Ethnicity and Natural Resource Management in Rural Pakistan: The Case of Mansehra District

Mohammad Taieb[*]

Abstract

This study examines how ethnicity and unequal land access shape participation and outcomes in community-based forestry management across 73 villages in the Union Councils of Jaborhi, Sacha Kalan, and Hilkot in Mansehra District, Hazara. Focusing on dominant groups (Swatis, Sayyeds) and the marginalized Gujars, it analyzes disparities in land ownership and their influence on planning, decision-making, and forest-management effectiveness. A mixed-methods design was employed: descriptive statistics analyzed quantitative data from a household survey of 9,674 households, while thematic analysis was conducted on interviews with key community members. Findings reveal that Swatis and Sayyeds, with greater landownership, participate more actively and occupy leadership roles, whereas Gujars face socio-cultural, political, and institutional barriers that limit engagement and weaken forestry outcomes. The study concludes that unequal land access entrenches ethnic hierarchies and undermines sustainable forest governance. It recommends targeted land-equity measures, strengthened inclusive institutions, and deliberate participation mechanisms to enhance marginalized groups' roles in forestry management.

Keywords: Ethnicity; Natural Resource Management; Rural Livelihoods; Forestry; Land Tenure

1. Introduction

The relationship between ethnicity and natural resource management remains a critical yet understudied dimension of rural development in Pakistan. In agrarian societies, natural resources such as land, forests, and livestock are not merely economic commodities; they constitute the foundation of identity, social organization, and power (Bebbington, 1999; Ribot & Peluso, 2003). Patterns of access, control, and use are often embedded in traditional norms, kinship hierarchies, and ethnic affiliations that determine who benefits from productive assets and who remains excluded (Ostrom, 2009). Consequently, any discussion of sustainable resource management must account for the socio-cultural contexts that shape local decision-making and participation.

In rural Pakistan, where livelihoods are deeply tied to ecological resources, ethnic relations play a decisive role in structuring opportunities and constraints (Barth, 1960; Ahmed, 1980). The Hazara region of Khyber Pakhtunkhwa—particularly Mansehra District—presents a microcosm of this dynamic. Its multi-ethnic composition, primarily comprising Swatis, Sayyeds, and Gujars, reflects entrenched hierarchies of land ownership, labor relations, and access to forest resources (Allan, 1986; Knudsen, 1999). Despite national land reforms and participatory forestry initiatives, these ethnic and class-based distinctions continue to influence patterns of resource use and ecological sustainability (Qazi & Ali, 2018; Sultana & Khan, 2021).

This study examines how ethnicity mediates the management of natural resources in rural Mansehra, focusing on the interconnections among land, livestock, and forestry. It investigates how cultural identity, social stratification, and institutional arrangements collectively shape livelihood strategies and community engagement in resource management. Drawing on field data from 73 villages across three Union Councils, this research applies a sociological perspective to examine the persistence of inequality, the limitations of policy interventions, and the potential for participatory governance, following the framework outlined by Scoones (2015) on natural resource management and social inclusion.

[*] Professor, Department of Social Anthropology, University of Peshawar, Peshawar, Pakistan. taieb@uop.edu.pk

By situating local experiences within broader debates on sustainable development and rural transformation, the study argues that technical solutions alone cannot ensure equitable resource management. Sustainable outcomes require an understanding of the cultural logic, ethnic diversity, and historical structures that govern rural life (Chhetri & Campbell, 1999; Leach, Mearns & Scoones, 1999). Recognizing these social dimensions is essential for designing policies that are not only ecologically sound but also socially just and locally legitimate.

The study aims to explore the relationship between ethnicity and natural resource management in rural Pakistan, with a focus on Mansehra District. The specific objectives are to examine the patterns of land ownership and access among dominant and marginalized ethnic groups in Mansehra District, analyze how disparities in land access affect the levels and forms of participation of these groups in community-based forestry management and identify the socio-cultural, institutional, and structural barriers that limit the effective participation of marginalized ethnic groups in participatory forestry initiatives.

