

Potential for Carbon Finance in the Landuse Sector within the Hindu Kush-Himalayan Region of Asia

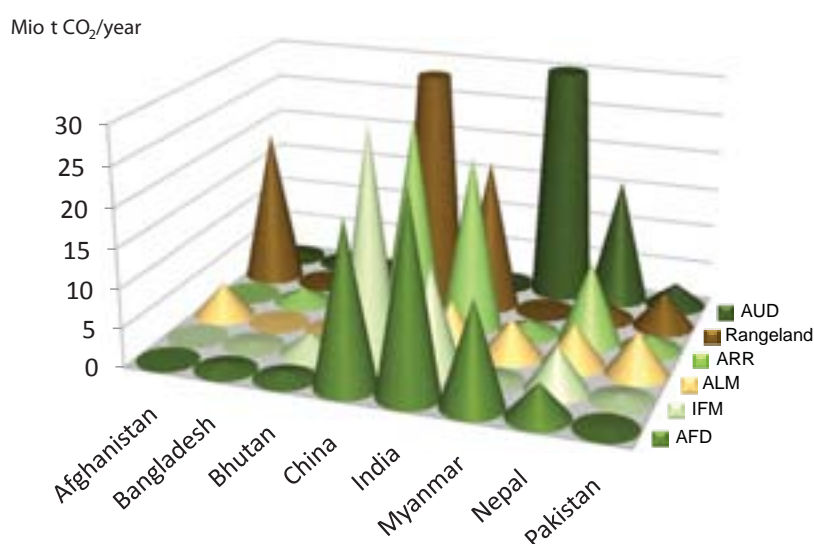
Climate change is recognised as a major threat to fragile ecosystems and the livelihoods of mountain people in the **Hindu Kush-Himalayan (HKH) region**. Climate change adaptation is a top priority for the countries of the HKH, however, the improved management of natural resources for mitigation and carbon sequestration has also been recognised as a necessary part of global efforts to avoid the worst change. In particular, '**reduced emissions from deforestation and degradation**' (REDD), in which developing countries are compensated for improved protection of existing forests, has emerged as a central component of the global climate protection regime currently being negotiated to replace the Kyoto Protocol.

ICIMOD recently commissioned a preliminary scoping study on '**Potential for carbon finance in the land use sector in the Hindu Kush-Himalayan region**' to provide an initial assessment of carbon finance opportunities in the region. A clearer understanding of the specifics and nuances of this potential, as well as the challenges and constraints, is essential to promote informed and knowledgeable participation from the region, and to allow a more realistic interpretation of the implications of current and future UNFCCC negotiations for the various countries in the HKH.

As in other developing countries and remote mountainous regions, high levels of uncertainty exist in the Himalayas and adjacent mountains regarding land use changes, trends, deforestation rates, and carbon budgets. In particular, degradation may be difficult to quantify, and small patch sizes may make even deforestation hard to detect. Consequently, the potential opportunities for carbon finance are highly uncertain. Equally important, recent and historical national efforts by some countries in the region to conserve and replant forests mean that historical baselines may show increases in forest cover. Taking all this into account, although the HKH has significant deforestation and forest degradation issues which need to be addressed, a strict interpretation of a REDD finance mechanism limited to protection of existing forests based on historical deforestation rates appears to provide relatively few benefits within the HKH region. **Enhanced forest management (REDD+)**, historical conservation, and broader landscape approaches, in particular those including

agriculture, agroforestry, and rangelands, have all been highlighted for discussion. This more comprehensive approach, referred to as '**agriculture, forestry, and other land uses**' (AFOLU), promises a greater basket of benefits for non-tropical forests and mountainous countries where forest degradation is the more significant on-going process. In addition, it is assumed that intervention in the agricultural sector could add significantly to the food security and sustainable development goals of carbon finance, providing important synergies with the adaptation needs and priorities of the various countries within the HKH region.

Annual carbon mitigation potentials in the HKH region in tCO₂e.

