



Transhumance and the Impact of Development on the Gujjar-Bakarwal Tribe: An Ethnographic Study of Cultural Perceptions and Land-use Changes

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Abstract: Given the transformations that have happened owing to internal and external influences from a geographical perspective, the current research intends to provide a model for change in the Gujjar-Bakarwal lifestyle and socioeconomic environment. The research emphasises the significance of animal domestication and its function in the socioeconomic life of the Gujjar-Bakarwal tribe, who rely significantly on cattle for food, clothing, transportation, and other necessities. Semi-structured interviews with pastoralists, focus group discussions, a basic information acquisition questionnaire, and observations of rangeland and livestock management systems were used to collect data for the study. The study's findings illustrate how globalisation and modernity have had a substantial impact on pastoral communities in Gujjar-Bakarwal. The study sheds light on management measures that can be put in place to encourage sustainable development among the Gujjar Bakarwal. It emphasises the importance of focusing on animal husbandry and management, such as enhancing livestock health and production and building market links for livestock products. The study also emphasises the significance of improving education and healthcare among the Gujjar-Bakarwal population. The current study adds to our understanding of the Gujjar-Bakarwal tribe's socioeconomic existence and the relevance of animal domestication in their livelihoods. The report recommends approaches to enhance Gujjar-Bakarwal sustainable development and emphasises the importance of policymakers considering the unique demands and challenges encountered by pastoral communities when formulating policies and programmes.

Keywords: Transhumance, Ethnography, Development, Cultural, Grazing, Land-use

Introduction

Pastoralism, both nomadism and transhumance, has been a sustainable mode of existence for thousands of years in many societies (Weber & Horst, 2011; Thevenin, 2021). It entails the use of mobile and semi-mobile livestock management systems, which enable the efficient use of natural resources while reducing the risk of overgrazing in any one area (Boles et al., 2019). Furthermore, because it entails the

constant movement of cattle and the use of diverse grazing places, pastoralism helps the preservation of biodiversity and the conservation of ecosystems (Liao et al., 2020; Khanyari et al., 2022; Varga et al., 2020). Pastoralism, however, is facing various problems today, including climate change, land-use changes, and urbanisation (Rotich et al., 2023; Easdale & Aguiar, 2018). These factors have resulted in the loss of grazing lands and a decrease in the number of pastoralist groups worldwide (Dong et al.,



2011; Darkoh, 2003; Obioha, 2008). Furthermore, modernity and globalisation have resulted in the commodification of livestock and the privatisation of natural resources, making it increasingly difficult for pastoralists to preserve their traditional way of life (Fratkin, 2001; Jandreau & Berkes, 2016).

Pastoralism must be recognised as a valuable sustainable way of life, and policies and practises that support pastoralist communities must be implemented (Gebeye, 2016). Land tenure policies that recognise communal use of natural resources, investment in infrastructure such as water points and veterinary services, and promotion of traditional knowledge and practises are examples of such measures (Orindi & Eriksen, 2005; Subba Rao, 2006; Taylor & Bhasme, 2021). We can help assure the preservation of these communities and the environments on which they rely for future generations by recognising and supporting the role of pastoralism in sustainable development (Reed et al., 2006).

The type of livestock used in transhumance varies based on several factors, including the ecological conditions of the region, the cultural traditions of the pastoral community, and the economic value of the animal (Ahmed et al., 2023; Chowdhary et al., 2017). In some regions, certain animals may be preferred due to their ability to survive in harsh conditions or their high value for milk or meat production (Boyazoglu & Morand-Fehr, 2001; Hoffmann, 2010). The selection of animals for transhumance also depends on the availability of grazing areas and the distance between the summer and winter pastures (Chang & Tourtellotte, 1993). For example, in regions with limited grazing areas, small animals such as sheep may be

preferred over larger animals such as cows or horses (Putfarken et al., 2008). Additionally, the adaptation of specific breeds of animals to local environments plays an essential role in transhumance (Velado-Alonso et al., 2022). For instance, in the Himalayas, indigenous breeds of sheep are well-adapted to harsh environmental conditions and are used for transhumance (Nehal A. Farooque and K. S. Rao, 2000; Kheraj et al., 2017). Overall, the type of livestock used in transhumance is a result of a complex interplay of ecological, cultural, and economic factors.

