Use of Geo-spatial Tools for Management of Potential Habitats Outside Protected Areas

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A study in the transboundary Brahmaputra-Salween landscape

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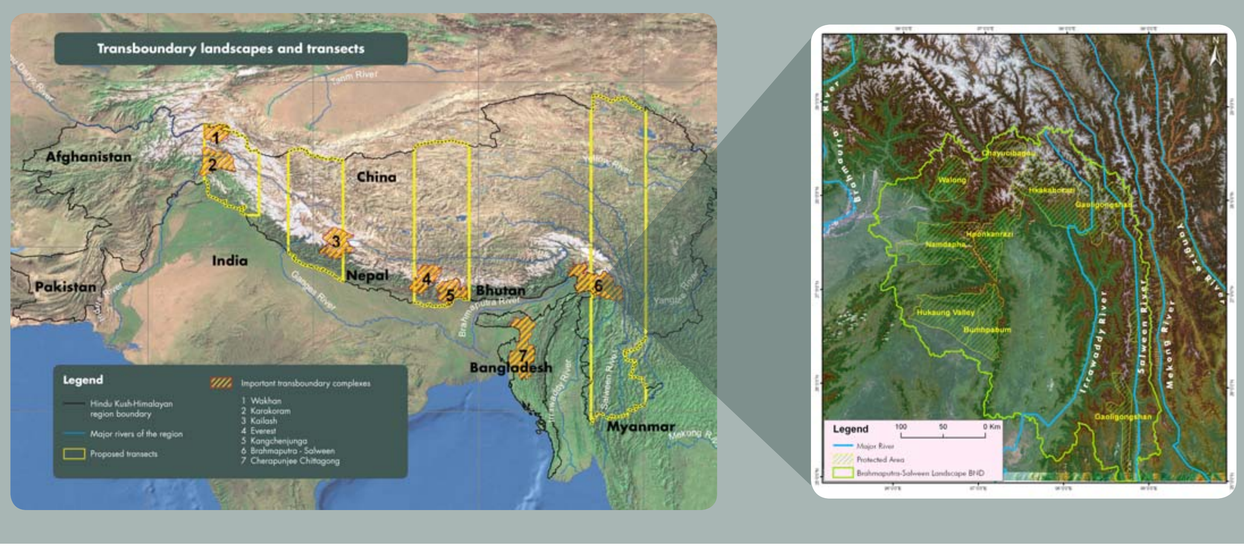
The Brahmaputra–Salween landscape is one of the most biodiversity-rich landscapes of the eastern Himalayas. Shared between China, India, and Myanmar, the landscape includes some well known protected areas such as Namdapha National Park and Tiger Reserve in Arunachal Pradesh, India; Hkakaborazi National Park in Kachin State, Myanmar; and Gaoligongshan National Nature Reserve in Yunnan Province, China. Most conservation initiatives have focused on these protected areas; however the areas surrounding protected areas also include vital habitat in need of restoration.



Issues and concerns

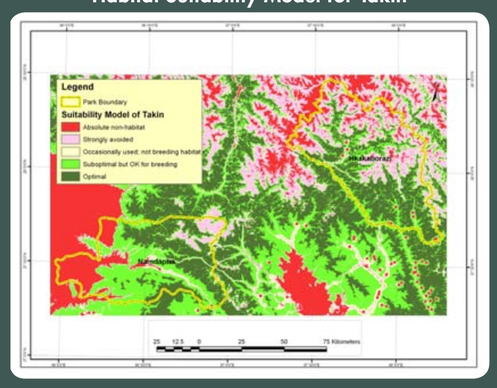
- Degradation of habitat outside protected areas
- Strong dependence on biodiversity for people's livelihoods
- Reconciliation of objectives of biodiversity conservation, poverty reduction, and climate change mitigation and adaptation

Conclusion

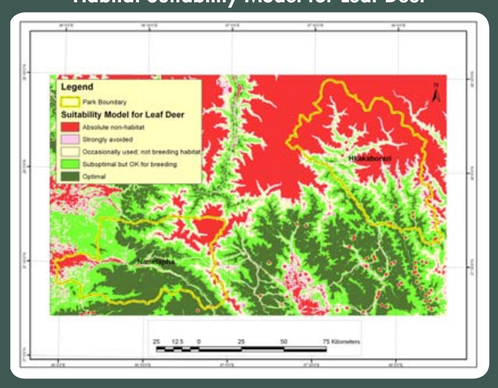
Geo-spatial tools can be used to identify wildlife corridors in need of protection. This research offers a valuable basis for including areas outside protected areas in some kind of management framework and also provides opportunites for transboundary cooperation in biodiversity management.

