# Forest Resource Utilization in Common Regimes: A Case Study of Chhajpur Block of Saraswati Nagar Range, District Shimla, Himachal Pradesh

Amit Chanjta[1], Pankaj Gupta[2], Yogesh Mehta[3]
[1]*Research Scholar, School of Interdisciplinary Studies, IGNOU, New Delhi*
[2]*Fellow, Indian Institute of Advanced Study, Shimla (Corresponding Author)*
[3]*Research Scholar, School of Interdisciplinary Studies, IGNOU, New Delhi*

**Abstract- The paper, based on the field study and secondary data analysis, explores the management and utilization of Common Property Resources (CPRs) in the Chhajpur Block of Saraswati Nagar Range by the natives and the Gujjar pastoral community. The Institutional Analysis and Development Framework, Commons Theory, and Livelihoods Framework have been used to understand the socio-ecological implication of CPRs and their dependency. The study reveals that forests are vital for sustaining rural livelihoods, offering essential NTFPs. But the study also highlights encounters faced by nomadic and natives in accessing CPRs due to legal restrictions, ecological pressures and degradation.**

**Keywords CPRs, Forest governance, pastoralism, livelihood dependence, traditional ecological knowledge, sustainable resource management**

## INTRODUCTION

Common Property Resources (CPRs) are natural resources available to a particular community or society, usually under collective management rather than private or state control. CPRs, including forests, grazing lands, water sources and other natural resources, act as indispensable livelihood sources for rural people. According to Ostrom, the notion of CPRs is deep-seated in the idea that resources, though not owned privately, can be sustainably administered, governed and handled by communities through customarily evolved governance practices, shared rules, and mutual interactions (Ostrom, 1990). While several organizations define CPRs, according to NSSO (1999), CPRs are resources that are accessible to and mutually owned, held, and managed by a particular community, and over which no person can claim private property rights. In theoretical perspective, a common property resource has a well-defined group of users who are allowed to use it mutually, and the conventionally evolved institutional mechanism and rules monitoring its usage are clear and usually obeyed. CPRs in India consist of three configurations: common village land, government forest, and common water resources.

Common village land includes grazing land, forest, woodlot, and threshing floor, while government forest includes reserved, protected, and unclassed forests (NSSO, 1999). CPRs have a multi-layered significance, mainly in the context of rural economy, for these acts as vital reserves of NTFPs essential for housing and handicrafts and often considered as the pillar of rural economies, mostly where farming or industry is inadequate. CPRs are not only expensive resources for most rural communities, but they are also entrenched in socio-cultural norms and are regularly accessed abiding by practices that connect communities to their heritage (Agarwal, 2001). When handled judiciously, CPRs help in maintaining the ecological balance (Ostrom, 1990). CPRs can act as a safety net in rural areas, offering additional resources when agrarian or market-based income streams weaken, mainly during the crop failure or economic recession (Agarwal, 2001). Several studies examined their role in sustenance, livelihood generation and socio-ecological roles. Inoni's study in Nigeria found that deprived households depend intensely on NTFPs owing to resource constraints (Inoni 2009). Forest resources add to households' total income, with this proportion being even higher for poorer households. Fisher et al. (2004) revealed that households with low income depend more on forests than those with high income, as they provide food, cash earnings, and serve

as safety nets during emergencies. In unapproachable or underdeveloped areas, CPRs are more important for sustaining rural livelihoods. According to studies by Hardin (1968) and Ostrom (1990), forest resources are vital for providing livelihood and subsistence in developing nations. Balasubramanian and Selvaraj (2003) found that the poor in Tamil Nadu are heavily dependent on Community Property Rights (CPRs) for agricultural operations, livestock rearing, and fuel wood. Meinzen-Dick et al. (2006) found that commons also play a significant role in the livelihoods of marginalized groups.

Common Regimes in Himachal Pradesh

Himachal Pradesh, located in the Northwestern Himalayas, has a rich past of forest management, influenced by traditional knowledge systems besides the organized regulatory frameworks. Before British colonial rule, forests were managed by the local communities, with customary rights for collection of fodder and firewood and non-timber forest products, and grazing of livestock. Village institutions played a crucial role in managing these resources. However, during British rule, rules on management common regimes in Himachal Pradesh were redefined, with policies focusing on commercial harnessing of forest products, viz. timber and firewood. This marginalized local practices, restricting access to forests and causing conflicts with local communities dependent on these resources for their livelihoods (Guha, 1990). The growing influence of environmental movements, like the Chipko movement of the 1970s, has also contributed to more participatory forest governance models, where communities are involved in forest management and decision-making. After independence, the legacy of state control over forests continued, with the introduction of the Forest Conservation Act (1980) and the Forest Rights Act (2006), which were framed for legalizing the forest use and identifying the rights of forest dwellers. The contemporary forest regime in the state consists of a complex mix of state-managed forests, community-managed forests, and protected areas. Pathania et al. (2008) highlighted the importance of CPRs in Himachal Pradesh's hilly region, with marginal farmers consuming more CPR land products. These studies highlight the strong relations between CPRs and livestock and farming. The forest policies in the state have evolved to balance ecological conservation with the rights of local communities, though challenges remain in confirming impartial access to CPRs for locals, including the native rural communities and migrant populations, like Gujjars and other nomadic communities.

Traditional Ecological Knowledge (TEK), passed down through generations, offers unique understandings of sustainable resource utilization, including management of bioresources, land and water resources, and plays a crucial role in managing CPRs. Berkes and Folke (1998) claim that traditional resource management practices can counter scientific resource management by providing holistic, community-based solutions emphasizing resilience and adaptability. This is particularly relevant in rural areas, where TEK is still influencing forest management together with contemporary forestry practices. Understanding the interplay between these systems is vital for designing effective resource management strategies. Reviewing CPRs in the context of native and nomadic populations is essential to understand their interface and utilization of CPRs. Native communities have a well-established system of resource utilization, management, and conservation, while nomadic migrants may use CPRs occasionally, putting pressure on these resources. Understanding these differences is crucial for designing policies that support both groups without compromising resource sustainability. Nomads, mainly in regions like Himachal Pradesh, depend on CPRs but have different use patterns depending on their seasonal migration. Analysing CPRs in this context helps policymakers comprehend the challenges faced by both groups, permitting the policy formulation to prevent resource depletion, manage access, and resolve arguments.

