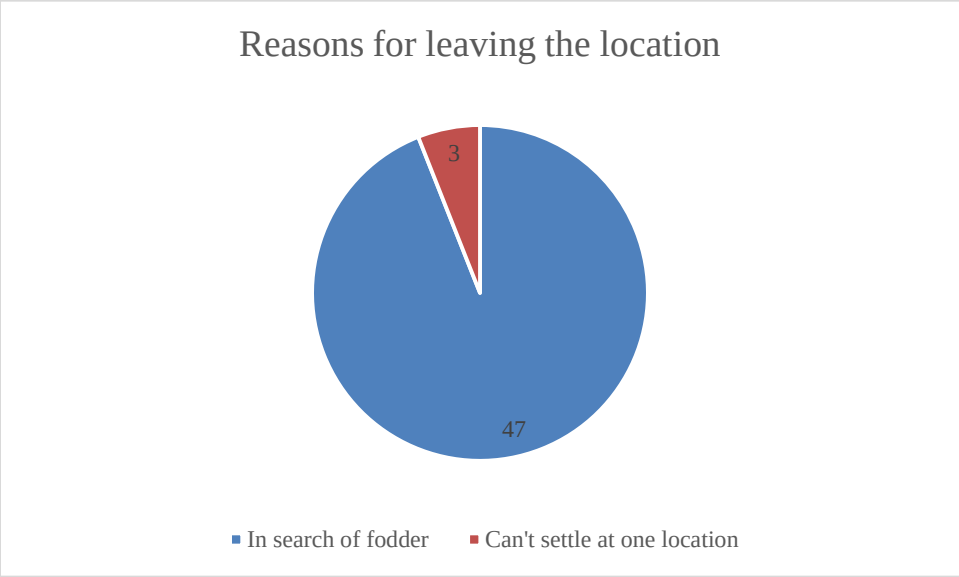
Reason Behind Migration:



As depicted in the graph, a vast majority of respondents, 98 percent (N=49), undertake migration primarily in response to drought conditions, while only 2 percent migrate as a part of their traditional way of life. The prevalent reason behind migration is the scarcity of water and fodder for their livestock during drought periods, necessitating respondents to embark on long journeys in search of these essential resources.

All respondents stayed for 5 to 10 days during the migration. It shows that respondents do not stay in one place for longer and keep migrating from one place to another in search of fodder and water for the livestock.

Reasons for leaving the location



As indicated by the graph, a significant majority of respondents, comprising 94 percent (N=47), migrate to other locations primarily in search of fodder. Merely 6 percent (N=3) of respondents migrate due to an inability to settle at one place.

Routes undertaken

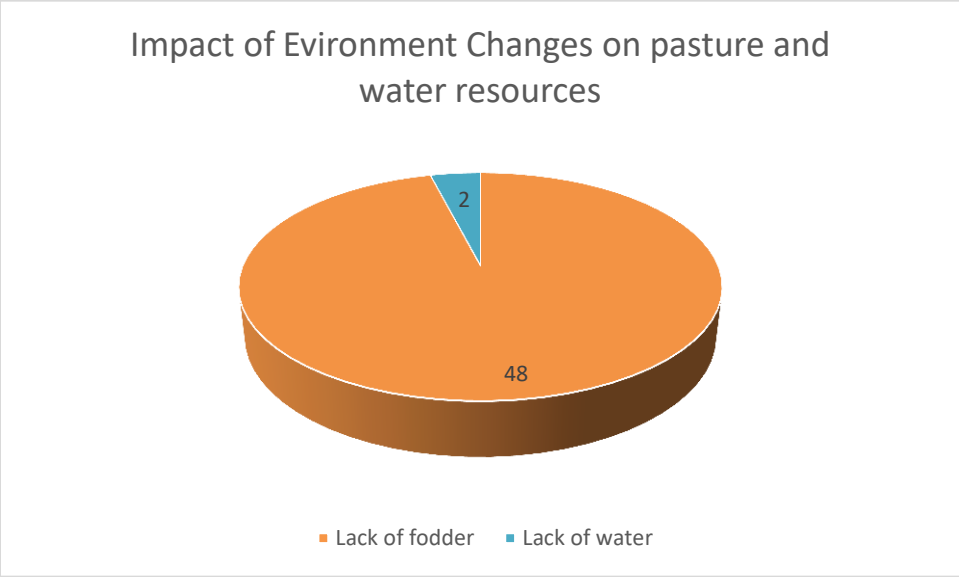
• Karad: Dhangarvadi - Kukudvad- Mayani- Lasurne- Surli- Karad

• Satara: Dhangarvadi- Dahivadi- pusegaon- Koregaon - Satara- parali Khore

• Narbatvadi: Jotibavadi- Kukudvad- Mayani- Ghanvad- vita- Tasgaon.

