2024_82_ZSL_ST: Asian wild bovids in a social-ecological landscape: understanding human dimensions of tamaraw conservation in Mindoro

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Tropical Asian ecosystems historically supported a diverse mammalian megafauna, which has been largely lost through overexploitation and competing pressures on natural resources. Most megafaunal species are now confined to small habitat patches within a mosaic of heavily modified landscapes, with extensive potential for unsustainable human-environmental interactions and high extinction risk. However, Indigenous and rural communities living alongside ecologically fragile biodiverse landscapes are typically closely reliant upon natural resources and ecosystem services, with different communities varying in their relationships to nature in terms of traditional beliefs, customs and resource requirements. Existing conservation approaches risk exclusion and disconnection of low-income communities from natural and traditional sources of income and livelihood, upon which they may be highly dependent. It is therefore crucial to establish robust knowledge baselines for such bio-cultural or social-ecological systems using interdisciplinary approaches, to assess the potential for sustainable pathways that balance both biodiversity and human wellbeing.

The tamaraw (*Bubalus mindorensis*) is a Critically Endangered dwarf buffalo species restricted to the island of Mindoro, Philippines. Only a few hundred tamaraw individuals now survive, in three isolated forest patches adjacent to Indigenous Mangyan communities. These communities are highly dependent on natural resources for their subsistence and cultural practices, but are moving from traditional land-use systems of shifting cultivation and hunting-gathering toward adoption of permanent agriculture. The studentship will engage closely with Mangyan communities on Mindoro, and incorporate local ecological knowledge to establish evidence-informed conservation baselines. This research will characterize the identity, drivers, dynamics and sustainability of Mangyan interactions with local biodiversity and ecosystem services, and the shifting nature of such relationships as these interactions undergo socio-economic change. It will also determine cultural knowledge and relationships with tamaraw within Mangyan communities, and local awareness, attitudes and support for conservation measures being enacted for the species. Together, this will evaluate how conservation management policies on Mindoro can integrate Indigenous knowledge, voices and needs, and set the foundation for involving these communities in natural resource management and conservation policy-making, monitoring and evaluation.