Theoretical Background

This paper is based on a study carried out in the Chhajpur Block of Saraswati Nagar Range to understand the utilization of CPRs, mainly in the context of native and nomadic population of the area. Some of the key theoretical frameworks that can be applied to this study include the *Institutional Analysis and Development* Framework proposed by Elinor Ostrom (1990) that is central to understanding how communities govern CPRs and emphasizes the role of institutions—formal and informal rules, norms, and practices—in governing the common regimes. This framework proposes that effective governance of

CPRs requires a combination of well-defined property rights and rules for resource use, besides stringent mechanisms for supervision and execution. It suggests that local communities are best suited to manage CPRs where they organize and regulate the use of resources based on local knowledge. This framework can help analyse the local institutions governing forest use and how these institutions manage the interaction between different user groups—native and nomadic populations in the context of Chhajpur Block of Saraswati Nagar Range in Jubbal tehsil of Himachal Pradesh. *Commons Theory*, as articulated by Hardin (1968) in the context of the "*Tragedy of the Commons*," proposes that open-access resources are liable to overutilization. This theory is significant in understanding the diverse management practices for CPRs in the study area, where both native and nomadic groups rely on the same resources. The study probes how the two groups utilize resources and how CPRs are managed based on their respective needs and practices. Likewise, the *Livelihoods Framework* focuses on understanding the broader socio-economic context in which people use natural resources. It looks at how people's livelihoods are shaped by their access to resources, their human, social, financial capital, and the institutions related to these. This framework helps in analysing the interplay between resource access and broader socio-economic factors (Scoones, 1998). In the case of nomadic herders, like Gujjars and native populations in the study, this framework has been used to understand how changes in access to CPRs (due to legal restrictions, land encroachment, etc.) impact their livelihood strategies and well-being. By combining these frameworks, the paper offers a multi-faceted understanding of how CPRs are used both by natives and Gujjars in the study area and how governance structures, socio-economic dynamics, and policy involvement impact the resource use and sustainability.

Methodological Framework

The study was carried out in Chhajpur Block of Saraswati Nagar Range. The study is based on both primary and secondary information gathered from relevant sources. The primary information was gathered from the natives living in the vicinity of the Chhajpur Block of Saraswati Nagar Range and the forest officers of the area, and secondary information included the government reports of the forest departments.

Study Area

Saraswati Nagar is a small hamlet in Jubbal tehsil, Shimla district of Himachal Pradesh, situated at the bank of Pabbar River. With an average elevation of 1465 m, it is surrounded by Rohru tehsil, Chaupal tehsil, Theog tehsil, and the Uttarakhand state. The hamlet experiences moderately warm summers and cool winters, with an annual temperature range of 2°C to 30°C and a mean precipitation of 1709 mm. The area experiences five broad seasons: spring from mid-March to April, summer till mid-July, and monsoon from September. Shimla Forest Circle has four forest divisions, i.e., Shimla, Theog, Chaupal and Rohru forest divisions. The Rohru forest division has a forest area of 25,194 hectares and is further divided into seven ranges – Rohru, Tikker, Khashdhar, Jubbal, Bashla, Saraswati Nagar and Dodra-Kwar. Saraswati Nagar forest range consists of three blocks, i.e. Chhajpur block, Kuddu block and Mandal block, which is further divided into ten beats. The Mandal block has three beats (Mandal beat, Jhalta beat & Dhansar beat) whereas Chhajpur block has a maximum four beats (Saraswati Nagar beat, Nandpur beat, Kelwi beat, Chhajpur beat). Kuddu block has three beats (Kuddu beat, Pandranoo beat, & Shashan beat). Mandal beat is the largest beat and Kelwi is the smallest beat. Chhajpur 14a (1) & (2), Chhajpur 14b are reserve forests. Naliban, some part of Chhajpur (1,2a,3,5,6), Shashan (5b, 7a), Jakhi (1,2, 3a, 4c), Dhedar (1,2,3,4b), Saran(1a) and Dullu are some demarcated protected forests of this range. Dhansar (1), Jhalta (2), Giltari, Jharashli, Kawalta, Sawra, Sanoli, Sansog, Salna, Ghian, and Saskir are un-demarcated forests. The area of DPF Jakhi is 197.88 hectares and has chak numbers from 1 to 51. The DPF Naliban is comparatively with an area of 3.64 hectares and has 3 chaks. Chhajpur forest block is part of Saraswati Nagar Forest range of Shimla district. It consists of four beats, i.e. Saraswati Nagar, Chhajpur, Kelwi and Nandpur. Chhajpur is the largest beat of Chhajpur block. It has an area of 2278.78 hectares. The area under the Reserve Forest is 200.1 hectares, Demarcated Protected Forest is 1966.37 hectares, and Un-demarcated forest area is 113.31 hectares. Based on the presence of dominant species present in the

Chhajpur Block of Saraswati Nagar Range, the people locally name these villages as:

- *Chalada*: Forest of Chil / Chir Pine (*Pinus roxburghii*)
- *Kewli: Forest* of Dyar/ Deodar *(Cedrus deodara*)
- *Bano ra Jungle:* Forest of *baan*/ Ban oak (*Quercus lecotrichophora*)
- *Kailo ra Jungle:* Forest of *kail*/ Himalayan pine (*Pinus wallichiana*)
- *Mohrale:* Forest of *mohru*/ green oak (*Quercus diltate*)
- *Kharshu jungle:* Forest of *kharshu*/ brown Oak (*Quercus semecarpifolia*)
- *Kancheli:* Forest of *Kunish/* Himalayan Alder (*Alnus nepalensis*)
- *Chulti:* Group of trees of *chulli* / apricot (*Prunus armeniaca*)

Several plants are found in these forests and are of use both for the natives and the nomadic Gujjars. Some of these are listed in Table 1.

