

Preserving Ethnic Identity among Tribal Communities in Ladakh: Balancing Cultural Heritage and Sustainable Development

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Abstract

Ladakh is a cold desert UT established in 2019, which provides interesting grounds for examining the preservation of identity alongside development problems among the tribal population. According to the census of 2011, the total population of Ladakh amounts to 274,289, of whom 218,193 belong to Schedule Tribes (STs), accounting for 79.54 per cent of the total population. As can be seen from the Centre for Policy Studies' report, there is a considerable shift in demographic structure in the recent ten years, since the proportion of ST population has declined from 85.2 per cent in 2001 to less than 80 per cent in 2011. Hence, it is necessary to investigate the socio-cultural features of such communities, since their languages, Buddhist monastic culture, Balti Islamic culture, and pastoral economy are closely associated with the fragile Himalayan environment. Field ethnobotanical studies conducted in the Balti, Beda, and Brokpa populations during 2020–2025, which comprised 20 structured interviews and it demonstrate the application of traditional botanical knowledge for securing food and health as well as supporting livelihoods in the course of the modernisation process with tourism and infrastructure development in this region. According to the research paper, the sustainable development strategies for Ladakh should be associated with community-based conservation programs, culture-based educational policies, and ecological security measures without taking them as conflicting issues. Using the information obtained in the Census, Tribal Research Institute directives, and contemporary scholarly surveys, this abstract reflects the role of Ladakh in the context of tribal policy in India as a whole, where ethnic legacy protection and development of tribes become one and the same problem.

Keywords: *Ladakh, Scheduled Tribes, Indigenous Identity, Cultural Heritage, Traditional Knowledge, Sustainable Development, Himalayan Communities, Tribal Policy, Ethnobotany, Community-Based Conservation.*

Introduction

The union territory of Ladakh was formed in 2019 out of Jammu and Kashmir. Ladakh is a cold desert area, situated in the Himalayan ranges. The hard terrain and sparse population of the area result in special conditions in which the tribes inhabit. As per the statistics of Census 2011, the population of Ladakh was 274,289 individuals. In this population, the Scheduled Tribes were 218,193 individuals. It is nearly 79.54 per cent of the total population of the region. Earlier, in 2001, the percentage of STs was quite high at 85.2 per cent. This reflects a considerable demographic change in the last ten years. It is said that the changes in the migration and classification policies are partly the cause behind this change. There have been many changes in the settlement pattern due to tourism and developmental activities in the region. Many issues concerning the preservation of the culture of tribes of Ladakh are being raised. For instance, there are tribes like Balti, Beda, and Brokpa, each having its own distinct culture (Sehrawat & Ali, 2023).

Pastoral economy continues to be relevant in supporting life in far-off valleys. Pastoral economy is dependent on ecosystems which are fragile and sensitive. Ecological awareness comes in handy when it comes to shepherding, cultivation and resource utilisation. Modernisation tendencies are a threat to such rich and traditional cultures. In scientific terms, Ladakh has been termed an ideal place for conducting studies related to policy-making due to the relationship between tribal identity and development (Soheb et al., 2022). The discussion above will lay the foundation for examining the ethnobotanical knowledge of Ladakhi tribes. There are also discussions taking place in the country regarding the welfare of the tribals.

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Method

The secondary sources and observations made for the purposes of the research date back to the years 2020 to 2025. Census of India of 2001 and 2011 provided the data related to the demographics of scheduled tribe population statistics. The report prepared by the Centre for Policy Studies offered the analytical point of view regarding the demographic changes observed in Ladakh. Guidelines prepared at the Tribal Research Institute gave insight into the policies and methods that were used while forming the recommendations of the study related to conservation and education (Carroll et al., 2022). This research study was based on qualitative interview data of 20 participants. The research articles and interview provided comparative context while interpreting the ethnobotanical and pastoral studies. Publications of the government concerning the establishment of the Union Territory provided additional information about the changes that occurred in Ladakh since 2019

RESULTS

1. Demographic Decline Among Scheduled Tribes Between 2001 and 2011

From the statistical records of the region, it is clearly evident that there has been a significant reduction in the proportion of the population belonging to the tribal community in the Ladakh region in one decade. From 85.2% in 2001 to 79.54% in 2011, there has been a reduction in the proportion of Scheduled Tribes.