Pakistan's rural economy depends heavily on natural resources, yet their management remains deeply intertwined with traditional social structures and ethnic divisions. Despite numerous policy reforms and donor-supported programs promoting participatory forestry and sustainable land use, outcomes have often been uneven and exclusionary. The persistence of ethnic hierarchies and unequal ownership patterns has perpetuated disparities in access, benefit sharing, and decision-making power.

In the context of Mansehra District—characterized by diverse ethnic groups such as Swatis, Sayyeds, and Gujars—these disparities are especially visible. The intersection of ethnicity, class, and land tenure shapes both livelihood options and ecological outcomes. Understanding these linkages is therefore essential to designing effective and inclusive development interventions.

This study fills a critical gap in the sociological understanding of resource management by integrating field-based evidence with theoretical perspectives on ethnicity and rural development. By uncovering the cultural logic behind economic and ecological behavior, it contributes to both academic discourse and policy design aimed at achieving sustainable and socially just natural resource governance in rural Pakistan.

2. Literature Review

Natural-resource management in rural Pakistan has long been shaped by complex tenure regimes, weak institutional governance, and socio-economic inequalities. For example, community/private forests — often termed Guzara forests — were originally intended as communal resources for local use, but ambiguous property rights have undermined sustainable management and equitable access (Azhar, 1989; Shahzad et al., 2015). In regions such as the mountainous Hazara division, where forest lands comprise a large share of natural resources, such unclear tenure systems have contributed to over-exploitation and declining forest cover (Shahzad et al., 2015; Ahmad et al., 2022).

In the district Mansehra, empirical studies reveal how ethnicity and social hierarchy intersect with land and forest tenure to shape resource access and use. Research from the Hilkot Watershed shows that despite Guzara and reserved forests covering much of the local forest area, forest legislation restricts many forest users from formal rights — leading to widespread dependence on informal access. In this watershed, around 72% of households reportedly use forest resources, yet they contribute little to forest development or protection (Ali & Shah, 2004; Iqbal & Hussain,

2013). Socioeconomic profiling indicates that Swatis and Syeds constitute a minority in some areas, while the majority belong to marginalized groups such as the Gujjars, many of whom are tenants or landless, with low literacy, small landholdings, and limited livelihood options (Hussain, Khattak & Khan, 2008).

These patterns help explain the persistence of inequality in natural-resource management in Mansehra. Dominant ethnic/landowning groups such as the Swatis and Sayyeds have historically held land and forest rights, while Gujjars remain socially and economically vulnerable. The uneven distribution of forest use and tenure has increased pressure on state forests and Guzara woodlands, encouraging unsustainable practices including timber smuggling (Ali & Shah, 2004; Iqbal & Hussain, 2013). The marginalization of large sections of the community means that formal forest governance often fails to ensure fair access or conservation.

Given this context, scholars argue for reforming forest governance through participatory and community-based management models. Studies emphasise that sustainable forest management requires combining strategic-level policy, local-level management, and communication-level engagement with communities — to ensure forest protection while supporting livelihoods (Ali, Wang, Hussain, Lu & Nurunnabi, 2021). In Mansehra, adopting such participatory models could help address ethnic disparities in access and give forest-dependent but marginalized groups a stake in decision-making. This approach may strengthen both social equity and ecological sustainability, a far cry from the top-down state-dominated management that has historically favoured elite groups.

3. Methodology

This study adopted a mixed-methods research design combining quantitative and qualitative approaches to explore how ethnicity shapes natural resource management in rural Mansehra District. The design was both descriptive and exploratory, aimed at capturing variations in ethnic hierarchy, socio-economic practices, and access to natural resources. All data—both quantitative and qualitative—were collected directly by the researcher through prolonged fieldwork, allowing close observation of local realities and ensuring consistency across data sources.

The study area consisted of three Union Councils—Jaborhi, Sacha Kalan, and Hilkot—located in the mountainous region of Hazara Division in Khyber Pakhtunkhwa. These areas are characterized by steep terrain, extensive Guzara forest tracts, and a largely subsistence agricultural economy. The population is primarily composed of Swatis, Sayyeds, and Gujars, each occupying distinct clusters of villages with differing degrees of control over land, forest rights, and livestock resources. These ethnic variations in settlement patterns, customary authority, and livelihood dependence made the area particularly suitable for examining how social hierarchy influences natural resource governance.