Table 1: Dominant species present in the Chhajpur Block of Saraswati Nagar Range and their utilization by the natives and nomadic Gujjars

| Sr. No. | Name of the Plant | Part used | M | T | SC | FO | FU | OR | E | O/R | R |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. | Amarbel (*Cuscuta reflexa*) | Stem | ✓ | | | | | | | | |
| 2. | Atish (*Aconitum heterophyllum*) | Rhizome | ✓ | | | | | | | | |
| 3. | Baiba (*Eulaliopsis binata*) | Leaves | | | | ✓ | | | | | |
| 4. | Ban *(Quercus leucotrichophora*) | Wood and leaves | | | | ✓ | ✓ | | | | |
| 5. | Bajardanti (*Potentilla fruticosa*) | Roots | ✓ | | | | | | | | |
| 6. | Bankakdu *(Podophyllum hexandrum*) | Fruit | | | | | | | ✓ | | |
| 7. | Banfasha (*Viola canescens*) | Flower | ✓ | | | | | | ✓ | | |
| 8. | Bhang (*Cannabis sativa*) | Leaves & Seed | ✓ | | | | | | ✓ | ✓ | ✓ |
| 9. | Bhekhal (*Prinsepia utilis*) | Stem & Seed | ✓ | | ✓ | | | | | ✓ | ✓ |
| 10. | Bhumla (*Fragaria indica*) | Fruit | ✓ | | | | | | ✓ | | |
| 11. | *Bras (Rhododendron arboretum)* | Flower | ✓ | | | | | | ✓ | | ✓ |
| 12. | Buil (*Grewia oppositifolia*) | Leaves | | | | ✓ | | | | | |
| 13. | Chada *(Nasturtium officinale)* | Leaves | | | | | | | ✓ | | |
| 14. | Chatri *(Russula lepida)* | Whole part | | | | | | | ✓ | | |
| 15. | Chhambra (*Artemisia vulgaris*) | Leaves | ✓ | | ✓ | | | | | | ✓ |
| 16. | Chil *(Pinus roxburghii)* | Wood, Leaves & Resin | | ✓ | ✓ | | ✓ | | | ✓ | |
| 17. | Chhinchara *(Salvia lanata)* | Leaves | ✓ | | | ✓ | | | | | |
| 18. | Chora (*Angelica glauca*) | Roots | ✓ | | | | | | | ✓ | |
| 19. | Chuli (*Prunus armanica*) | Fruit, Seeds &Wood | ✓ | | ✓ | | ✓ | | ✓ | ✓ | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 20. | Daru (*Punica granatum*) | Fruit | ✓ | | | | | | ✓ | | |
| 21. | Dhakh *(Solanum nigrum)* | Berries & Seeds | ✓ | | | | | | ✓ | | |
| 22. | Dhatura *(Datura stramonium)* | Leaves & Seeds | ✓ | | | | | | | ✓ | ✓ |
| 23. | Dhudli *(Taraxacum officinale)* | Leaves | ✓ | | | ✓ | | | | | |
| 24. | Fafla *(Stellaria media)* | Leaves | | | | | | | ✓ | | |
| 25. | Falar munda *(Erigeron annuus)* | Leaves | | | | ✓ | | | | | |
| 26. | Fedu *(Ficus palmate)* | Fruit and Leaves | | | | ✓ | ✓ | | ✓ | | |
| 27. | Ghass *(Phleum pretense)* | Leaves | | | | ✓ | | | | | |
| 28. | Ghass *(Cenchrus echinatus)* | Leaves | | | | ✓ | | | | | |
| 29. | Gucchi (*Morchella esculenta)* | Whole plant | | | | | | | ✓ | | |
| 30. | Hinser *(Rubus ellipticus*) | Berries | | | | | | | ✓ | | |
| 31. | Jalga (*Phytolacca acinosa*) | Leaves | | | | | | | ✓ | | |
| 32. | Jamun (*Prunus cornuta*) | Fruit & Wood | | ✓ | | | ✓ | | ✓ | | |
| 33. | Jangli Gainda *(Tagetes minuta)* | Roots and Leaves | ✓ | | | | | | | | |
| 34. | Jangli Lehsun *(Allium ursinum)* | Tuber/ Bulb & Leaves | | | | | | | ✓ | ✓ | |
| 35. | Jangli Pudina *(Mentha longifolia)* | Leaves | ✓ | | | | | | | | |
| 36. | Joob *(Cynodon dactylon)* | Stem & Leaves | ✓ | | | | | ✓ | | | |
| 37. | Jari dhoop *(Jurinea dolomiaea)* | Roots | | | | | | | | | ✓ |
| 38. | Kail *(Pinus wallichiana)* | Wood | | ✓ | | | ✓ | | | ✓ | |
| 39. | Kashmol (*Berberis aristata*) | Roots & Berries | ✓ | | ✓ | | | | ✓ | | |
| 40. | Kathi (*Indigofera cassiodes*) | Stem & Leaves | | | ✓ | ✓ | | | | | |
| 41. | Kewli (*Cedrus deodara*) | Wood | | ✓ | | | ✓ | | | | ✓ |
| 42. | Khadak *(Celtis australis)* | Wood & Leaves | | | | ✓ | ✓ | | | | |
| 43. | Khanor (Aesculus indica) | Leaves Fruit | | | | ✓ | | | ✓ | | |
| 44. | Kharshu *(Quercus semecarpifolia)* | Wood | | | | | ✓ | | | | |
| 45. | Khod *(Juglans regia)* | Fruit | | | | | | | ✓ | | |
| 46. | Kthin (Cotoneaster microphylla) | Stem | | | ✓ | | ✓ | | | | |
| 47. | Kuja (*Rosa moschata*) | Flower | | | ✓ | | | ✓ | | | |
| 48. | Kumbra *(Bidens pilosa)* | Stem & Leaves | | | | ✓ | | | | | |
| 49. | Kungshi *(Urtica dioica)* | Leaves | ✓ | | | | | | ✓ | | |

