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FOR MOUNTAINS AND PEOPLE

Karakoram-Pamir-Wakhan Landscape Conservation and Development Initiative

The Karakoram-Pamir-Wakhan Landscape Conservation and Development Initiative (KPWLCDI) is a regional transboundary initiative to enhance cooperation between Afghanistan, China, Pakistan, and Tajikistan for biodiversity conservation and sustainable development in the western Hindu Kush Himalayas.

The landscape lies at the convergence of several important biogeographical regions and possesses a unique and rich assemblage of floral and faunal diversity. It has been listed as an important ecoregion and biodiversity hotspot by several international organizations. The region is also the source or upstream area of many important rivers, including the Amu Darya, Tarim River, and Indus River, and therefore has great conservation value.

It is a key link in the ancient Silk Road, and an important corridor through which many influential ethnic groups migrated across Eurasia. This has resulted in extremely diverse and brilliant cultures and regional history.



Map of the Karakoram-Pamir-Wakhan landscape



Major protected areas in the landscape

To conserve biological diversity, governments in the respective countries have established protected areas across the landscape. Many of these protected areas are in close proximity to each other, with common species and ecosystems. Six protected areas are physically connected – Wakhan National Park of Afghanistan, Zorkul Nature Reserve of Tajikistan, Broghil National Park, Qurumbar National Park, Khunjerab National Park of Pakistan, and Taxkorgan Nature Reserve of China – forming an area of over 33,000 km² with a population of more than one million people.

Biodiversity in the landscape

The Karakoram-Pamir-Wakhan landscape (KPWL) has extreme vertical variations, with a wide variety of zonal vegetation. The landscape supports a striking mosaic of plant communities, including different species of medicinal and endemic plants. Most areas of the KPWL are semiarid or arid. The upper vegetation belt, is dominated by dwarf shrubs. Steppe desert vegetation covers the landscape between 3,300 and 3,600 masl. The sparse vegetation is dominated by prickly cushion plants such as *Acantholimon* spp. and *Artemisia* spp., and grasses. *Salix* spp., *Tamarix* spp., *Betula* spp., and *Populus* spp. can be found in low-lying valleys. A number of endemic species have been reported in the landscape such as *Astragalus chitralensis*, *Gaillonia chitralensis*, *Betula procurva* ssp., and *Betula schugnanica*. The region also provides ecosystem services that support sustainable agrobiodiversity and a wide range of traditional livestock breeds.

The landscape is home to a considerable number of globally threatened mammal species, including snow leopard (*Uncia uncia*), Himalayan lynx (*Lynx lynx*), Marco Polo sheep (*Ovis ammon polii*), blue sheep (*Pseudois nayaur*), wolf (*Canis lupus*), markhor (*Capra falconeri*), and musk deer (*Moschus leucogaster*), as well as small mammals like the golden marmot. The KPWL supports many species of birds such as Tibetan snowcock (*Tetraogallus tibetanus*), Himalayan snowcock (*Tetraogallus himalayensis*), and the bar-headed goose (*Anser indicus*).

Cultural diversity and socioeconomic development in the landscape

The landscape is inhabited by many ethnic groups and is one of the most linguistically diverse regions in the world. Many historical relics and heritage sites are spread across the landscape, which is a result of the region's long and colourful history. People have developed different farming systems in response to their physical and political environment.

Pastoralism is a key pillar of the local economy. Most Kyrgyz communities living in the landscape are nomadic herders who depend on pastoralism for their livelihood. Other groups are agropastoralists who earn their livelihood through a combination of animal husbandry and crop cultivation, featuring a mixture of yak, sheep, and goat grazing on high-altitude pastures and crop farming in lower valleys.

Local communities are characterized by poverty and vulnerability. They are highly sensitive to a wide range of changes and disruptions including globalization and climate change. The development of these communities is challenged by the region's physical inaccessibility, with many living far from social services and markets, rising rates of labour outmigration, and energy shortages.

The impacts of climate change and rangeland degradation have resulted in an acute shortage of pastureland, forcing local communities to abandon traditional livelihoods. Livestock-wildlife conflicts and the retaliatory killing of predators has become a major conservation issue. Throughout the region, the limited

Figure 1: Major protected areas in KPWL

Protected area	Country	Area coverage (km ²)	Elevation range (masl)	Year established	IUCN category	District/province
Wakhan National Park	Afghanistan	10,878	n/a	2014	-	Wakhan
Khunjerab National Park	Pakistan	4,455	3,200–7,700	1975	II	Gojal Tehsil, Hunza-Nagar
Broghil National Park	Pakistan	1,348	3,217–5,696	2010	-	Chitral
Qurumbar National Park	Pakistan	740	2,474–5,914	2011	-	Ghizer
Taxkorgan Nature Reserve	China	15,000	3,000–8,000	1984	IV	Xinjiang Uygur Autonomous Region
Zorkul Strict Nature Reserve	Tajikistan	1,610	4,000–5,460	2000	I	Gorno-Badakhshan

Note: Not all protected areas in the region are listed above

number of livelihood options for poor communities feeds a cycle of resource degradation and widespread poverty, which limits their ability to adapt to climate change and adversely affects the sustainable flow of ecosystem services. However, with the new challenges emerging there are also new livelihood options that, with proper development, could create additional sources of income for local communities.