In contrast, in temperate regions, such as Europe, the transhumance pattern is linked to the annual cycle of grass growth (Morgan & van Dijk, 2012). The livestock is typically moved to higher altitudes in the summer when the grass is lush and then returned to the lowlands for winter grazing (Flannery, 1965). This seasonal pattern of transhumance helps to optimize the use of the land for both livestock grazing and crop cultivation.

Apart from ecological factors, social and economic factors also play an essential role in determining the practice of transhumance (Oteros-Rozas et al., 2013). In some regions, transhumance is closely associated with the culture and traditions of local communities (Daugstad et al., 2014). For instance, in the Alps, transhumance has been a way of life for centuries, and it is considered a cultural heritage. Transhumance is also important in terms of economic benefits, as it enables pastoralists to access different grazing areas, which helps to optimize the use of natural resources and maintain the productivity of the land (Bhasin, 2011; Bonfoh et al., 2016).

However, various variables, including climate change, land-use changes, and

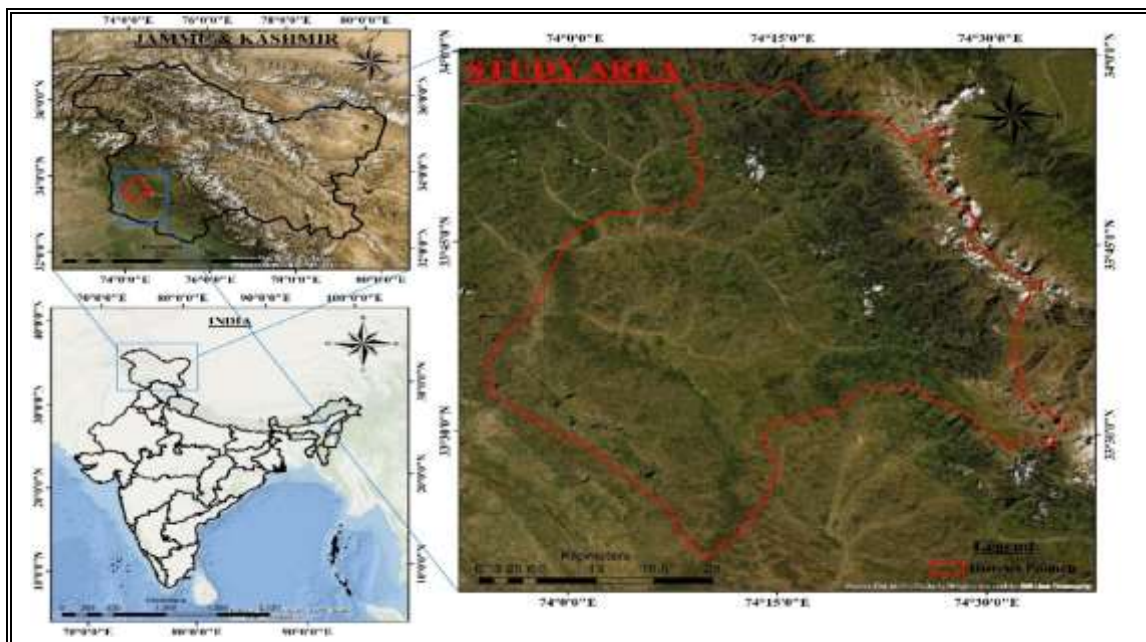


urbanisation, have contributed to a reduction in transhumance in many places in recent years. The younger generation is likewise less interested in traditional transhumance practises, which has led to their abolition in some locations (Khearj et al., 2019). As a result, it is critical to comprehend the socio-ecological elements that drive transhumance and to create policies that promote the long-term viability of this traditional practise.