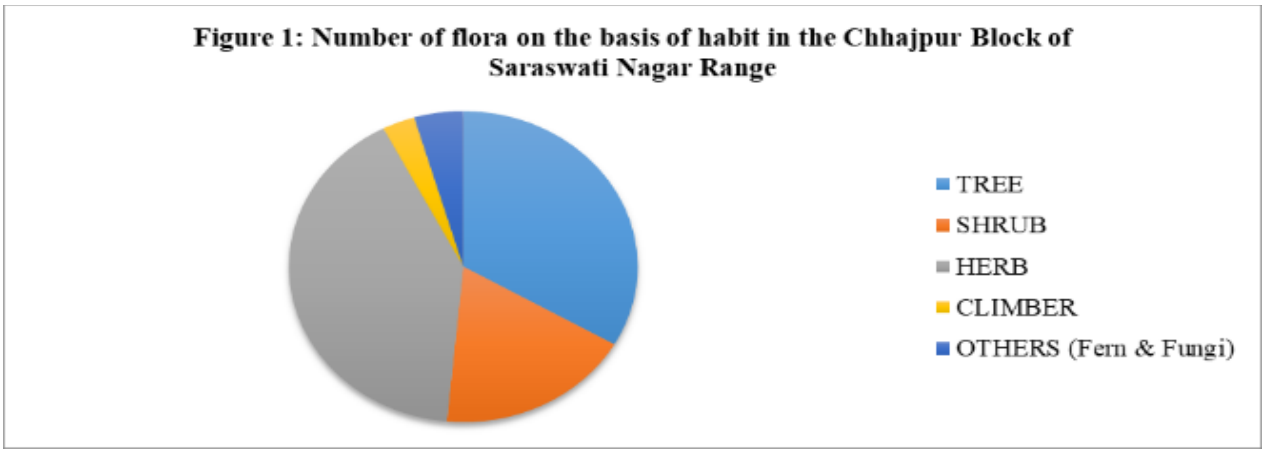
| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 50. | Kunwa *(Commelina bengalensis)* | Leaves | | | | ✓ | | | | | |
| 51. | *Leuijad (Ipomoea purpurea)* | Flowers | | | | | | ✓ | | | |
| 52. | Lingra *(Diplazium esculentum)* | Whole part | | | | | | | ✓ | | |
| 53. | Mohra *(Aconitum deinorrhizum)* | Roots | ✓ | | | | | | | | |
| 54. | Mohru *(Quercus dilatata)* | Leaves and Wood | | | | ✓ | ✓ | | | | |
| 55. | Pahari gulab (*Rosa macrophylla*) | Flower | | | ✓ | | | ✓ | | | |
| 56. | Paja (*Prunus puddum*) | Fruit, Leaves | | | ✓ | | ✓ | | ✓ | | ✓ |
| 57. | Pakhanbed (*Bergenia stracheyi*) | Rhizome | ✓ | | | | | | | | |
| 58. | Rai *(Picea smithiana)* | Wood | | ✓ | | | | | | | |
| 59. | Raminia (*Robinia pseudacacia*) | Leaves & Wood | | | | ✓ | ✓ | | | | |
| 60. | Raush (Cotoneaster bacillaris) | Wood | | | ✓ | | | | | | |
| 61. | Safeda *(Populus ciliate)* | Wood & Leaves | | | | ✓ | ✓ | | | | |
| 62. | Sanpo ri Gagli (*Arisaema tortuosum*) | Tuber | ✓ | | | | | | | | |
| 63. | Shegal/Moll (*Prunus pashia*) | Fruit | | | ✓ | | ✓ | | ✓ | | |
| 64. | Timber (*Zanthoxylum armatum*) | Leaves & Stem | ✓ | | | | ✓ | | | | |
| 65. | Thuna (*Taxus baccata*) | Wood & Leaves | ✓ | | | | | | | | |
| 66. | Tosh *(Abies pindrow)* | Wood | | ✓ | | | | | | | |

*Source: Primary Survey*

| | | | | |
|---|---|---|---|---|
| Species of Medicinal Value (M) | Timber (T) | Species suitable for soil conservation (SC) | Fodder species (FO) | Religious (R) |
| Fuelwood species (FU) | Ornamental (OR) | Edible fruit/vegetable/seeds/spice (E) | Oil / Resin (O/R) | |

A total of 66 plants have been documented in the Saraswati Nagar Forest Range. The herbs (27) are dominant among all categories of plants. The trees (22) are followed by shrubs (12), climbers (3), fungi (2) and fern (1). Most of the herbs have some medicinal property and are used by local communities to treat wide varieties of diseases. The shrubs like Hinser and Kashmol have edible berries which are popular among children. The trees are a source of timber as well as non-timber minor forest produce like fruits, fodder, wood, resin, etc.

Utilization Pattern: In the study area, sixty-six plants were identified, which are used by local communities in a variety of ways. Twenty-six plants have medicinal values followed by fodder (17), fuelwood (16), soil conservation species (12), wild edibles (10), religious (8), timber (6) and ornamental plants (4). Medicinal plants have long been utilized in traditional medicine and worldwide in ethno medicine. In the study area, 26 different types of medicinal plants were identified in Chhajpur forest block. The important medicinal plants found in the area include Atish (*Aconitum heterophyllum*), Amarbel (*Cuscuta reflexa*), Bhang (*Cannabis sativa*), Banaksha (*Viola serpens*), Bajardanti (*Potentila fulgens*), Chora (*Angelica glauca*), Chhinchara (*Salvia lanata*), Dhudli (*Taraxacum officinale*), Kungshi (*Urtica dioica*), Mohra (*Aconitum deinorrhizum*), Pakhanbed (*Bergenia stracheyi*), Thuna (*Taxus wallichiana*) and Timber (*Zanthoxylum armatum*).