Table 1: Changes in the Scheduled Tribe Population and Socio-Economic Trends in Ladakh

Indicator	2001	2011	Observation
ST population (%)	85.20%	79.54%	Declining share
Total population	Increased	Increased	Population growth
Migration pattern	Limited	Increased	Rural–urban migration
Employment trend	Traditional economy	Urban employment	Occupational shift
Policy concern	Moderate	High	Cultural preservation
Cultural impact	Strong traditions	Oral knowledge loss	Identity risk

However, this is a trend that emerged against the background of growth in the population in the area. The reason for this trend could be due to the migration of people from the villages to the urban regions in search of education and job opportunities. Younger members migrate to the urban centres to seek opportunities which are not provided in the traditional economy. Some changes in administration which resulted in changes in some of the communities may have led to this trend as well (Debortoli et al., 2020). This is a very significant demographic concern for the Centre for Policy Studies in terms of policymaking, as this trend has cultural significance in the sense that oral communication is being lost.

2. Ethnobotanical Knowledge Sustaining Food Security Among Balti Communities

Field research conducted from 2020 to 2025 has revealed a lot of plant-related knowledge known to the Balti families. As a result of systematic interviews, the researchers were able to detect a classification system of wild edible plants collected on a seasonal basis. The Balti informants were able to name some tubers, greens, and grains used by them during the period of food shortage in winter (Kousar et al., 2023). The

knowledge in question acts as a buffer, helping to cope with the uncertainty of the harvests in mountain farming.