Description of the study area

The study was conducted in Poonch district, the remotest district of the erstwhile Union Territory of Jammu and Kashmir in India. The region's hilly and mountainous topography, as well as its location between 33°25' to 34°01' north latitude and 73°58' to 74°35' east longitude, create a unique environment with erratic weather conditions and a significant snow cover during the

winter months. The district is surrounded by the Kashmir valley in the northeast, Rajouri in the south, and Pakistan-administered Kashmir in the west. It is noteworthy that more than half of the total area in the district is covered by forests, and the area's wetlands are primarily composed of the Poonch River and its tributaries. The district has a population of 476,820, according to the 2011 census, with a population density of 285 per square kilometer. The region has a literacy rate of 68.60%, and more than one-third of the population is tribal. Additionally, one-third of the population sustains below the poverty line, making it a relatively impoverished area. The district is also encumbered with heavy military deployment, as it is bounded by a Line of Control that experiences frequent ceasefire violations and conflict.



Map 1.1 Location of the Study Area



Agenda Setting of Research

This study employed qualitative research design and ethnographic data collection methods.

The Rationale for Research Approach

Qualitative research adopts an interpretive and naturalistic approach to data collection, requiring researchers to observe individuals and phenomena in their natural contexts to interpret events and the meanings ascribed by individuals (Denzin & Lincoln, 2011). It employs both inductive and deductive methods to gain a deeper understanding of how people experience their daily lives from their own perspectives (Creswell, 2013).

Ethnography, a qualitative research approach, focuses on a culture-sharing group comprising many individuals who interact over time (Creswell, 2013). While the approach has evolved over time and is no longer restricted to a "lone scholar" living with and learning about other communities and tribes, the fundamental requirements for cultural immersion and extensive "fieldwork" have remained unchanged. Ethnography is an iterative, emergent, interpretive, and constructive learning process that presents the world of the host population "thickly" with the help of details, contexts, and meanings instead of merely factual data. It provides a holistic approach to learning about sociocultural contexts, processes, and meanings from both emic and etic perspectives, making ethnography both the method and result of the study (Geertz, 1973; Whitehead, 2005; Creswell, 2013; Richards & Morse, 2013).

The qualitative and ethnographic approach proved extremely beneficial for this study, which aimed to explore and comprehend a unique population's lived experiences, evolving socioeconomic landscape, customs, traditions, and health issues, as well as the

prospects of their traditional knowledge. It was critical to engage in community life, have informal interactions with village residents, conduct interviews with key informants, and take field notes to gain insight into various socioeconomic transformations, environmental challenges, and health concerns affecting the participants and their families in order to achieve the research objectives.

Sampling method

The field study participants were selected using purposive sampling, a method commonly employed in qualitative research to identify and select information-rich cases that are contextually relevant to the research question at hand (Patton, 1990; Marshall, 1996; Palinkas et al., 2015). The study determined that long-term herders and shepherds in the study area possessed the most comprehensive knowledge regarding the research topic, making them ideal candidates to respond to the research questions. Additionally, participants were asked to help expand the pool of potential respondents by recommending friends, relatives, or family members who could contribute to the study's objective. Overall, purposive sampling enabled the research to gather detailed information on a specific group facing a natural problem.

Data collection strategy

Qualitative ethnographic research utilized various approaches to collect information, including participant observation, interviews with key informants, and group interviews. The data collection occurred during August and September of 2020, in the field. The primary data collection methods utilized were semi-structured interviews, participatory observation, focus group discussions (FGDs), and interviews with key informants. Fifty Gujjar-Bakarwal



individuals participated and engaged in discussions regarding the socially driven reversal in the developmental paradigm, as well as the importance of education and cultural identity in modern times. The researcher held separate discussions on the main topic of changing socio-economic milieu and the threats to the Gujjar-Bakarwal system. Participants were asked to share their perspectives on the impact of social changes, housing typology, health, occupation, trading, development initiatives, the seasonal rhythm of economic activities, and the impact of tourism on the system.

Analysis and Discussions

Changing Socio-Economic Milieu of the Gujjar-Bakarwal

The term "change" refers to a departure from the traditional sources of livelihood, religious practices, and other socio-cultural aspects of daily life. Every society, whether ancient or modern, primitive or developed, is perpetually undergoing some form of transformation. These changes may include technological advancements, organizational alterations, or ideological shifts. The Gujjar-Bakarwal society is not immune to the effects of change processes, as change is a dynamic force. The Gujjar-Bakarwal were nomadic people who were far removed from modern technologies and primarily focused on their livestock and land. The environment provided for the majority of their basic needs. The ecology of the Pir Panjal region, where the Gujjar-Bakarwal reside, has undergone changes over time as the surrounding niches have changed. Change is inevitable over time, and the Gujjar-Bakarwal community, like all other communities, has been compelled to adapt to these shifts in various ways, such as changes in socio-economic scenarios, housing typologies, healthcare,

infrastructure, changing means of earning and trading.