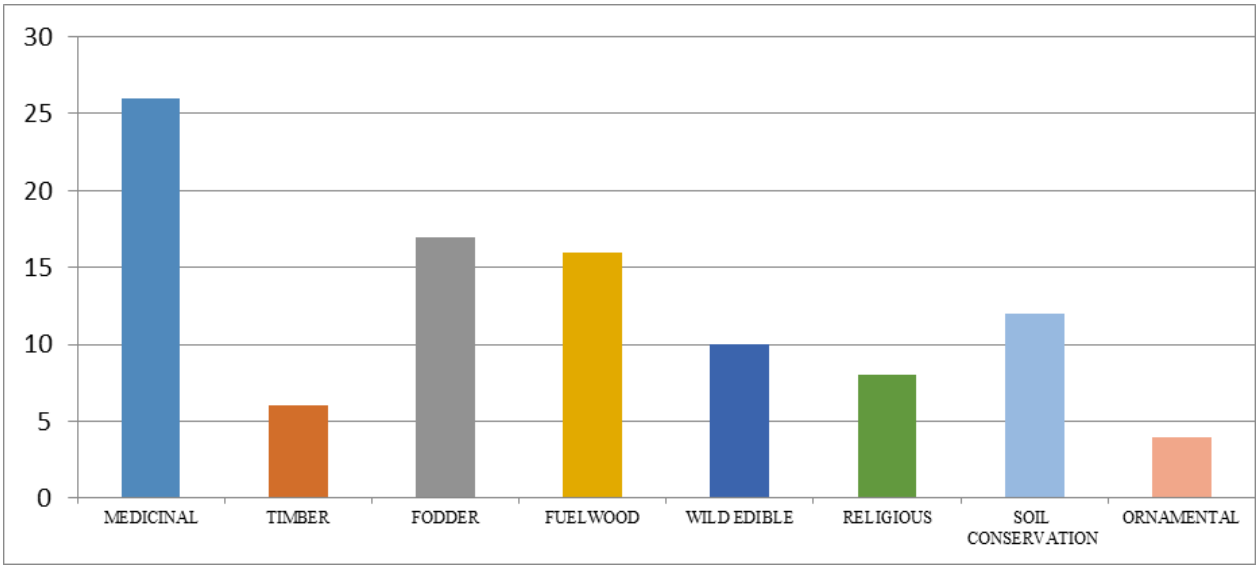




Figure 2: Utilization patterns of forest products in the Chhajpur Block of Saraswati Nagar Range

These plants are used to cure fever, dysentery, cough, toothache and wounds. Timber plants are medium or large trees, which are cut to extract wood that is capable of yielding a minimum dimensional size and are used for constructing houses, wooden furniture and wooden utensils. The six timber plants identified in the study area include the wood of *rai* (*Picea smithiana*), *tosh* (*Abies pindrow*), *kail* (*Pinus wallichiana*), *jamun* (*Prunus cornuta*), Kewli (*Cedrus deodara*), Chil (*Pinus roxburghii*) and *thuna* (*Taxus baccata*). A total of sixteen plants were used as firewood by nomads and villagers. Chil *(Pinus roxburghii),* Chuli (*Prunus armanica*), Fedu (*Ficus palmate*), Jamun (*Prunus cornuta*), *kail* (*Pinus wallichiana*), Kewli (*Cedrus deodara*), Chil (*Pinus roxburghii*), kharak (*Celtis australis*), kharshu (*Quercus semecarpifolia*), ban (*Quercus leucotrichophora*), mohru (*Quercus dilatata*) and Safeda (*Populus ciliate*), Timber (*Zanthoxylum armatum*) and ramenia (*Robinia pseudoacacia*) wood are ideal to be used for fuelwood. The fodder plants include a wide variety of grasses like baiba (*Eulaliopsis binata*), chhambra (*Artemisia vulgaris*), dhudli (*Taraxacum officinale*), ghass (*Cenchrus echinatus*), Kumbra (*Bidens pilosa*), ghass (*Phleum pretense*), fafla (*Stellaria media*) *and* Falar munda (*Erigeron annuus*). The leaves of numerous broad-leaf plants like khanor (*Aesculus indica*), kharshu (*Quercus semecarpifolia*), ban (*Quercus leucotrichophora*), mohru (*Quercus dilatata*) and Safeda (*Populus ciliate*) leaves are used as fodder for goat and sheep. Other fodder plants are ramenia (*Robinia pseudoacacia*), kharak (*Celtis australis*) and Kathi (*Indigofera cassiodes*). *Bhekhal* (*Prinsepia utilis), Chhambra, (Artemisia vulgaris),* Chil *(Pinus roxburghii),* Chuli(*Prunus armanica*), Kathi (*Indigofera cassiodes*), Kashmol (*Berberis aristata*),

Kthin (*Cotoneaster microphylla*), Kuja (*Rosa moschata*), Pahari gulab (Rosa macrophylla), *Paja* (*Prunus puddum),* Raush (*Cotoneaster bacillaris*) and Moll (*Prunus pashia*) are key species which are used for soil conservation. The plants which are associated with religion or linked with local deities are *Bhang* (*Cannabis sativa*), *Bhekhal* (*Prinsepia utilis),* Bras *(Rhododendron arboretum), Dhatura* (*Datura stramonium), Jari dhoop* (*Jurinea dolomiaea*), *Chhambra* (*Artemisia vulgaris*) *and Paja* (*Prunus puddum*).

Wild edibles are edible species that are not cultivated or domesticated but have high nutritional content. The fruit and berries of Bankakdu *(Podophyllum hexandrum),* Bhumla (*Fragaria indica*), Daru (*Punica granatum*), Dhakh (*Solanum nigrum*), Hinser *(Rubus ellipticus),* Jamun (*Prunus cornuta*), Kashmol (*Berberis aristata*), Moll (*Prunus pashia*), Paja (*Prunus puddum) and* Fedu *(Ficus palmate)* are excellent source of vitamins, minerals and amino acids. The leaves of Chada (*Nasturtium officinale*), Kungshi (*Urtica dioica*), Jangli Lehsun (*Allium ursinum*), Jalga (*Phytolacca acinosa*) and Fafla (*Stellaria media*) are cooked as vegetables. Lingra (*Diplazium esculentum*), Gucchi (*Morchella esculenta*) and Chatri (*Russula lepida*) are edible fern and fungi which are a rich source of antioxidants. The flowers of Banfasha (*Viola canescens*) and Bras (*Rhododendron arboretum*) are edible. The flowers of Banafsha are used to make an infusion drink. The juice is extracted from the petals of the Bras flower. The oil is extracted from *Bhekhal* (*Prinsepia utilis*), Chuli (*Prunus armanica*) and bhang (*Cannabis sativa*). Chora (*Angelica glauca*) and Jangli Lehsun (*Allium ursinum*) are used as spice in local cuisine. Joob (*Cynodon dactylon*), Pahari gulab (*Rosa macrophylla*), Leuijad (*Ipomoea purpurea*) and Kuja (*Rosa moschata*) are ornamental plants. The nuts of Khod (*Juglans regia) and* Chuli(*Prunus armanica)* are edible, which are served as dry fruits. Oil is also extracted from them, which have medicinal properties.