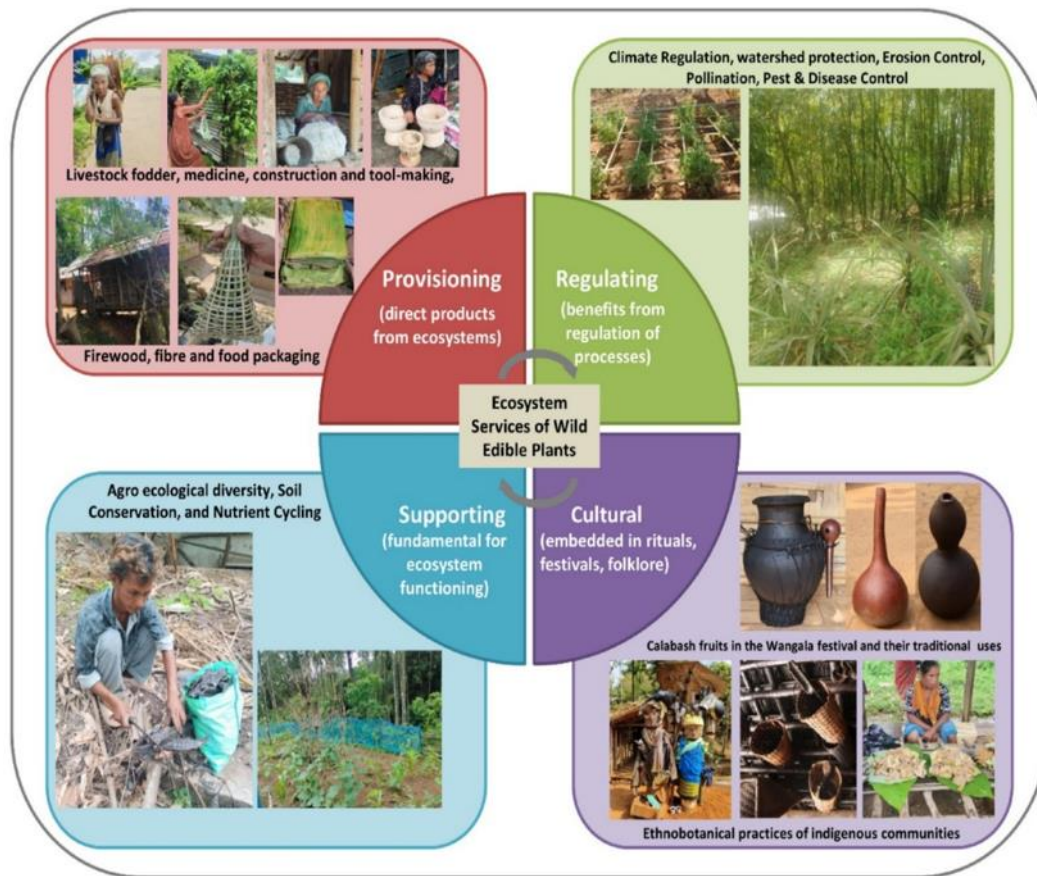


Figure 1: Ethnobotanical knowledge of wild edible plants for empowering food and nutritional security in the Garo Hills

(Source: Kencharaddi et al., 2026)

Discussion groups brought to light the issues related to food conservation techniques such as drying, fermentation, and preserving of the wild-collected plants. It was emphasised that the knowledge is transferred practically and is not documented. As a result of the field research, the importance of apricot farming in the Balti food and economic tradition was revealed (Wacker, 2020). Different local types of the crop are used in order to produce oil, dried fruit, and preserves for the whole year. The farming of barley also attracted researchers' attention as a result of interviews on food security issues. The farmers explained how they practice the crop rotation technique peculiar to the short growing seasons of Ladakh.

3. Traditional Health Practices and Medicinal Plant Use Among the Beda Community

Discussions with Beda respondents showed that there was intensive application of herbal treatment of health disorders among Beda. The herbs applied for treatment of respiratory ailments typical of high-altitude regions were discussed by respondents (Octavia & Utami, 2024). Some respondents talked about other types of treatment used in case of stomach diseases, injuries and exhaustion.

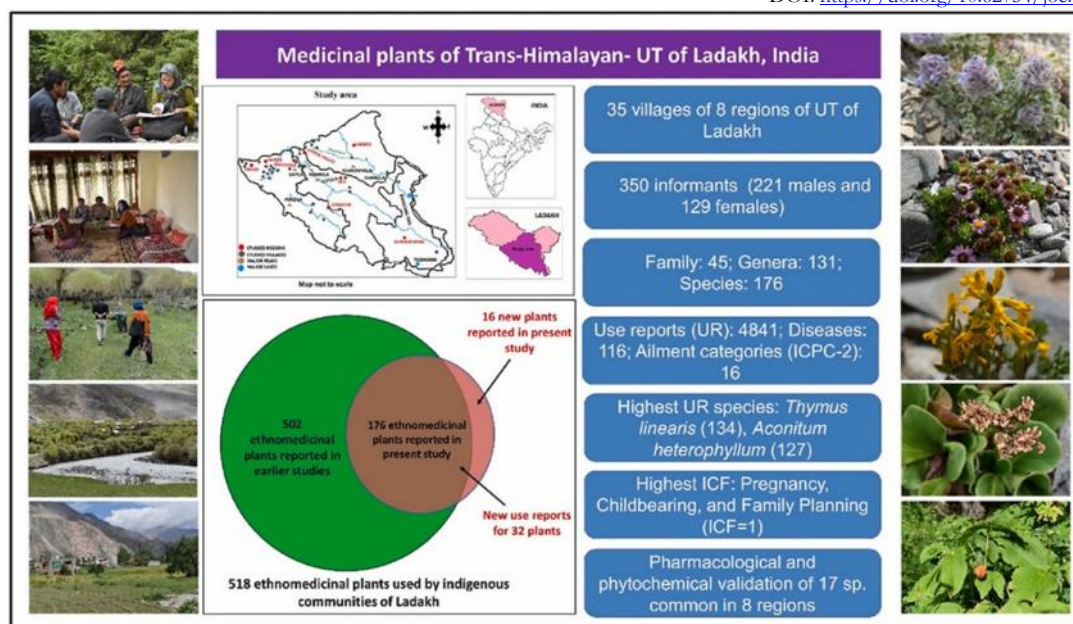


Figure 2: Ethnomedicinal Plant Diversity across Indigenous Communities in Ladakh

(Source: Batool, Singh & Gairola, 2023)

In focus groups, researchers found out that knowledge about the process of treatment is inherent in some families or individuals who possess certain knowledge and enjoy particular prestige in Beda society (Hasanuddin et al., 2024). Researchers observed that the process of harvesting medicinal plants is seasonal and is associated with flowering and growth periods. Some respondents specified the particular locations of growing medicinal plants. This is the result of acquired environmental knowledge accumulated throughout many generations. Some respondents highlighted the absence of access to healthcare facilities in the remote settlements. Thus, the use of traditional treatments is still relevant even in cases when the alternative is available - hospitals. However, some respondents also noted that both traditional remedies and medicines prescribed at health camps are used.