The perceptions of the Gujjar Bakarwal community and predictions for the Poonch district suggest that their insights can complement new technologies and provide alternative approaches for socio-economic changes. The Gujjar Bakarwal have witnessed changes in various socio-economic indicators, including the emergence of new livestock diseases, early greenery induction, early flowering/maturing of grasses in rangelands, and physical changes such as the early onset of summer, rapid melting of snow in rangelands, increased drought, and drying of water resources. This study presents the perceptions of the Gujjar Bakarwal community in response to the changing socio-economic milieu, and provides a way to design adaptation and subsistence strategies to sustain the people, pasture, and livestock in the mountainous region.

The broader perspective around the periphery

In recent decades, the inhabited areas of Pir-Panjal, such as the Poonch district, have become increasingly aware of the influence of neighboring residents and external visitors. The unique practice of nomadism in the highlands has attracted researchers and tourists seeking to learn about their lifestyles. The frequent visits from outsiders have brought significant changes to their livelihoods. As Gujjar-Bakarwal society opens up to other cultures, they are abandoning unhealthy customs. During the field study, interviews with the local people of the Gujjar-Bakarwal community revealed that they are no longer practicing the traditional mobile management system of *Mukkaddam* (headmen of a group). The introduction of the Panchayati Raj System



has significantly affected this traditional system. These changes have several implications for the Gujjar-Bakarwal as they have to adapt to globalization and modernization. The large influx of external tourists will attract the government's attention and lead to the development of transportation, communication, and infrastructure in the surrounding environment.

Perceptions of People Regarding Present Socio-Economic Scenario: A Case Study in Development Initiative

The majority of Gujjar-Bakarwal says that the economics and culture are rapidly disappearing. In this context, some Gujjar-Bakarwal people shared the following idea:

“The Gujjar-Bakarwal community is concerned about the rapid disappearance of their economy and culture. According to the locals, the primary reason behind this decline is the scarcity of grazing land due to the expansion of farming and settlements in their area. This has made it increasingly difficult to sustain their traditional way of life, especially in the harsh climatic conditions of the region. Additionally, the younger generation seems to lack interest in herding and livestock rearing, and instead, aspire to a more comfortable and modern lifestyle. These social and economic factors have also contributed to the declining state of the Gujjar-Bakarwal community.”

To counter the decline of their traditional economy, the Gujjar-Bakarwal communities are gradually transitioning towards more sustainable economic development. The government of Jammu and Kashmir, along with various NGOs, has initiated several beneficial schemes to attract animal herders towards this goal. These include the establishment of Animal and Sheep Husbandry, basic infrastructure facilities in

remote and inaccessible hilly areas, settlement of herders in villages, schools, dispensaries, and road networks in high-altitude areas. However, due to the nomadic nature of the transhumance groups, the government faces challenges in exerting political control over them. As highlighted by (Dhar, 2009), government actions or plans may not always have a 100% positive impact on pastoralists worldwide. For instance, in Iran, the government's attempt to settle the Brasseries herding community led to a shortage of wool and meat throughout the country.

In this case study, interviews were conducted with members of the Gujjar-Bakarwal community who are transitioning from their traditional way of life to a more modernized, sedentary lifestyle in villages and are no longer involved in pastoralism and related social and cultural activities. During the interviews, many participants shared their views on various development initiatives undertaken by different agencies. One participant stated:

“In today's world, geographical distance is no longer a major obstacle. We can communicate with our friends, family, and relatives in a matter of seconds. Science has the potential to work wonders, and while government agencies and NGOs have done a commendable job in developing sustainable livelihood models for the Gujjar-Bakarwal people, more can be done. I personally met with the tribal officer and shared my thoughts on some development projects that could greatly benefit the Gujjar-Bakarwal community, such as the use of scientific containers to preserve the natural aroma of dairy milk by-products. While the cream separator was distributed to the Gujjar-Bakarwal as a development initiative, they expressed satisfaction with it, but ordinary



people are dissatisfied with the different flavors and tastes, and prefer handmade products over the cream separators. Therefore, a baseline survey should be conducted before implementing any development project to ensure its success.”