Dependence of Local Community: The communities living in the vicinity of the forests are dependent on forest resources. Many plants have a variety of ethno botanical uses and are used in the formation of local medicines by herbalists. The rural community is dependent on plants for timber, fodder and fuelwood. Many local wild berries are edible and collected by locals.

Table 2: Level of dependency on Forest Products among natives living in the Chhajpur Block of Saraswati Nagar Range

| Forest products | Level of Dependence (Fully / Partially / No dependence) |
|---|---|
| Fuel wood | Partially dependent, as fallen or broken branches are gathered from the village |
| Timber | Fully dependent |
| Wild edible | Partially depended, as some of the wild edibles are also found in the fields and near residential areas |
| Medicinal plants | Partially dependent, because some plants are found in and around the village. However, most of the medicinal plants are gathered from the forests. |
| Religious plants | Fully dependent |
| Fodder | Partially dependent, as most of the fodder is gathered from the fields, nearby areas and the leftovers of the crops |
| Flowers | Partially dependent |

*Source: Primary Survey*

Grazing Rights of Locals

1. Right of grazing of domestic cattle: The members of the local community have the right of grazing domestic and farm animals throughout the year. They are allowed to graze cows, ox, goats, sheep, mules and horses. No permit is required for grazing.
2. Right of way for cattle: The natives have the right of way for cattle along footpaths of roads to villages.
3. Right to use water sources: They have the right to use water resources for drinking, irrigation and household purposes.
4. Right of cremation grounds: In the forest, there are certain spots which are used by local communities as cremation grounds for funerals.

It is the right of villagers to cut wood that has fallen twigs for the funeral and cremation grounds, which are part of the common property resource within the forest.

5. Right of Fodder: The locals have the right to lop trees of broad-leaved species for fodder.
6. Right to use broad leaved species as bedding for cattle: The local community have the right to collect leaves of broad-leaf species as bedding material for cattle.
7. Right to use pastures: The villagers are allowed to graze their sheep, goats, mules, cows and oxen in open pastures within the forests.
8. Right for organising fair: The inhabitants are allowed to celebrate fairs and other religious ceremonies linked with deities within the forest.
9. Right to collect fodder: The residents are allowed to cut grass for fodder of their cattle. The villagers cut grass from the forest and dried fodder is stored for the winters.
10. Right to collect firewood: The native dweller are allowed to collect wood that is dried or breakdown naturally on the forest floor.
11. Right to keep cattle on teaches: The villagers are allowed to keep cattle on teaches, including in the forest. The villagers mostly take bulls and infertile cows to the alpine and take them back to their houses in autumn.

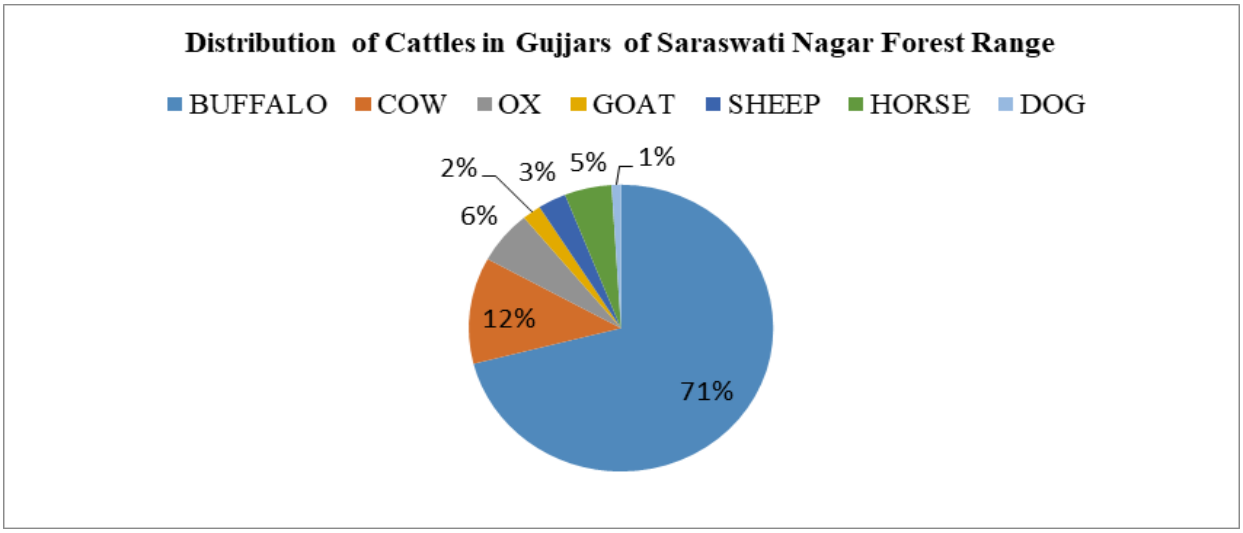
Gujjar: The Pastoral Nomads in the Chhajpur Block of Saraswati Nagar Range

The Gujjars are a pastoral community that constantly moves around looking for places to let their livestock graze. They are classified as a scheduled tribe in Himachal Pradesh and have a sizable herd of buffaloes. In pursuit of grazing patches, they move between hills that are higher and lower. Ban Gujjar, Sawan Gujjar, and Settled Gujjar are the three main types of Gujjars. The Ban Gujjar live as true nomads and do not follow a customary migration path. Sawan Gujjars follow a set migratory path and migrate to the plains during harsh winters. Semi-nomadic ones go back to their kuccha homes. The settled Gujjars have a permanent pucca house and are involved in farming activities. The sale of dairy products is the primary source of income. Buffaloes constitute the majority of the Gujjars' livestock, along with several cows, oxen, horses, goats, and dogs.

Migratory Routes: For years, Sawan and Ban Gujjar have been migrating across the Saraswati Nagar Forest area. There are grazing rights for twenty-five Gujjar households in a forest region in the Saraswati Nagar Range. These Gujjars move to the Himachal Pradesh tehsil of Jubbal from various parts of Uttarakhand. The Shiwaliks' increasing temperature makes circumstances intolerable for their animals as summer approaches. Due to dry weather and the loss of grass cover, these areas are more susceptible to forest fires. The population is forced back to the plains by winter snowfall, where they can eventually reach the pastures that have been restored with lush grass.