The sampling procedure involved a multi-stage process in which Union Councils were selected purposively due to their ethnic diversity and high dependence on forest resources. All seventy-three villages within these Union Councils were included in the fieldwork. The entire study area contained 9,674 households, and every household was physically enumerated by the researcher himself using a structured questionnaire. This complete enumeration provided a comprehensive quantitative dataset covering land tenure, livestock ownership, cropping practices, income patterns, and household-level dependence on forest resources. Post-enumeration identification of ethnic affiliation allowed the researcher to ensure proportional representation of Swatis, Sayyeds, and

Gujars in the qualitative component of the study. This approach ensured that both dominant and marginalized groups were adequately represented in the analysis.

Quantitative data collection consisted of administering the structured questionnaire to all 9,674 households, generating a robust dataset for describing socio-economic trends related to natural resource use. Qualitative data, in contrast, were gathered from selected respondents through interviews and discussions. The researcher conducted semi-structured interviews with village elders, tenants, forest right-holders, influential community members, and relevant government officials. Additionally, focus group discussions were organized separately with Swatis, Sayyeds, and Gujars to capture their perceptions of equity, customary rights, and participation in resource management. Ethnographic observation was carried out throughout the fieldwork period, enabling detailed documentation of everyday practices, seasonal land-use patterns, informal forest-use behavior, and customary norms. Oral histories and local narratives were also recorded to understand historical claims, ethnic dominance, and long-term changes in land and forest governance.

Relevant academic literature on ethnicity, customary institutions, and communal forest management in the Hazara region was also consulted to contextualize and support the primary data.

The analysis of quantitative data relied on simple descriptive statistics, including percentages, and averages. These measures were used to identify general patterns in landholding, livestock distribution, and levels of forest dependence. Since no cross-tabulations or advanced statistical techniques were used, the analysis remained descriptive and focused directly on the trends emerging from the household enumeration. Qualitative data from interviews, observations, and narratives were transcribed and examined through thematic analysis. Codes and themes were developed to interpret issues such as ethnic hierarchy, access to resources, customary governance practices, and variations in livelihood strategies. Findings from qualitative and quantitative data were then triangulated to enhance validity and strengthen the overall interpretive depth of the study.

3.1 Ethical Considerations

Given the sensitive nature of ethnic identity and land ownership, informed consent was obtained from all participants prior to interviews. Respondents were assured of confidentiality and anonymity. The study maintained neutrality in presenting group perspectives and adhered to academic standards of research ethics throughout the fieldwork process.

4. Findings and Discussion

4.1. Patterns of Land Ownership and Access among Ethnic Groups

Unequal access to land has been a persistent problem in Pakistan since 1947. To create a more equitable system of land distribution, successive governments introduced various land reforms. The first major attempt at land reforms was undertaken by President Ayub Khan through the West Pakistan Land Reforms Regulations of 1959 and 1961. These laws introduced ownership ceilings of 500 acres for irrigated land and 1,000 acres for non-irrigated land. Surplus land was intended to be redistributed to landless peasants and tenant farmers. The reforms aimed to reduce feudal dominance, promote social justice, and enhance agricultural productivity.

Despite these objectives, the reforms had limited impact. Many landlords circumvented the ceilings by registering land in the names of relatives, while bureaucratic inefficiencies further hindered effective implementation. By the early 1960s, only a small portion of surplus land had been resumed, and feudal control remained largely intact (Khan, 2010; Hussain, Khan & Afzal, 2022).

Bhutto's government introduced more radical reforms with the 1972 Land Reforms Ordinance. The ceilings were reduced to 150 acres for irrigated land and 300 acres for non-irrigated land. Surplus land was to be resumed by the state and distributed to tenant farmers, who were granted ownership rights and security against eviction. Exemptions were limited, and all farmland was treated individually rather than collectively. These measures represented a bold attempt to redistribute land and reduce socio-economic inequality. Although some land was resumed and redistributed (approximately 0.9–1 million acres), large landowners exploited loopholes, such as transferring land to relatives or family proxies, undermining the reforms' effectiveness (Bhutto.org, n.d.; Paradigm Shift, n.d.).