Regarding the incentives being given to the selected people of the Gujjar-Bakarwal community and their future, he believes, Each and every family belonging to the Gujjar-Bakarwal community should be provided with incentives, rather than just a selected few. An educational camp should be organized to create awareness about the significance and culture of cattle rearing. The younger generation seems to be disinterested

in the welfare of their livestock and the challenging living conditions that come with it. I, personally, gave up the Gujjar-Bakarwal culture and now my elder brother is in charge of my herds. The livestock rearers are facing a rapidly changing environment. They are confronted with various issues such as inadequate education and healthcare facilities, lack of transportation, limited opportunities for marketing their produce, and insufficient infrastructure in high-altitude regions. Unless these concerns are addressed, the future of the Gujjar-Bakarwal community appears bleak, and it is possible that their culture may disappear from the world.

Case study I: - Case study highlighting the changes in developmental paradigm among Gujjar-Bakarwal

Case Study 1	Changes in Paradigm	Developmental	Reasons
Case study I Respondent No 1	1) Before many developmental activities occurred in 1991, the Gujjar-Bakarwal people of the Pir-Panjaj region were not much known to the various organizations. There has been a lack of modernization during this period.		Their habitat was far from human intervention and isolated from the mainstream or settled population. Gujjar-Bakarwal lacked political knowledge and had no familiar voice to express their needs and fight for their development. They did not have strong social institutions to support their cause, mainly because they constantly moved throughout the year.
	2) Gujjar-Bakarwal were less receptive to gaining awareness about modern development, but now Gujjar-Bakarwal has demanded the construction of roads for their villages from the government.		They have now gained political knowledge and have common societal platforms to articulate their needs regarding desired developmental activities. There are social institutions that have become a permanent feature of the community and help them voice their concerns.

The case studies emphasised the significance of top-to-bottom planning, as well as adequate initiative and guidance, for community development. They also emphasised the need of individuals with a

feeling of commitment and human desire working for the wellbeing of societies. It is not sufficient to involve simply administrators in development; other groups and organisations must collaborate with



villages for greater development. All stakeholders, including community members, government officials, non-governmental organisations, and other relevant organisations, must be involved in order for development to be effective. These stakeholders must collaborate to assess the community's requirements and establish appropriate strategies to address those needs. By incorporating the community in the planning and execution process, the development efforts have a better chance of success and sustainability.

Furthermore, individuals and organisations dedicated to the welfare of society are required. These persons and organisations should have a thorough awareness of the community's needs and ambitions, and they should work with empathy and sensitivity to achieve those goals. The case study demonstrates a huge disparity between the goals of development programmes and their implementation on the ground. Many Gujjar-Bakarwals are unaware of the different development plans and programmes put in place by state and federal governments. This lack of understanding might result in a misalignment between the development projects' goals and the needs of the community.

To achieve better results, it is crucial to raise awareness among the Gujjar-Bakarwal villages. This can be done through various means, including community mobilization and outreach programs. Communication channels must be established to ensure that information about the development programs reaches the target population effectively. This would enable the Gujjar-Bakarwal people to take an active role in the planning and implementation of the development initiatives, ensuring that their needs are adequately addressed.

The elder generation's answer in the case study demonstrates their ambiguity and lack of clarity about the consequences of the proposed development measures. Many of them were perplexed and unsure whether they welcomed the shift or not. This is most likely due to the fact that they have spent their entire lives adhering to their conventional way of life, and the proposed changes may be alien to them. In addition, some participants raised concern about the degradation of pastureland and the potential misuse of governmental power to make false development promises. This is not an uncommon concern, since numerous development programmes have been chastised for ignoring the needs of local populations and inflicting more harm than good. On the other hand, the study's younger generation did not expect adverse effects on their social and cultural traditions. This is likely because they have grown up in a more modern and globalized world and may be more receptive to change and development. The participant in the case study expressed the importance of education for the younger generation of Gujjar-Bakarwal. They stated that education can provide greater comfort and better living conditions by opening up opportunities for government and private jobs. This sentiment is not unique to the Gujjar-Bakarwal community and is a common aspiration for many communities around the world.