They graze a herd of buffaloes on the plains of the districts of Uttarkashi and Dehradun throughout the winter. They begin migrating to the Himachal Pradesh highlands in March. They travel around 300 kilometres on the migratory path before arriving in the Himachal Pradesh highlands. A vast herd of buffaloes can travel more readily on highways than on the narrow or steep paths found in mountainous regions. As a result, they typically choose nighttime road trips. The majority of their fixed stoppages are located close to water sources, such as rivers. These days, very few women take the bus to the next stop and prepare dinner for other family members who arrive with cattle. Ponta Sahib, Saton, Tuini, Pandranu, Sanail, and Kuddu are the principal stoppages.

Livestock: Gujjars are still sticking to their ancestral profession of buffalo rearing and selling milk and its by-products. The livestock of Gujjars consists of buffaloes, cows, horses, goats, sheep and dogs. The livestock is dominated by buffaloes (71%) followed by cows (12%), ox (6%) and horses (5%). The percentage of sheep (3%), goat (2%) and dogs (1%) are slightly low. The buffalo milk is the main source of income of the Gujjar tribe. The various dairy products like Panner, Khoya and curd are sold by Gujjars in nearby villages and panchayats.




Mechanism

The Gujjar people must notify the local forest guard when they and their animals cross the Himachal Pradesh border at Pandranoo. The number of cattle is verified with the list of animals included in the authorization once the officials review the permit issued by the Uttarakhand Forest Department. They are asked to produce a copy of Aadhar card, ST certificate, and the previous year's receipt of entry. Following authentication, they are permitted to graze in the selected forest. They spend two to three days at Kuddu and Snail, and after relaxing, they finally arrive at Anti, and proceed to the Chhajpur forest area.

The forest guard visits the designated forest area once a week to confirm that they are not engaged in any illegal activities. They are abstained from hunting wildlife and harvesting herbs. Illegal cutting of trees is also banned. In case of any blunder, they are liable to pay fines and penalties. They must seek permission at the Saraswati Nagar Forest Department in September. The Gujjar must re-register them and pay the grazing charges, which is 8 rupees for each buffalo (male or female), 3 rupees for each horse, and 50 paise for each cow, ox, sheep, and goat. Although grazing is free for calves, the number of calves is also documented in the license. The document must have a photograph of the recipient Gujjar and a report from the Forest Range Officer stating that there are no criminal offenses against him. All check posts receive a duplicate copy of the permit along with their information. At each checkpoint, the number of animals is confirmed. It is regularly ensured that they are not involved in the illegal exploitation of forest resources or illicit trade in medicinal herbs. The permit issued by the government of Himachal Pradesh is verified by Uttarakhand Forest Department.

Rights of Nomadic Gujjars

Grazing Rights: The Gujjars are permitted by the forest department to graze their livestock in the designated forest area but are not allowed to wander in other areas. They are accountable to ensure that forest resources are not misused.

Right of way for cattle: The pastoral communities have the right to use roads or forest roads as a way for cattle during migration. It is the right to move their cattle along footpaths of roads to the forests. The migration routes of Gujjars are also fixed in the documents of the forest department.

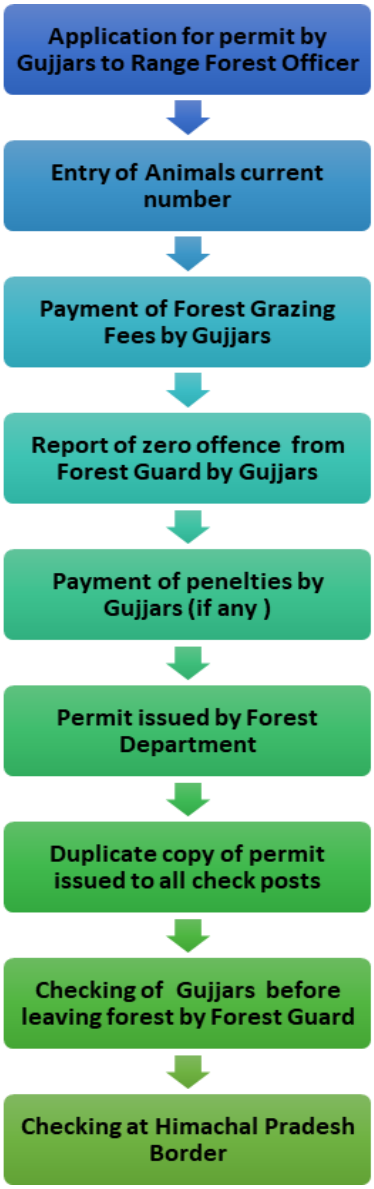
Right to use water sources: The Gujjars have the right to use water resources for drinking, cleaning and sanitation. The Gujjars are allowed to use water resources for drinking by cattle. It is their responsibility to maintain the cleanliness of the water.

Right to use broad-leaved species as bedding for cattle: The Gujjars have the right to collect leaves of broad-leaved species as bedding material for cattle.

Right to collect firewood: The Gujjars are allowed to collect wood that is dried or breakdown naturally on the forest floor. They are not allowed to cut trees for fuelwood. If someone found, are fined with penalties or imprisoned for doing such offence against destruction of forest area.

Duties of Pastoral Community

They are accountable to safeguard the forest and its resources, maintain water cleanliness, prevent hunting of wild animals, and avoid exploitation of medicinal plants. They are expected to live harmoniously with local communities, adhere to government laws, prevent livestock overgrazing, destroy forest trees, and forbid illegal trade of wild animals and minor forest products. The duty charter also emphasizes the importance of adhering to local laws and rules.