In 1977, Bhutto introduced further measures, lowering the ceilings to 100 acres for irrigated land and 200 acres for non-irrigated land. These reforms sought to strengthen tenancy rights, limit exemptions, and accelerate redistribution. While a portion of surplus land was resumed and redistributed, only a small fraction of landless farmers benefited. Cumulatively, less than 10% of cultivated land was redistributed, failing to meaningfully weaken the feudal system (Secular Pakistan, 2010).

Following the military coup in 1977, General Zia-ul-Haq reversed or diluted many of Bhutto's reforms. Zia relied on the rural elite for political support, restoring tax exemptions and protecting large landowners. He emphasized inheritance rights under Islamic law, limited state intervention in land distribution, and allowed legal challenges to further weaken reform provisions. As a result, enforcement slowed, and the momentum for redistribution largely disappeared. Feudal influence remained intact, demonstrating the fragility of reform efforts in the absence of political will (Dawn, 2012).

In case of Mansehra, the field investigation across 73 villages of Jaborhi, Sacha Kalan, and Hilkot Union Councils reveals that ethnicity and social hierarchy constitute the central determinants of access to land. Three major ethnic groups—Swatis, Sayyeds, and Gujars—form a clearly stratified social order in which the first two represent dominant landowning classes, while the Gujars historically occupy a dependent, tenant status.

The dominance of the Swatis and Sayyeds stems from their conquest of the region in the seventeenth century (Ahmed, 1973). Furthermore, the Sayyeds claim spiritual superiority through their descent from the Prophet Muhammad (PBUH). The Gujars, by contrast, traditionally served as tenants and herders under these dominant groups. Despite land reforms introduced in Pakistan by General Ayub Khan, and furthered by Zulfiqar Ali Bhutto, land distribution remains highly unequal, and these measures have largely failed to alter the entrenched power relations between dominant and subordinate groups.

Ethnic identity thus continues to function as both a cultural marker and an economic boundary, shaping not only land ownership but also the right to forest products and grazing areas. The resulting polarization has intensified tensions between dominant and dominated groups (Ahmed, 1986), particularly as Gujars have mobilized politically to claim ownership rights and representation. These ethnic cleavages directly influence attitudes toward resource use, cooperation, and participation in development initiatives.

4.2. Impact of Land Disparities on Participation in Forestry Management

Forestry constitutes the most critical natural resource sector in the study area, yet access to these resources reflects entrenched ethnic hierarchies. Reserved forests, controlled by the state, remain largely inaccessible to local populations, while Guzara forests—whether privately or

cooperatively managed—are concentrated among Swati and Sayyed families, reinforcing existing social inequalities. Of 3,257 households residing near reserved forests, only 30 possess formal user rights, leaving 3,227 without legal access. This systematic exclusion compels marginalized households, predominantly Gujars, to rely on illicit fuelwood collection and unauthorized grazing, generating ecological pressures and frequent conflicts with forest owners and regulatory authorities. Livestock management further exacerbates these pressures, as tenant and land-poor households depend on forest margins for fodder. Consequently, disparities in land and forest access directly translate into unequal participation in forestry management: dominant groups occupy leadership positions and engage actively in planning and decision-making processes, whereas marginalized groups remain peripheral, limiting the effectiveness of participatory forestry initiatives.

Cultural norms reinforce these exclusionary patterns. Engagement in agriculture and forestry is strongly tied to social prestige, honor, and adherence to traditional hierarchies. Innovations, collective ownership models, or state interventions are often resisted when they threaten entrenched power structures. As a result, participation in forestry programs favors dominant groups, while marginalized groups' involvement is constrained by both economic necessity and cultural expectations.