Brokpa Pastoral Livelihoods and Ecological Knowledge Systems

Unique methods were performed by the Brokpa that were closely tied to animal husbandry and grazing land management (Gaur et al., 2024). The informants had good knowledge about the migration routes that are followed by the yak and sheep herds. They provided details regarding the pasture rotation system that was practised by the people in order to prevent overgrazing of the vulnerable alpine pastures.

Table 2: Socio-Cultural Characteristics of the Brokpa Community

Cultural Element	Evidence	Significance
Ritual practices	Livestock rituals	Cultural identity
Marriage customs	Animal exchange	Social cohesion
Linguistic identity	Distinct dialect	Ethnic heritage
Genetic isolation	Valley settlements	Community uniqueness

This approach was developed over years of environmental management and observation. It is necessary to note that animals serve an essential part of rituals and marriage traditions practised by Brokpas. In the course of the research carried out by scientists, it was discovered that Brokpa settlements differ linguistically and genetically from those of other groups. Some researchers link it to the historical isolation of settlement systems of particular valleys. Wool production and dairying became economic spheres of activity according to interviewees (Smith et al., 2022). They shared information on the local methods of producing such things as butter, cheese and woven items. They are not only a means of sustenance, but also of regular trade with the neighbouring areas. Nevertheless, interviewees pointed out that pastures are becoming scarce due to the construction of infrastructure and the limits of protected areas. It brings difficulties to the grazing rotation systems which were a part of the pastoral economy before. Therefore, researchers believe that ecological security policy has to include the needs of traditional grazing of locals.

