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ABSTRACT



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Role of Traditional Agroforestry Systems in Generating Ecosystem Services in a Trans-Himalayan Landscape of India

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The high altitude region of Ladakh in the Indian state of Jammu & Kashmir is located in trans-Himalayan Biogeographic zone in the western Himalaya. Owing to the rapid urbanization and changing climate, this cold, arid and fragile region has never been more vulnerable as it is in present times. To adapt to the challenging conditions of the region, indigenous communities have developed robust agroforestry systems along traditional lines. The traditional willow and poplar based agroforestry systems of multiple types contribute significantly to the green cover in this cold-desert landscape of the country often impoverished from natural vegetation standpoint. The agroforestry systems not only help meeting the subsistence needs of local people directly for fodder, fuel wood, and timber collectively called ecosystem goods but also support generating a range of ecosystem services such as controlling desertification, soil fertility maintenance, improving vegetation cover and biodiversity, air purification, and cultural services benefiting them indirectly. Climate change induced extreme weather events such as cloudbursts (2010 and 2015), drought and pest attacks on economically important crops have already been witnessed in the region. The present paper/presentation highlights the role of local culture and indigenous knowledge in generating such ecosystem goods and services and their ecological and socio-economic significance for the people of the region in the wake of climate change.

Key words: Culture, indigenous knowledge, Human assisted ecosystem services, climate change, Adaptation, Mitigation, Livelihoods