Land scarcity and subsistence-level production further define rural livelihoods. The total cultivated land of 3,585 acres, divided among 9,674 households, yields an average holding of only 0.3 acres per household—insufficient to sustain families averaging seven members. Dominant groups retain larger holdings, while tenants cultivate fragmented plots, often under insecure tenancy arrangements that perpetuate dependency. Agriculture is primarily subsistence-oriented, with maize serving as the principal staple due to its short growing cycle and dual role as human food and livestock fodder. Wheat cultivation, overlapping with the maize cycle, is rare due to climatic constraints. Cash crops and orchards are culturally discouraged; selling produce, including milk or fruit, is considered dishonorable, reducing household prestige. These cultural values, combined with poverty and limited access to inputs, inhibit the adoption of modern agricultural techniques. Only two villages reported knowledge of improved seed varieties, and mineral fertilizer use was limited to 27 villages. Collectively, ethnic conservatism, economic constraints, and cultural norms restrict the diffusion of technological innovation.

Migration serves as a compensatory strategy for livelihood insecurity. Approximately 6.8 percent of the population, predominantly young men from land-owning households, migrates to urban centers or abroad. Among Khan families, local wage labor is culturally stigmatized, reinforcing absentee ownership and weak engagement in agricultural management.

Forest ownership and management reflect existing social hierarchies. Reserved, Guzara (private and cooperative), and non-classified forests constitute the primary categories. Reserved forests allow only limited user rights such as grass cutting or passage, whereas Guzara forests, concentrated in the hands of a few Swati and Sayyed families, generate substantial monetary benefits. The exclusion of large number of households from reserved forest access drives landless and tenant households to rely heavily on illicit forest use, with 50.8 percent of fuelwood demand being met through extraction, reflecting both ecological pressure and institutional failure in equitable access.

Marginalized Gujars, excluded from timber revenue, depend heavily on forest grazing for livestock survival, creating persistent conflicts with forest owners and the Forest Department. Data

from 45 villages indicate serious restrictions on forest use, highlighting how inequitable access undermines community participation—an essential principle of social forestry, defined by Gregersen (1989) as the involvement of rural populations in tree-growing and forest management for their own needs. These patterns demonstrate how land disparities systematically constrain marginalized groups' participation in forestry management while reinforcing the privileges of dominant social groups. The table 1 shows the number of households that own private forests and the number of households with user rights.

Table 1: Private Forest Owners and User Rights Holders

Type of Forest	Number of Owner Households	User Rights Holders				Without User Rights
		Fuel	Timber	Grazing	Grass Cutting	
Reserved	Nil	30	30	30	30	3227
Guzara-Cooperative	31	49	49	49	49	634
Guzara-Private	1254	1678	1678	1663	1663	3217
Non-Classified	92	102	102	92	92	984

Source: The researcher's survey

There are a total of 3,257 households, of which only 30 households located near the reserve forests have rights for fuel, grazing, and grass cutting, while the remaining 3,227 households have no such rights. A similar pattern is observed in other types of forests, where the number of households without user rights exceeds those with rights. Under these circumstances, state forests face heavy pressure, and local people often rely on them for fuel and other purposes, including timber smuggling to earn cash income, as shown in the table 2:

Table 2: Sources of Fuels and Their Use (Percentages)

Sources of Fuel	Estimate %
Reserved Forests	50.85
Guzara (Cooperative)	13.39
Guzara (Private)	10
Non-Classified Forests	1.95
From Farmland/ Homesteads Nullah	12.1
Purchased from Traders	11.71

Source: The researcher's survey

4.3. Socio-Cultural, Institutional, and Structural Barriers Limiting Marginalized Participation

Marginalized ethnic groups, particularly the Gujars, face intersecting barriers that limit their engagement in forestry management. Historical exclusion, kinship networks, and entrenched social hierarchies restrict their representation in decision-making bodies, such as village councils and forest committees. Institutional reforms, including state-led land and forest policies, have largely failed to disrupt these power structures, leaving Gujars dependent on informal and often unsustainable resource-use practices. Economic constraints, subsistence-oriented livelihoods, and reliance on livestock further reduce their capacity to participate formally in forestry management. Socio-cultural norms reinforce this marginalization: activities that might elevate their economic position, such as cash cropping or collective resource management, are constrained by perceptions of honor, reciprocity, and social standing. Together, these structural, institutional, and cultural factors perpetuate inequality, highlighting the urgent need for participatory and inclusive governance reforms that integrate marginalized groups into resource management and decision-making processes.