• Parbhani: Birobavadi/ Dhulobavadi - piliv- velapur- Karkum- Bose- Barshi- LaturParbhani

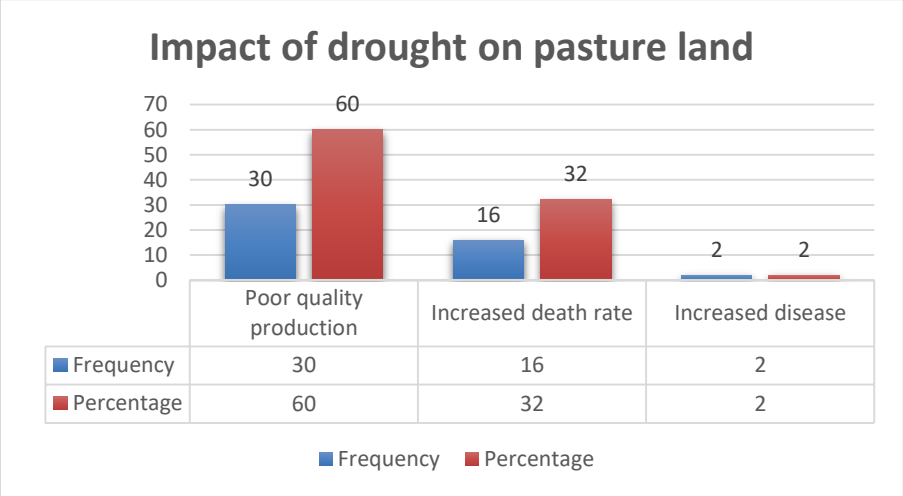
Impact of Environment Changes on pasture and water resources



As per the graph, the drought has had a significant impact on pastureland. A substantial 96 percent (N=48) of respondents reported a lack of fodder as a direct consequence of the drought, while only 4 percent (N=2) mentioned a scarcity of water. During discussions with the respondents, they expressed that severe droughts severely affect the availability of pastureland and forage in the region. Due to the drought's detrimental effects, the pastureland has diminished, leaving shepherds without adequate grazing areas in the vicinity. Consequently, shepherds are compelled to migrate to areas with higher rainfall and sufficient forage to meet the needs of their livestock.

Impact of Environment Changes on livestock

Data indicates that all the respondents have stated that there is an impact of Environment Changes on the production of livestock. The livestock production system was affected during drought due to less availability of pasture land and water.



The drought profoundly impacts every aspect of the nomadic tribe, including livestock, agriculture, and overall production. A substantial 60 percent (N=30) of respondents shared that drought led to poor livestock production quality. Additionally, 32 percent (N=16) of respondents reported an increase in livestock deaths due to drought, while 8 percent (N=4) attributed the rise in livestock diseases to the drought's effects.

During the drought, the scarcity of water and fodder negatively affected livestock production, resulting in abortions among sheep and goats. Moreover, the growth of livestock was hindered due to the lack of essential resources. Consequently, the pastoral production system suffered a direct adverse impact, leading to a reduction in income.

In general, drought often causes livestock deaths; however, in this area, due to nomadism and migratory practices, the pastoralists have managed to mitigate the effects of drought, resulting in fewer observed livestock deaths. Nonetheless, economic losses were more prominent in the study area due to the aforementioned reasons. The economic repercussions of the drought have been significant for the nomadic community in the region.

Giving up traditional occupation:

The respondents have opted to abandon their sheep rearing occupation and instead settled in their respective villages. Various factors have played a pivotal role in compelling the Dhangar

