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The Role of Traditional Ecological Knowledge in Forest conservation Practices: A Study of the Shertukpen Tribe in Arunachal Himalaya

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Introduction

Traditional Ecological Knowledge (TEK) represents experience acquired over thousands of years of direct human contact with the environment (Berkes, 1993). Traditional ecological knowledge has been found to have significant management relevance, particularly in relation to the sustainable use of renewable resources (McCay & Acheson, 1987). Traditional Ecological Knowledge (TEK) refers to the knowledge and belief systems developed by Indigenous peoples through their intimate interactions with nature and the environment. The Shertukpen community of West Kameng District in the Arunachal Himalayas has inherited indigenous knowledge of a cordial relationship with the environment through various conservation services. They are well known for endorsing Indigenous knowledge and its application in numerous conservation efforts. The primary objectives of the study are to explore and understand the Indigenous belief systems and how such belief systems are helping in environmental conservation practices.

Study Area

The study area is the West Kameng district of Arunachal Pradesh, Northeast India. The Shertukpens are mainly settled in Rupa, Shergaon, and Kamengbari-Doimara circles, consisting of 15 villages, namely Birpur (Joon Pam), Brokpublang (Lin-cho), Chillipam, Dikshipam, Doimara, Gorbow, Jigaon, Kamengbari, Lingbaktang, Musakshing, Membachur, Mukhuthing, Shergaon, Rupa, and Thongre. The term 'Shertukpen' is a combination of the dual vocabulary 'Sher' and 'Tukpen', where 'Sher' denotes those people who live in Shergaon village and 'Tukpen' denotes those people who inhabit Rupa and its adjoining villages. Generally, they are polytheist by religion, embracing both Animism and Buddhism.

Methodology

A primary survey was conducted in various villages inhabited by the community. Three subdivisions or circles were selected, and a total of fifteen villages were surveyed using simple random sampling, with the help of structured questionnaires. Questions were asked about their belief systems and traditional practices. The population is small; therefore, the sample size was determined to be 50% of the total households present in the village.

Results

The Shertukpen community, nestled in the verdant landscapes of Arunachal Pradesh, India, upholds a time-honored legacy of sustainable conservation, deeply rooted in their rich indigenous knowledge, which has evolved into an invaluable intangible cultural heritage (Table 1.1). This heritage is reflected in their profound reverence for specific tree species, which they regard as sacred embodiments of deities and spiritual forces integral to their beliefs. Central to their honor are trees of the Cypress and Pine, which hold immense traditional and spiritual significance, symbolizing resilience, eternity, and divine protection within their cultural ethos.

Additionally, the vibrant Rhododendron, with its vivid blooms, is cherished as a sacred emblem, its presence in their rituals and folklore underscoring its role as a spiritual and ecological keystone in the community's worldview. These species are not merely botanical elements but are considered living deities, woven into the Shertukpen's rituals, festivals, and oral traditions, which guide their sustainable practices to protect the forests and maintain ecological harmony (Fig. 1). Consequently, the community enforces stringent customary laws to safeguard these sacred groves, prohibiting any form of exploitation or disturbance, such as cutting, pruning, or encroaching upon their habitats, to preserve their spiritual sanctity and environmental balance.



Fig. 1. Local saman or Zizi offering prayers; Source: Pema Dorjee Megeji

The local community holds these trees in high esteem, attributing profound cultural and spiritual significance to them, deeply rooted in their indigenous belief systems. Consequently, any actions that might disturb, damage, or encroach upon their natural habitat are strictly forbidden to preserve their sanctity. Individuals who violate these sacred boundaries by tampering with the trees face severe repercussions, including punitive measures and social ostracism enforced by the village council and its members.

Table 1. Information about the tree species

Sl. No	Common name	Scientific name	Local name
1	Blue Pine	Pinus wallichiana	Bichi-Zaemat
2	Chir Pine	Pinus roxburghii	Bichi
3	Chinese Weeping Cypress	Cupressus funebris	Wangchhin
4	Leyland Cypress	Cupressus x leylandii	Wongmu
5	Bhutan Cypress	Cupressus cashmeriana	Shikmu or Poshi
6	Rhododendron	Rhododendron arboreum	Khandak

The figures depict the prayers and offerings made by the local samans (*Zizi* in local dialect) to the local deities known as '*Phu*'. The offerings are performed to appease the forest deities for the well-being of the people and to continue to provide forest resources to the villagers. Moreover, these rituals are performed to appease the spirits of the forest, ensuring

the community's health, harmony, and prosperity while safeguarding the abundant resources the forest provides to the villagers.

Discussion and Conclusions

Conservation is essential, whether it be through innovations or traditional practices. The study reveals that their belief systems and traditional practices are an effective measure of conserving the environment, particularly the forest. The study also found that certain tree species, although not botanically important, hold traditional and spiritual significance. Ultimately, such a belief limits human encroachment and indirectly helps in the conservation of trees, in particular, and the forest as a whole. Such conservation practices have immense significance both traditionally and environmentally, and profound conservation practices. A similar study has been conducted by Thongdok & Sati (2023), their study deliberated that Shertukpen is well known for its ecological conservation practices through endorsing indigenous knowledge systems and practices. Besides, the manifestation of the sustainable conservation of not only forests, although water resources, such as sustainable practices, is long long-inherited culture of the community.

The study can be concluded that the tribal communities have co-existed with nature since time immemorial through sustainable interactions. One such example is the Shertukpen community, profoundly practising nature worship or animism. In the wake of climate change and environmental destruction through urbanization, conservation practices have become important and an integral part of conservation measures. Environmental conservation can not only be done through technological innovations, but it can also be effectively achieved through traditional and indigenous conservation practices. Hence, it is evident that the traditional belief systems are effective measures of forest conservation as particularly for and environment as a whole.

References

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