The findings demonstrate a clear link between ethnicity, unequal land access, and differential participation in forestry programs. Dominant ethnic groups maintain control over land and forest

resources, securing leadership and decision-making privileges, while marginalized groups remain constrained by historical, social, and institutional barriers. Effective participatory forestry requires targeted policies to address land inequities, strengthen institutional inclusion, and adapt programs to local cultural and social contexts. Without such measures, sustainable forest management continues to be compromised by entrenched inequalities and limited engagement of marginalized communities.

Livestock husbandry forms a critical component of rural livelihoods, particularly for tenant and land-poor households. The total livestock population includes 12,821 buffaloes, 1,438 bullocks, 931 cows, 8,714 goats, 5,397 sheep, 323 mules/donkeys, and 148 horses. Ownership distribution shows that tenants and owner-cum-tenants hold 71.3 percent of all livestock, reflecting their dependence on animals for milk, meat, and market exchange. Out of 73 villages surveyed, 48 reported significant challenges in accessing forest resources. These villages are predominantly inhabited by tenants, who receive no monetary benefits from forests. Consequently, livestock remains a central livelihood strategy, providing both dairy products and cash income. Increasing livestock holdings continues to be a priority for tenants. The table 3 shows the livestock population and ownership by various user groups.

Table 3: Livestock Population

Livestock	Number in Total
Buffaloes	12,821
Bullocks	1,438
Cows	931
Goats	8,714
Sheep	5,397
Mules/ Donkeys	323
Horses	148

Source: The researcher's survey

Table 4: Distribution of Livestock ownership

User Groups	% Owned
Landowners	28.7
Owner-cum-Tenants	11.8
Tenants	59.5

Source: The researcher's survey

In 45 villages, respondents confirmed that pasture carrying capacity has been exceeded, intensifying ecological stress and conflicts between tenants and the Forest Department. Tenants rely heavily on forest margins for fodder, and their dependence intersects with ethnic status and economic necessity to produce unsustainable livestock management practices.

Cultural norms play a decisive role in determining local participation in natural resource management. As Gregersen (1989) observed, involvement in social forestry depends on perceived benefit and risk. In Mansehra, households engage with forestry and agricultural programs only when these activities align with expectations of honor, reciprocity, and social status. Economic advancement is viewed not as an end in itself but as a means of maintaining prestige, and innovations that challenge established hierarchies—such as collective ownership, shared profits, or state interference—are often resisted. Programs that ignore these cultural logics are met with indifference or active opposition.

The discussion confirms that Gujars are largely excluded from formal access to land and forest resources in Mansehra due to historical, social, and institutional factors. Historically, Swatis and Sayyeds established control over land and forests through conquest, consolidating enduring

dominance in resource ownership and local governance. Social hierarchies and kinship networks reinforced this dominance, limiting Gujars' participation in decision-making bodies and community institutions, such as councils of elders. State-led land and forest reforms have largely failed to alter these entrenched power structures, leaving Gujars dependent on informal resource use, including grazing and fuelwood collection. Traditional livelihood patterns, focused on livestock and mobility rather than settled agriculture, further contribute to their exclusion from formal management systems. This demonstrates that structural inequities, rather than deliberate policy intent, have historically restricted Gujars' access to natural resources, emphasizing the need for participatory and inclusive governance reforms.

5. Conclusion

The findings of this study demonstrate that patterns of land ownership and access in Mansehra District are deeply influenced by ethnic hierarchies, kinship networks, and historical power structures. Dominant groups, particularly Swatis and Sayyeds, maintain substantial control over land and forest resources, while marginalized groups, notably the Gujars, face systemic exclusion. This unequal distribution directly shapes the participation of these groups in community-based forestry management: dominant groups occupy leadership roles, engage in decision-making, and derive economic benefits, whereas marginalized groups are relegated to peripheral or informal roles. Land continues to serve not only as an economic asset but also as a symbol of prestige, social identity, and authority, reinforcing social stratification despite previous reform efforts.