Identification of suitable habitat connectivity using GIS tools involved habitat suitability modeling based on criteria such as species habitat patches, movement resistance, and habitat suitability with relation to land use/land cover, elevation, topographic position, and human disturbance (distance from roads, trails, and settlements).

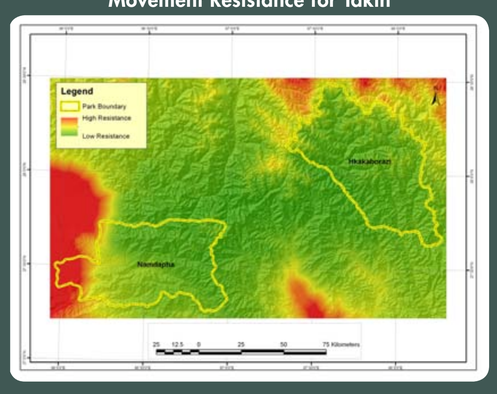
Habitat Suitability Model for Takin



Habitat Suitability Model for Leaf Deer



Movement Resistance for Takin



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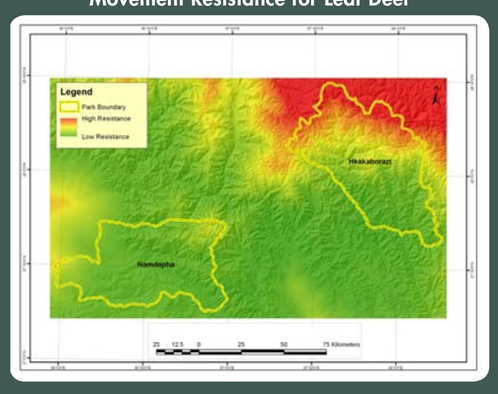
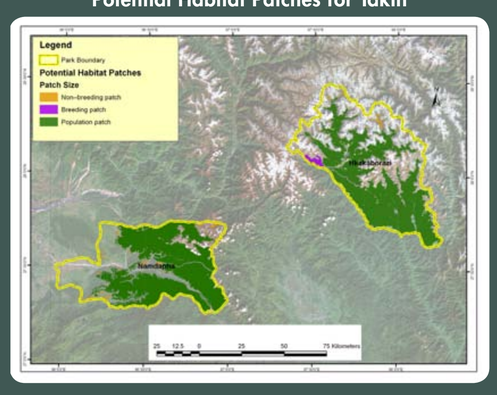


Potential Habitat Patches for Takin



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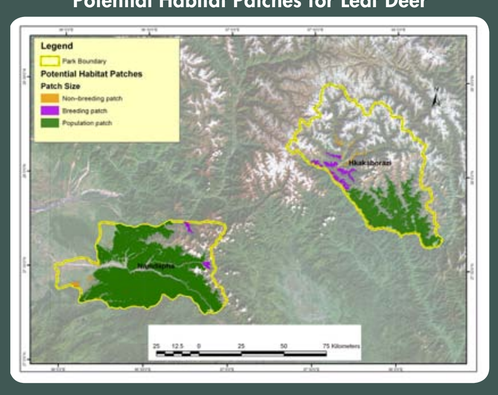
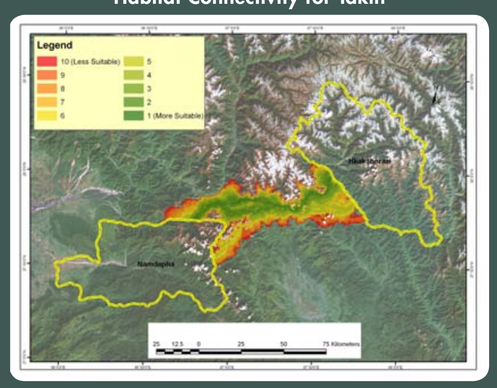


Habitat Connectivity for Takin



Habitat Connectivity for Leaf Deer