Education is often seen as a key tool for social and economic mobility, as it can provide individuals with the skills and knowledge necessary to access better-paying jobs and improve their standard of living. Additionally, education can also help preserve and promote cultural traditions by allowing individuals to learn about their heritage and history.



In the case of the Gujjar-Bakarwal, education can play a crucial role in bridging the gap between their traditional way of life and modern development initiatives. By educating the younger generation, they can better navigate the changing landscape and ensure that their cultural traditions and practices are preserved while also accessing new opportunities for growth and development.

The participant in the case study highlights the importance of education for the Gujjar-Bakarwal community. They emphasize that education can provide opportunities for individuals to secure good jobs and earn a better income, which can help improve their standard of living.

In today's world, education is seen as a critical component of social and economic development. With advances in technology and globalization, there is a growing demand for a skilled workforce that can adapt to changing work environments. Education can equip individuals with the necessary skills and knowledge to thrive in the modern world, and it can also help promote social mobility and reduce poverty.

Furthermore, education can also play a vital role in preserving cultural traditions and promoting social cohesion. By providing

individuals with a deeper understanding of their heritage and history, education can help communities maintain their cultural identities in the face of modernization and globalization.

Therefore, the participant's perspective on the importance of education aligns with broader global trends and highlights the critical role education can play in promoting individual and community development.

This change in culture and lifestyle among the younger generation of Gujjar-Bakarwal is a reflection of the larger societal changes happening globally. With increased exposure to technology, media, and the internet, the younger generation is more aware of different ways of living and has aspirations for a better lifestyle. However, it is important to strike a balance between modernization and the preservation of cultural traditions. Efforts should be made to educate the younger generation about the importance of their cultural heritage and traditions while also providing opportunities for their personal and professional growth. It is also essential to involve the community in the development planning process and ensure that their voices are heard and their needs are addressed.

Case study II: - Case studies highlighting the need and importance of education and cultural identity in the present era among Gujjar-Bakarwal

Case Studies	Need and Importance of Education	Reasons
Case study II Respondent No 2	1) I want to find a good job. This is possible only after I have been educated. Otherwise, I will have to do this (pastoral activities) throughout my life. (Highly significant emphasis on education).	This job, maintenance of cattle and related work, is difficult.



Case Study III Respondent No 3	1) Of course, education is the only tool to survive in this highly competitive world, but we must also pay attention to our culture and traditions. (Moderately significant and nuanced emphasis on education).	An urgent comprehensive study must be undertaken to identify and understand the impact of recent developments (including modern education) on Gujjar-Bakarwal life and its impact on cultural identity, and measures taken to promote and preserve the unique and fragile culture and traditions of Gujjar-Bakarwal.
Case Study IV Respondent No 4	1) I think the school education for my kids is not good. (Low emphasis and skepticism towards education).	If my kids are educated, they will be engaged in service, and they will not stay with us, and also, we cannot provide tuition fees because of the high cost of education. Besides, we have nothing but a few flocks. Who will take care of the flocks if we send them to school?

Housing typology

In some regions, the Gujjar-Bakarwal intentionally settle and move along fixed routes with their animals and families. In the past, the Gujjar-Bakarwal did not have permanent huts in their migration places and would stay in tents. Nowadays, these old tents have been replaced with plastic panels. In many places, especially in the spring and autumn pastures near villages, it is observed that even wooden and soil floor roofs have been replaced by CGI sheets. Gujjar-Bakarwal who have settled along roadsides have started building multi-story concrete houses and have also replaced their traditional plant roofs with light-colored CGI sheets.

Enhancement of health care services

Gujjar-Bakarwal fully believes in traditional customs for treating patients; with the introduction of hospitals, they have opened their doors and are applying for medical treatment. During the field study, it was observed that both traditional customs and medical treatment coexisted among Gujjar-Bakarwal. They are concerned about the health of their children and taking advantage

of the government's free vaccines provided on time.