5. Tourism and Infrastructure Development Reshaping Traditional Practices

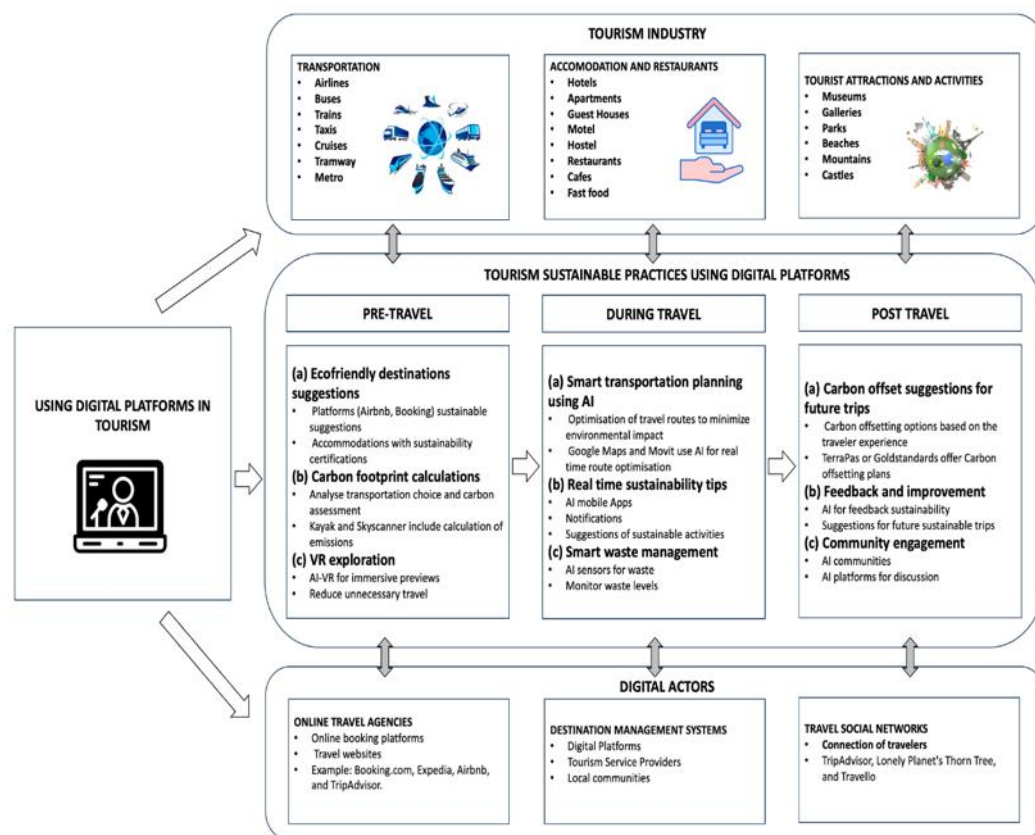


Figure 3: Tourism Sustainable Practices Using Digital Platform

(Source: Zeqiri, Ben Youssef & Maherzi Zahar, 2025)

There have been reported changes as a result of tourism infrastructure in Ladakh according to the findings of field observations (Ngongo & Ngongo, 2021). Respondents from Balti, Beda, and Brokpa villages have observed the change in the pattern of accessibility as a result of the roads being developed. There is more economic activity, but there is also disturbance in the traditional way of livelihood of these communities because more vehicles can access these areas. There has also been an increase in the need for homestays and guides. Some individuals have problems with the commodification of their sacred spaces and the cultural presentations. It is true that there have been instances where there has been the modification of the religious festival practices of monks according to the schedule of tourists.

Table 3: Effects of Tourism and Infrastructure Development on Tribal Communities in Ladakh

Development Activity	Positive Impact	Negative Impact
Road construction	Better accessibility	Livelihood disruption
Tourism growth	Income generation	Cultural commodification
Homestay expansion	Employment opportunities	Cultural commercialization
Tourist-guided activities	Local earnings	Festival modification
Hydroelectric projects	Electricity supply	Water diversion
Infrastructure expansion	Economic development	Environmental disruption

This modification has been one of the issues raised by the elders of the society as far as the issue of authenticity is concerned. Some development initiatives, for example, hydroelectricity projects, resulted in the diversion of the water that could be used for domestic and irrigation purposes (Ziegler, 2021). Individuals felt satisfied with the provision of electricity but unhappy with the environmental disruption.

Effectiveness and Limitations of Community-Based Conservation Programs

The study indicated that there were rising levels of involvement of the community in conservation practices in several Ladakhi villages. These villages had formed committees for the management of their pastures and the boundary limits of the wildlife protection zones. It was seen that the committee was an effective mechanism for handling any conflicts arising from the local grazing practices (Fariss et al., 2023). However, the focus group interviews also indicated some discrepancies with regard to the implementation of such mechanisms in various tribal villages. It was seen that institutional support was more prevalent in the Balti villages as compared to the Brokpa pastures. This was because of the difficulties faced by government programs in accessing these villages. The respondents believed that most of the conservation programs involved traditional ecological knowledge in their management. Grazing limitations within protected areas sometimes conflicted significantly with established pastoral migration patterns. Researchers documented cases where community consultation improved conservation outcomes considerably over time. Programs lacking such consultation faced greater resistance and lower long-term compliance rates. Tribal Research Institute directives were cited as influential in shaping several regional conservation frameworks (Dawson et al., 2021). Overall findings suggest that conservation success depends heavily on genuine community participation throughout program design. Purely top-down approaches showed weaker results across the communities studied during this research period.