The study also reveals that subsistence-oriented livelihoods and small landholdings constrain economic mobility for marginalized households, making them highly dependent on forests and livestock. This dependence intensifies competition over natural resources, but resource conflicts are embedded not only in economic necessity but also in socio-cultural notions of honor, hierarchy, and social standing. Forestry management further exemplifies these disparities: state and privately controlled forests remain largely inaccessible to marginalized groups, who are compelled to rely on livestock grazing and unauthorized resource extraction, thereby undermining both ecological sustainability and social cohesion.

Overall, the study concludes that sustainable natural resource management in Mansehra cannot be achieved without addressing structural inequities, socio-cultural norms, and institutional barriers that limit the participation of marginalized ethnic groups. Policies and development initiatives must integrate social realities with economic and ecological planning to ensure equitable access, effective participation, and long-term sustainability.

6. Recommendations

To achieve equitable and sustainable natural resource management in Mansehra District, it is essential to develop strategies that address socio-cultural, institutional, and structural barriers while actively fostering inclusive participation of marginalized communities. Forest and land management initiatives must ensure that Gujars and other marginalized groups are systematically involved in planning, decision-making, and monitoring processes. Their representation in village councils, forest committees, and other local governance institutions is crucial for balancing ethnic disparities and promoting shared responsibility in natural resource management.

Strengthening community-based institutions is another critical step. Traditional councils of elders and other local governance bodies should be empowered to integrate indigenous knowledge with modern forestry and conservation practices. By bridging cultural norms with sustainable

management objectives, these institutions can provide a framework that respects local values while supporting ecological sustainability.

Equitable resource allocation and the formalization of access rights are also necessary to reduce reliance on informal and unsustainable practices. Clear, enforceable user rights for marginalized households will not only ensure fair distribution of land and forest resources but also enhance legitimacy, compliance, and social cohesion within communities.

Capacity-building and livelihood diversification programs should be targeted toward marginalized households, providing training in sustainable forestry, legal rights, and alternative income-generating activities such as dairy production, agroforestry, or value-added products. Such initiatives empower communities to participate actively in resource management while alleviating ecological pressure on forests and pasturelands.

Conflict resolution mechanisms that combine formal policies with local customs can help manage disputes over land, forests, and grazing areas in a culturally sensitive manner. By addressing tensions between dominant and marginalized groups, these mechanisms can promote social harmony and cooperation in resource management.

Finally, establishing community-led monitoring systems is vital to track patterns of resource use, levels of participation, and ecological outcomes. Adaptive management approaches, informed by continuous feedback from the community, will ensure that interventions remain responsive to both social and environmental changes, supporting long-term sustainability and equity.

By implementing these comprehensive strategies, participatory forestry programs in Mansehra District can become more inclusive, socially just, and ecologically resilient, addressing the structural, institutional, and socio-cultural barriers that currently limit the effective participation of marginalized ethnic groups in natural resource management.

References

Ahmad, A., Ahmad, S., Nabi, G., Liu, Q.-J., Islam, N., & Luan, X. (2022). Trends in deforestation as a response to management regimes and policy intervention in the Hindu Kush Himalaya of Pakistan. *Frontiers in Environmental Science, 10*, Article 810806. https://doi.org/10.3389/fenvs.2022.810806

Ahmed, A. S. (1973). *Mansehra: A journey*. Ferozesons.

Ahmed, A. S. (1980). *Pukhtun economy and society: Traditional structure and economic development in a tribal society*. Routledge & Kegan Paul.

Ahmed, A. S. (1986). *Pakistan society: Islam, ethnicity and leadership in South Asia*. Oxford University Press.

Ali, A., & Shah, H. (2004). Local communities' access to forest resources of Hilkot watershed, Mansehra (Pakistan). *Pakistan Journal of Forestry, 54*(2), 123–135.