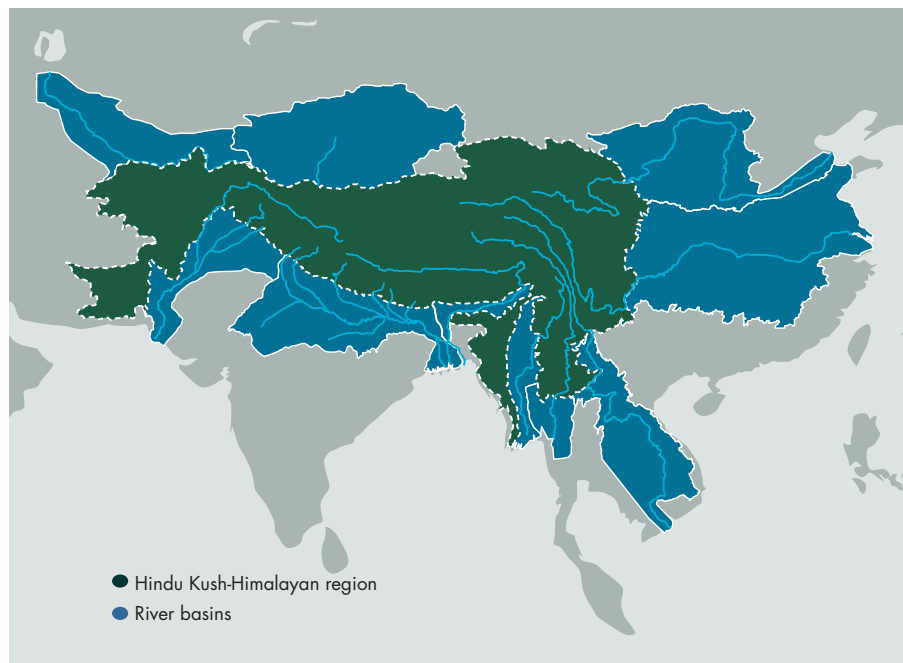


ARR = afforestation, reforestation, revegetation; Rangeland = rangeland management;
ALM = agricultural land management; IFM = improved forest management;
AUD = avoided unplanned deforestation; AFD = avoided forest degradation

Carbon finance in the Greater Himalayas: Six 'take home messages'

1. **An urgent need for regional institutional capacity building for implementation of carbon finance mechanisms:** Regional institutional capacity building is necessary to achieve readiness and to develop implementation capacity, and must be an essential regional priority if the benefits of global carbon finance are to be realised within the region.
2. **Reducing scientific uncertainty:** Major scientific, technological, and other knowledge gaps exist across the region that will constrain the implementation and development of carbon finance mechanisms. In particular, meeting the information needs for verifiable carbon estimation and landuse change assessment within the highly diverse, rugged, and remote terrain will remain a challenge without both regional and national capacity building efforts.
3. **Adaptation and mitigation are complementary and should not be perceived as mutually exclusive approaches:** In the HKH region, adaptation and land-based mitigation are intimately linked and are not mutually exclusive; mitigation activities can become an important complement to pure adaptation projects and, as such, should be supported by regional policy and enabling frameworks. There are critical linkages and synergies with sustainable development and environmental conservation goals that should be considered, in particular, opportunities to promote and support urgently needed biodiversity conservation and management efforts.
4. **The biophysical mitigation potential in the region is substantial, but highly dispersed:** Mitigation options exist within the landuse sector throughout the HKH region but their nature varies from country to country. The mitigation potential for each of these land uses alone remains low if seen in isolation, in many cases too low to justify the high transaction costs for the formulation, implementation, and monitoring of landuse-based carbon sequestration projects.
5. **Holistic landscape mitigation is the most appropriate mitigation approach for the highly diverse landscapes of the region:** Approaches such as REDD++ or AFOLU which include a series of land uses are thus more appropriate for the region than pure REDD schemes or approaches focusing on a single form of land use.
6. **'Good carbon governance' is as important as high biophysical mitigation potentials; this issue will take on increasing importance within the region and needs to be addressed early:** All the various REDD, REDD+, and AFOLU schemes involve a multitude of stakeholders, interests, and regulatory mechanisms. Next to the biophysical potential of landuse systems, it will be necessary to assess how existing institutional frameworks support 'good carbon governance', i.e. facilitating mitigation projects that are workable, credible, and legitimate. While addressing emission reduction measures, the rights of indigenous and local communities must be upheld and there must be an equitable benefit sharing mechanism in place.

The HKH region extends from Afghanistan, through Pakistan, India, Nepal, Bhutan, Bangladesh and Myanmar, to south-western China (over 4000 km). The region covers some 3.4 million sq.km. It is a major source of livelihood and ecosystem services for the approximately 210 million inhabitants and provides water and other essential ecosystem services to some 1.3 billion people living downstream.



The full report '**Potential for carbon finance in the land use sector in the Hindu Kush-Himalayan region: A preliminary scoping study**', published by ICIMOD is available on-line at www.books.icimod.org

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