Mechanism of Migration of Gujjars and their access to local resources Problems Encountered

The local communities face the confrontation over land and water resources. The locals face the damage of agriculture and horticulture crops, which is caused due to the movement of the livestock of the Gujjars. Besides this, there are cultural or social issues, land tenure issues, ecological problems, biodiversity loss, pressure on natural resources, security issues, etc. The livestock of the Gujjar community depends upon the forest vegetation and the adjoining areas for grazing. The apple orchards of locals are also located at the peripheries of the forest areas, which at times are grazed by the livestock of the nomadic community, resulting in financial losses and creating conflict between communities. To resolve this issue, proper fencing must be done by the farmers to protect their crops. The panchayat as well as forest guards should

designate the passageways for livestock movement away from apple orchards. The penalties or compensation system must be established in which the Gujjar community should pay penalties for crop damage caused by their animals. Some locals also graze their goats, sheep and cows in the forest area, which leads to competition for vital resources. To address these issues, the Forest Department and local PRIs should implement cooperative resource management programmes where the local community and Gujjar community work together to manage the pasturelands. Additionally, rotational grazing practices must be established where herds move through different grazing areas at different times to reduce livestock grazing conflict. Extensive grazing of forest vegetation by cattle also harms the medicinal herbs. Even the tender herbs are destroyed by moving herds of cattle, which affects the forest ecosystems and the livelihood of the local community. Many NTFPs and medicinal herbs are collected by the *vaid* (local medical practitioners) for treatment of diseases and are a source of livelihood for many forest-dependent communities. The local nomads even collect the wild herbs and sell them in the local market, which infringes the rights of local communities on these resources. To overcome, the forest department should regularly inspect the areas allocated to the nomadic community. Conservation, awareness and education are key to resolve such issues.

Another important conflict is for water resources, which arises, mainly when water sources are shared by both communities for drinking, irrigation, and livestock. Gujjar nomads require access to consistent and reliable water sources for their livestock. During summers or drought, the competition for water increases, as there may not be enough water to meet the demands of both communities. Climate change, changing rainfall and snowfall patterns and prolonged droughts are reducing the water level in the entire forest range. Establishment of designated water access points, construction of water storage tanks, and regional cooperation are possible solutions to tackle water resource conflicts.

In Chhajpur, many water sources like *Kothraik nala, Papo re Bao, Nago ra Sor* are sacred and linked with the local deities like *Shedkuliya Mahasu, Nag Devta,* etc. The nomadic communities, due to cultural differences, sometimes contaminate these sources and lead to social conflict. The nomads and their livestock even contaminate the water sources with animal faeces while taking a bath in the water. Water-sharing agreements have been established to ensure equitable access and reduce conflict. Social and cultural clashes also arise between nomadic groups and local communities, as their lifestyles and cultural practices can differ significantly. These differences sometimes lead to misunderstandings and tensions. To resolve such issues, the members of PRIs, local political leaders and the *lambardar* of the village or leaders of nomadic communities can play an important role. The security and theft issues are also a cause of concern. The nomads living in Kuccha house in the forests, along with valuable livestock, may be seen as easy targets for robbery, criminal activities, etc. Political instability, cultural differences and weak governance can worsen security concerns, both for Gujjar and local communities.

The environmental issues like soil erosion, lack of vegetation for wild herbivores, biodiversity loss, deforestation, and wildlife-human conflicts are also related to nomads and their livestock. The mutual understanding of nomads and locals in conservation programmes, understanding, cooperation, education, mutual interactions, equal forest rights, alternative livelihood, shared market access, can mitigate these issues and allow the nomadic groups to live in harmony with local populations.

The relationship between local communities and Gujjar community is a dynamic exchange that is beneficial for both the groups in various ways, rooted in trade, culture, and mutual support. The Gujjar community sell milk products like buffalo milk, *Khoya*, and *Paneer* to the local community. The local sweet shop owners purchase *Khoya*, which is used to prepare a variety of sweets. This became an important source of income for the Gujjar community. The study area is known for the apple orchards. The cattle dung is purchased by the local farmers from the Gujjar community for their orchards. This is another source of income for the Gujjar community. In return, the locals provide them fruits, grains and vegetables. This barter creates a system where both groups are dependent on each other's resources, and creates mutual understanding, and respect for each other. Moreover, the cultural, ecological, ethnobotanical and traditional ecological knowledge is shared by both the communities.

## DISCUSSION

Numerous studies have looked into the impact of CPRs in promoting rural livelihoods. Ostrom (1990) emphasized the ability of local communities to manage CPRs through institutional procedures and customary practices. The findings of this study support Ostrom's argument that sustainable government is possible when communities make collaborative decisions. Similarly, in their study in Malawi, Fisher et al. (2004) pointed out that low-income households rely heavily on forest resources, which is in harmony with the findings in Saraswati Nagar, where both native and migrant Gujjars benefit economically from forest goods. Meinzen-Dick et al. (2006) found that CPRs play an important role in the livelihoods of marginalized groups, particularly in South Asia, and emphasized the importance of effective CPR governance for socioeconomic resilience. Balasubramanian and Selvaraj (2003) also found that CPRs help with farm operations, livestock rearing, and fuelwood gathering, all of which are vital livelihood activities in the study region. Furthermore, Guha (1990) investigated historical trends in Indian forest governance, revealing how colonial-era policies undermined traditional management practices. This study supports the claim that preventive strategies frequently undermine indigenous rights and necessitate participatory governance alternatives.

This study tried to correlate various theoretical frameworks to better understand CPR utilization in the study area. The Institutional Analysis and Development (IAD) framework explains how communities establish governance systems for CPRs. In the research area, local government systems oversee grazing rights and collection of NTFPs, indicating institutional adaptation. According to Hardin (1968), open-access resources are usually misused; on the contrary, Ostrom (1990) pointed out that the community-based institutions can be beneficial in managing the common regimes. The impressions gathered from the study area show that, while there are many issues, the local institutions reduce the utilization patterns mostly through seasonal migration of nomads and customary laws. The *Livelihoods Framework* examines how access to CPRs affects socio-economic well-being. The study reveals that both natives and migrants are dependent on forest resources for sustenance, even though in diverse manners. While natives use timber for meeting the domestic and farming needs, the nomads are dependent on periodic access for pastoralism. To realize longstanding policy interventions, can balance the differing requirements.

## CONCLUDING REMARKS

The study of CPR utilization in the Chhajpur Block of the Saraswati Nagar Range reveals the importance of forest resources in sustaining the native and nomadic inhabitants. The findings confirm that CPRs are critical for livelihoods, ecological sustainability, and cultural heritage. While local governance structures are important for resource management, balancing native and nomadic access to forest products remains an obstacle. Combining traditional wisdom with contemporary forest policy can help to improve long-term sustainability. Future guidelines must give precedence to participatory governance, reasonable resource distribution, and conflict resolution methods to uphold the region's CPR sustainability.

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