Ali, S., Wang, D., Hussain, T., Lu, X., & Nurunnabi, M. (2021). Forest resource management: An empirical study in northern Pakistan. *Sustainability, 13*(16), 8752. **https://doi.org/10.3390/su13168752**

Allan, N. J. R. (1986). Accessibility and altitudinal zonation models of mountains. *Mountain Research and Development, 6*(3), 185–194.

Azhar, R. A. (1989). Communal property rights and depletion of forests in northern Pakistan. *The Pakistan Development Review, 28*(4), 643–651.

Hussain, A., Khattak, N. U. R., & Khan, A. Q. (2008). An analysis of socioeconomic profiles of the rural community involved in natural resources management: A case study of Hilkot Watershed Mansehra. *Sarhad Journal of Agriculture, 24*(4), 671–675.

Iqbal, M., & Hussain, A. (2013). Analysis of elements of forest governance in joint forest management system: A comparative study of actual and ideal forest governance in Allai Guzara forests, Hazara tribal

forest division, Khyber Pakhtunkhwa, Pakistan. *Journal of Biodiversity & Environmental Sciences, 3*(9), 23–30.

Shahzad, N., Saeed, U., Gilani, H., Ahmad, S. R., Ashraf, I., & Irteza, S. M. (2015). Evaluation of state and community/private forests in Punjab, Pakistan using geospatial data and related techniques. *Forest Ecosystems, 2*(1), 7. https://doi.org/10.1186/s40663-015-0032-9

Barth, F. (1960). *Political leadership among Swat Pathans*. Athlone Press.

Bebbington, A. (1999). Capitals and capabilities: A framework for analyzing peasant viability, rural livelihoods, and poverty. *World Development, 27*(12), 2021–2044.

Bhutto.org. (n.d.). *Land reforms*. Retrieved from (https://bhutto.org/index.php/achievements/reforms/)

Chhetri, R. B., & Campbell, J. G. (1999). Sustainable livelihoods, forest management, and community forestry in Nepal. *Mountain Research and Development, 19*(3), 273–284.

Dawn. (2012, August 19). *Elusive land reforms*. Retrieved from (https://www.dawn.com/news/967971)

Gregersen, H. (1989). *People and trees: The role of social forestry in sustainable development*. The World Bank.

Hussain, A., Khan, S., & Afzal, Q. (2022). Land reforms in Pakistan: Historical lessons and challenges. *Pakistan Journal of Applied Economics, 32*(2), 227–243. Retrieved from (https://www.aerc.edu.pk/wp-content/uploads/2023/01/Research-Notes-AQDAS-AFZAL-VII.pdf)

Khan, A. (2010, October 11). Land reforms in Pakistan. *Dawn*. Retrieved from (https://www.dawn.com/news/570487)

Knudsen, A. (1999). *Conservation and ethnic conflict: The case of Pakistan's northern areas*. Chr. Michelsen Institute.

Leach, M., Mearns, R., & Scoones, I. (1999). Environmental entitlements: Dynamics and institutions in community-based natural resource management. *World Development, 27*(2), 225–247.

Ostrom, E. (2009). A general framework for analyzing sustainability of social-ecological systems. *Science, 325*(5939), 419–422.

Paradigm Shift. (n.d.). *Land reforms in Pakistan: Bhutto's vision*. Retrieved from (https://www.paradigmshift.com.pk/land-reforms-pakistan/)

Qazi, J. A., & Ali, T. (2018). Participatory forest management and community perceptions in Khyber Pakhtunkhwa. *Pakistan Journal of Forestry, 68*(1), 45–56.

Ribot, J. C., & Peluso, N. L. (2003). A theory of access. *Rural Sociology, 68*(2), 153–181.

Scoones, I. (2015). *Sustainable livelihoods and rural development*. Practical Action Publishing.

Secular Pakistan. (2010, September 23). *Land reforms – History, legal challenges, and how Shariat courts abolished them*. Retrieved from (https://secularpakistan.wordpress.com/2010/09/23/land-reforms-history-legal-challenges-and-how-shariat-courts-abolished-them/)

Sultana, H., & Khan, N. (2021). Ethnicity, livelihoods, and natural resource conflicts in northern Pakistan. *Journal of Rural Studies, 84*, 172–182.