Culture-Based Education as a Tool for Heritage Transmission

Data obtained from the interviews showed that there was an increase in awareness of including culture-related material in the official school curricula. There were many interviewees who proposed to include the native language along with other subjects taught from the national curriculum in the schools. It was stated that the extinction of languages was one of the major threats to the transfer of cultural knowledge. The focus group discussion showed data that showed insufficient learning of languages such as Balti and Brokskat, among others (Bano, Mir & Issa, 2024). There were some members of the community who spoke about the efforts made to teach children the songs and oral history of the people. Such policies would incorporate ethnobotanical knowledge, oral history, and craft skills into structured lessons. Respondents suggested that integrating traditional knowledge into education could slow observed generational transmission gaps. Younger interviewees expressed interest in learning traditional skills if formally offered within school settings (Nouri et al., 2020). This finding contrasts with assumptions that youth automatically reject traditional cultural practices entirely. Researchers concluded that structured educational support could meaningfully counter erosion documented elsewhere in this study. Combining heritage education with

practical skills training was suggested as particularly effective for engagement. This approach connects cultural preservation directly with tangible economic and social benefits for youth. Researchers frame culture-based education as essential alongside conservation and ecological security measures discussed previously.

Discussion

Table 4: Thematic Summary of Interview Findings Across Five Question Areas

Question Theme	Question Asked	Dominant Response Pattern	Primary Interview Group
Migration and Demographic Change	How has migration affected your village and community life?	Youth outmigration for education and jobs; shrinking settlements; weakened knowledge transfer	Beda and Balti participants
Ethnobotanical Food Knowledge	What plant based knowledge supports food security in difficult seasons?	Wild plant foraging, apricot processing, barley rotation, seasonal preservation techniques	Balti participants
Traditional Medicinal Practices	What medicinal practices does your community rely on for treatment?	Herbal remedies for respiratory, digestive, and wound ailments; healing knowledge concentrated in families	Beda participants
Pastoral and Ecological Knowledge	How is grazing and pastoral livelihood managed sustainably?	Seasonal migration routes, pasture rotation, wool and dairy production, shrinking grazing access	Brokpa participants
Tourism and Infrastructure Impact	How has tourism and development affected traditional practices?	Mixed economic benefit and cultural disruption; homestay income alongside ritual commercialization concerns	Balti and Beda participants

The combined outcome of these results emphasises the presence of a tribal Ladakh in a state of decline and the absence of a coherent institutional response to it. The declining number of people registered by Census statistics is not an exception, and it correlates directly with the decline of ethnobotany and medicinal knowledge among Balti and Beda communities. Fewer young people who stay in the villages means fewer people interested in herbs and traditional medicine (Liu et al., 2023). This fact illustrates that it is impossible to treat the policies related to demographics and culture independently. The same is true regarding the decline of pastoral knowledge of Brokpas, which is not the result of demographics alone, but also the decreasing number of opportunities to graze cattle. It would seem that people want to gain economically but fear that they would lose their uniqueness through monastic and cultural activities. The success of conservation policies depended on the incorporation of traditional knowledge into their plans. Without this, there was opposition and a lack of compliance among the communities under study. This is like the situation in the case of education programs, where the involvement of the youth was only possible through the use of practical knowledge of heritage. In all seven findings presented above, there is one thing in common concerning participation and imposition in policymaking. Programs that succeeded in the conservation, education or provision of assistance in the livelihood of people had some element of participation of the community right from the beginning (Chazdon et al., 2020). The unsuccessful programs failed despite their objectives and funding. This means that sustainable development in Ladakh might be more of a structural problem than a cultural and ecological one. Policy formulation of demographic, ecological, educational and economic problems separately would most likely fail based on these findings.

Conclusion

The current research demonstrates that regarding Ladakh, ethnic identity and sustainable development remain connected and do not contradict each other. The demographic decline of the Scheduled Tribes observed during the period of 2001 to 2011 is one of the signs of other trends that are harmful for the transmission of culture among the Balti, Beda and Brokpa tribes. In addition to youth migration and changing of economic preferences, the ethnobotanical knowledge, which is important for food security and health care, is degrading. On the one hand, the development of tourism positively affects the economy; on the other hand, it negatively influences the pasture system and culture. It was found that conservation and education are effective when local community knowledge is applied rather than imposed. Consequently, it is obvious that the fragmented approach will not help in solving all the problems of Ladakh. Effective policy should include such components as ecological security, culturally sensitive education and community-based conservation. Both the directives of the Tribal Research Institute and scientific facts support this approach. Thus, it can be concluded that preserving tribal heritage and sustainable development of the region are two interconnected goals of the policy.

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