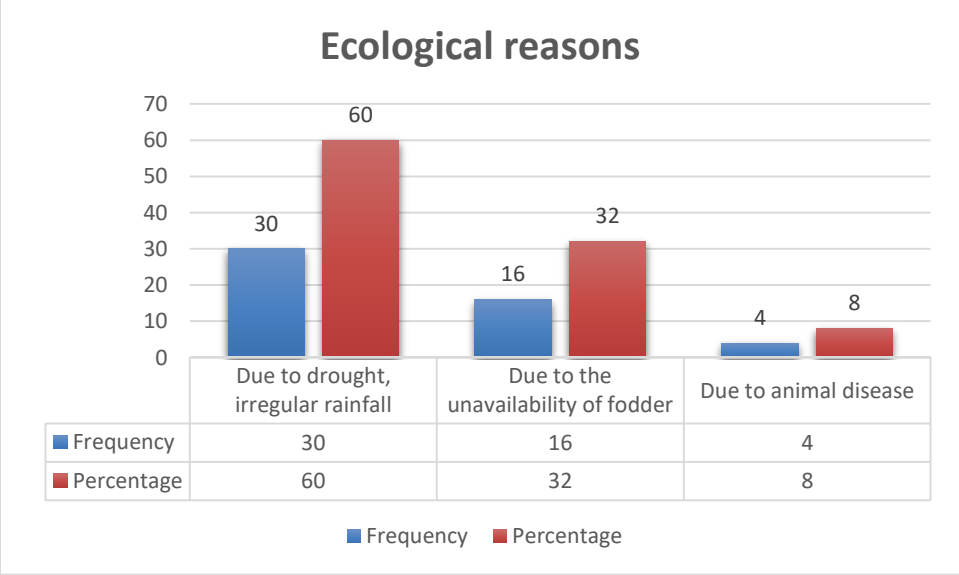
population to forsake their traditional livelihood, such as persistent drought, challenges in herding, and the absence of a secure and settled life, among others.

During the informal discussions, it was shared by Ramu Shinde from Jotibavadi that:

> *"Continuous drought in the area pushes us to sedentarise and seek other economic activities. Due to continuous drought, sustaining the herd is difficult as grazing and water resources are scarce in the study area. Drought results in socio-economic and ecological loss and livelihood vulnerabilities in the area." Says One of the sedentarised Dhangar i.e., Maruti Jogwe, from Dhangarvadi shared his experience that:*

> *"Scarcity of fodder and water was the main reason for leaving shepherding. I have settled now in Karad Taluka where rainfall is enough, and fodder and water are available. I have shifted from sheep herding and bought buffalo and now selling milk and earning my livelihood here".*

Ecological Reason:



Based on the graph, it is evident that the majority of respondents, accounting for 60 percent (N=30), have abandoned the sheep herding occupation primarily due to the adverse effects of drought and low and erratic rainfall. Additionally, approximately 32 percent (N=16) of respondents cited the unavailability of fodder for their livestock as the reason for leaving the

occupation. A smaller percentage, merely 8 percent (N=4) of respondents, chose to abandon the occupation due to animal diseases.

During FGDs, other reasons are reported by the respondents who are sendentarised. Below is the narrative that provides detailed context:

> *"The grazing restrictions are increasing because land under cultivation is increasing. So, it is affecting both sides; at one side, the grazing land has gone down, and at another side, it is also restricting the movement of Dhangars. Next to this, due to a lot of competition over natural resources and forest restrictions on grazing, the traditional and customary rights of the shepherd-Dhangars have been ignored and got it back. So, here we can see that in the study, village respondents have given up on traditional livelihood because of limited access to pasture and water resources, which can be attributed to the drought."*

Bhiku Shinde, a sedentarised Dhangar from Jotibavadi, was asked why he had chosen a settled lifestyle; he has shared that:

> *"Drought has forced me to leave my traditional lifestyle. In recent years, drought has worsened; every two years, drought occurs. Earlier rainfall was excellent, and plenty of grasslands were available. Nowadays, fodder is not available in the Maan block. Moreover, migration for 12 months has become impossible because drought situations are everywhere in the state. All these pushed us to leave this livelihood. Our children now shifted to cities and nearby towns and are working as construction laborers, and we have become wage earners in the village by doing any work available over here."*

Conclusion:

This research sheds light on the profound impact of environmental changes, particularly drought and low and erratic rainfall, on the pastoral nomadic Dhangar community in the eastern part of Satara District. The study delved into various aspects of the community's socio-economic situation, livelihood sources, and migration patterns, providing valuable insights into their resilience and challenges.

The findings revealed that the Dhangar community heavily relies on livestock rearing and agriculture as their primary livelihood sources. However, the continuous drought conditions have posed severe difficulties, leading to the migration of a significant portion of the population in search of adequate water and fodder for their livestock. The scarcity of essential resources has resulted in decreased livestock production quality, an increase in livestock deaths, and a rise in livestock diseases, directly impacting the pastoral production system and the community's income.

The study also highlighted the economic losses suffered by the community due to these adverse conditions, impacting their overall well-being and livelihood sustainability.

The research has not only provided insights into the Dhangar community's situation but also opened up avenues for further research on pastoral nomadic communities at the crossroads of tradition and modernity. By incorporating their unique perspectives and challenges into policy frameworks, we can ensure sustainable development that respects the delicate balance between human livelihoods and the environment. Ultimately, this research contributes to a deeper understanding of the intricate relationship between environmental changes and pastoral nomadism, paving the way for informed decisions and inclusive policies that promote the well-being and prosperity of these communities in the face of an ever-changing world.

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