Modifying and enhancing Existing Infrastructure

The development of road connectivity has transformed the transportation system for the Gujjar-Bakarwal, from a heavy burden to modern vehicles. This has greatly improved their living conditions, but also reduced the role of livestock in transportation. Settlements are now moving closer to the roadside for easy access to various needs. In the past, Gujjar-Bakarwal families had fewer permanent settlements, but due to improved road connectivity, more and more new permanent settlements are emerging in the study area. Many have also started growing vegetables in low-altitude areas that were previously unused. These changes are due to the increasing demand for modernization and convenience, which provides them with opportunities beyond traditional transhumance livelihoods.

Alternative ways of earning

In the past, the Gujjar-Bakarwal engaged in trade activities during the winter. Nowadays,



many of them travel to low-altitude areas to work on a daily wage basis for various organizations such as PMGSY (Pradhan Mantri Gram Sadak Yojana), BRO (Border Road Organization), the Department of Rural Works, and even the military as porters. They also work with horse caravans for tourists. The economic reality, along with environmental factors, has forced them to leave their settlements to make a living.

Repercussions for trade transactions

The emergence of the money economy has made Gujjar-Bakarwal interested in transitioning from traditional barter trade to market transactions. All transactions for animal products within and between villages are now conducted in cash, reducing the reliance on barter trade limited to remote and inaccessible areas. However, some remote areas still continue to use traditional barter trade and market-based transactions. While social change is necessary for progress and advancement, some changes can be unhealthy for livelihood and continuity.

Conclusions

The Gujjar-Bakarwal rely solely on low-altitude agriculturalists for their food crops, exchanging milk products like butter, cheese, and medicinal herbs for crops such as rice, maize, and dried chili. They have established a mutually beneficial relationship with the agriculturalists and rely on them for food, housing, and assistance with trade operations. The Gujjar-Bakarwal tribe has undergone significant personal changes over time, including improvements in dress, education, household routines, medical treatment, and road connections. However, there have also been negative effects, such as the rapid deterioration of their ecology. The

Department of Veterinary and Animal Husbandry of the Government of Jammu and Kashmir has established district infrastructure to improve livestock management in the state. Non-governmental organizations (NGOs) are also making significant contributions to the socioeconomic development of the Gujjar-Bakarwal people, particularly in education, permanent settlements, and fodder planting. The management of pasture grounds and grazing fees remains a complex problem for the Gujjar-Bakarwal as they require substantial pasture grounds throughout different seasons, which is a significant concern for them.

The arrival of modernization and the things that go hand in hand with it, such as education and other potential sources of income, have contributed to the depletion of high-altitude meadows. Consequently, there has been a significant reduction in essential livestock such as buffalo, sheep, and goats. Individual grazing fields have been discovered abandoned in numerous communities and utilized by other Gujjar-Bakarwal from neighboring villages. Most herders are elderly, and relatively few young individuals work in this occupation. Due to this profession's difficulty and various tasks, the younger generation is not equipped to continue it. This is not a trend that is positive for the future of Gujjar-Bakarwal's livelihood since it has been seen that many Gujjar-Bakarwal families have begun to forsake this profession, particularly educated youngsters. The continuation of the Gujjar-Bakarwal profession and the significance of that profession in the sustainable management of livelihoods in high-altitude pastures are both in jeopardy. The younger generations need to be supported and trained



about preserving and carrying on this unique mountain livelihood strategy.

To ensure the livelihood of the Gujjar-Bakarwal tribe continues to depend on buffalo, sheep, and goats and their production in the future, concerted efforts need to focus on developing the entire socio-economic system, rather than just technological advancements. This is because the Gujjar-Bakarwal people will continue to rely on these animals for their livelihood. Their economy would benefit significantly from increased extension services, such as animal health, product quality, and marketing. An improved educational level of the Gujjar-Bakarwal tribe would enable them to organize themselves more efficiently, increasing the value of their goods. The cultural and social significance of the buffalo, sheep, and goat in the lives of the Gujjar-Bakarwal is decreasing due to socio-economic development, particularly the modernization process. It may be possible to reduce the number of animals that perish during harsh winters if new and better veterinary facilities and alternative sources of nutrition are developed. The marketing of buffalo, sheep, and goat products is restricted due to a lack of markets, poor communication, and high travel expenses.

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