Given the uniqueness of the landscape in terms of culture and biodiversity, immense opportunities exist for livelihood enhancement and promotion. Prospects from high-value products need to be explored and value chains need to be developed, including for non-timber forest products (NTFPs), animal products, high-value fruits and vegetables, and ecotourism. Emphasis should be given to creating market access for the products to ensure the sustainable flow of income to local communities.

Animal products

Despite the importance of livestock in the area, very few marketing incentives exist for local livestock owners and several policies discourage commercialization in the livestock sector. Appropriate value chains are needed to help this sector become a viable and profitable business for herders and to ensure a continuous supply of products to local markets and beyond.

High-value fruits and vegetables

Developments in the value chains of nuts, fruits, and dried fruits, including new technologies and techniques for processing and organic certification, have already benefitted a large number of poor farmers. On the Chinese side of the landscape, apricot cultivation has been encouraged. Growing demands in local markets have led to the introduction of off-season and new varieties of vegetables, which provide additional sources of income for farmers.

Ecotourism

With careful planning, and using sustainable tourism development models that are innovative, responsible, and consider climate resilience, tourism can be one of the most promising alternative livelihood options for mountain people. Given the region's rich cultural heritage, unique biodiversity, and dramatic landscapes, the KPWL has immense tourism potential, which should be leveraged to create new livelihood and income options for local communities. The remote border areas between Afghanistan, China, Pakistan, and Tajikistan were identified as having great economic potential for cross-border tourism.



Transboundary challenges and opportunities

Many high passes between countries of the region have been important biological corridors for the migration of animals, including both important wildlife species and domesticated animals. Important ecosystem services from the landscape have also been traded across the borders.

However, the landscape is fragmented by human settlements, roads, national border fences, and other poorly planned and unsustainable development activities, which has broken up natural ecosystems and weakened socioeconomic systems leading to a loss of the natural livelihood base. Many wildlife populations have been deemed endangered, although some are now recovering due to recently strengthened conservation activities. Factors such as overgrazing, soil erosion, and unsustainable farming practices, as well as natural disasters such as landslides and avalanches, have further affected the flow of ecosystem goods and services. The countries involved are facing common problems and opportunities in conservation management and development. The ecological health of habitats on both sides of the border is at risk because of anthropogenic pressure from the local communities and beyond.

The transboundary KPWL initiative will provide a platform for researchers and managers in Afghanistan, China, Pakistan, and Tajikistan to work together and find solutions for issues of mutual concern related to biodiversity conservation and socioeconomic development. The natural habitats of many globally significant species are transboundary, and transboundary collaboration is needed to protect the common habitats of wildlife species that live in the border zone and cross the border in search of food, water, and other resources. The area has a tremendous attraction for tourists; the KPWL initiative can help to ensure that this potential is used to contribute to sustainable development of the tourism industry and ensure benefits are shared with the local people.



Potential partners

Afghanistan

- Ministry of Agriculture, Irrigation and Livestock
- Wildlife Conservation Society
- National Environment Protection Agency
- Aga Khan Foundation (Afghanistan)
- FOCUS Humanitarian (Afghanistan)

China

- Xinjiang Institute of Ecology and Geography, Chinese Academy of Sciences
- Xinjiang Department of Forestry
- Kashgar Bureau of Forestry
- Taxkorgan Nature Reserve
- Universities and government institutions in Xinjiang

Pakistan

- Gilgit-Baltistan Forest Wildlife and Parks Department
- Aga Khan Rural Support Programme
- Karakoram International University
- WWF-Pakistan
- IUCN-Pakistan
- Khunjerab National Park
- Broghil National Park
- Qurumbar National Park

Tajikistan

- University of Central Asia
- Zorkul Nature Reserve
- Pamir Biological Institute

For further information contact

Muhammad Ismail

muhammad.ismail@icimod.org

Yi Shaoliang

yi.shaoliang@icimod.org

Photos: Yi Shaoliang, Muhammad Ismail, Wu Ning, Alex Treadway

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International Centre for Integrated Mountain Development

GPO Box 3226, Kathmandu, Nepal

Tel +977-1-5003222 **Email** info@icimod.org **Web** www.icimod.org

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