

# Himalayan Wetlands Initiative – conservation and wise use of natural water storage in the HKH region

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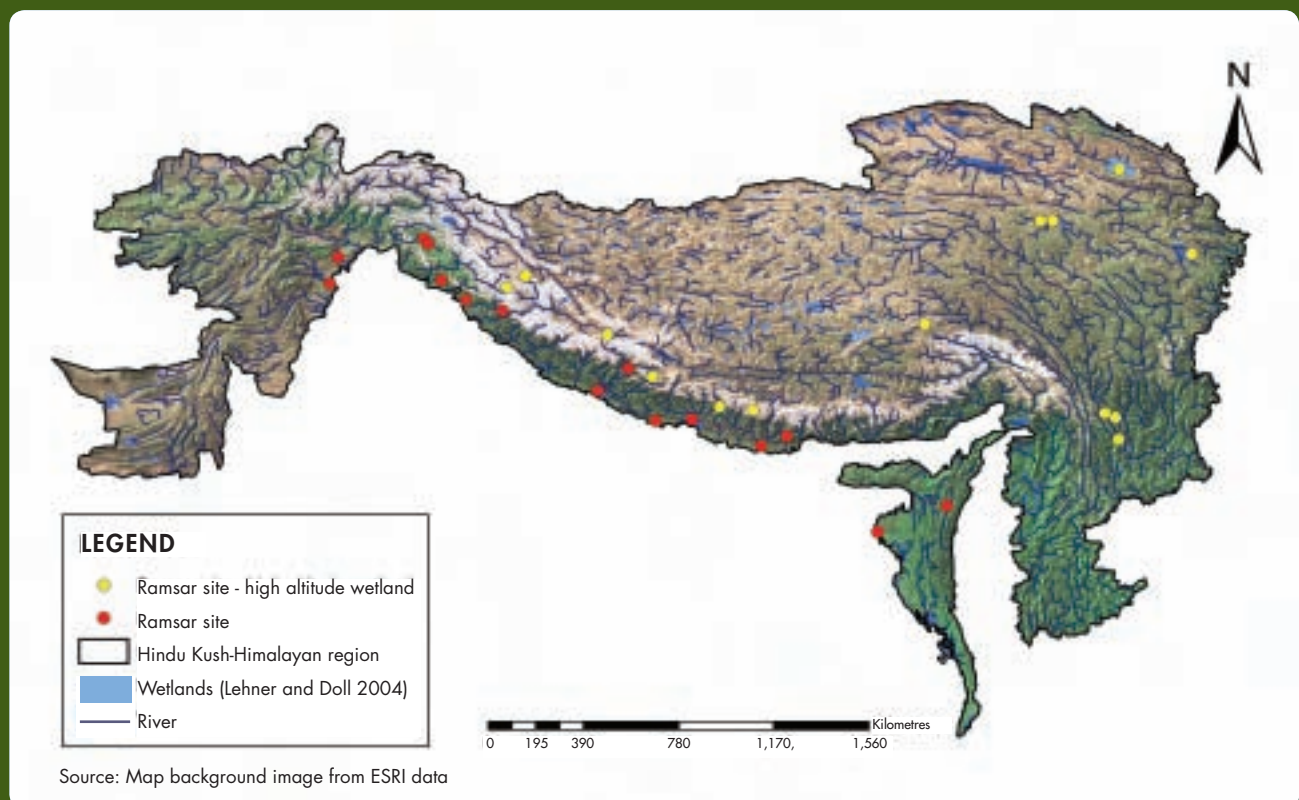
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**H**imalayan wetlands store freshwater and provide many ecosystem services to sustain the livelihoods of people in the mountains and downstream.

The Hindu Kush-Himalayan (HKH) region covers an area of about 3,500,000 sq.km extending across eight countries (Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal and Pakistan). The region has

a large number of water retaining wetlands in the form of lakes, marshes, peatlands, wet grasslands, streams, glacial lakes, and rivers (ICIMOD 2009). These wetlands are both biologically and culturally significant; 28 have been designated as 'Ramsar sites' (included in the 'List of Wetlands of International Importance', or Ramsar list) by the Convention on Wetlands, 14 of them in the high altitude wetland category, i.e. above 3,000 metres above sea level (Figure 1).

Figure 1: Important wetlands and the Ramsar sites in the Hindu Kush-Himalayan region



## Wise use and conservation of Himalayan wetlands

The Himalayan wetlands are located at the headwaters and help regulate the flow of ten major rivers, which directly support the livelihoods of some 210 million people in the mountains, and impact on a further 1.3 billion people downstream (ICIMOD 2009). The functions and values of wetlands have been outlined in many studies (for example Trisal and Kumar 2008; Novitzki et al. 2001; NIE 2008) and are summarised in Table 1. Wetlands support high biological and cultural diversity: they are important staging points for migratory birds and many are breeding and nursery places for birds, fish, and amphibians. Wetlands store water, feed groundwater aquifers, trap sediments, and recycle nutrients, thereby enhancing both the quantity and quality of water in the water cycle. Wetlands also foster vegetation growth, which lessens soil erosion, and thus contribute to reduction of risk of disasters by landslides and floods.

As elsewhere, Himalayan wetlands are vulnerable to the activities of humans, although the extent of this vulnerability is poorly understood. Major threats include

### High altitude wetland on the Tibetan plateau



Table 1: Summary of functions, values and services provided by wetlands (MA 2005)

Function, values and ecosystem services	Examples
Provisioning	Food, freshwater, fibre, fuel
Regulating	Climate and natural hazard regulation, water, erosion, disease
Cultural	Spiritual, recreational, aesthetic, educational
Supporting	Primary production, soil formation, nutrient cycling

extraction and diversion of water for agriculture and human use, disposal of waste and increasing pollution due to changes in the lifestyle of the local inhabitants, overgrazing by livestock, and increased tourism (NIE 2008; ICIMOD 2009). Furthermore, climate change and variability may dramatically affect wetlands and their services, as the water cycle on which they depend will change. The temperature in the Himalayan region appears to be increasing faster than the global average; the mean maximum temperature of the Nepal Himalayas increased between 0.06°C and 0.12°C per year between 1971 and 1994 (Shrestha et al. 1999), and the overall changes may be more extreme at high altitude. But the likely changes in the Himalayan region are still poorly understood, and the actual impacts of any climate variability on wetlands have barely been assessed. The interconnectedness of wetlands within a watershed means that any changes will flow on to the millions of people downstream who depend on freshwater originating and flowing through the Himalayan wetlands.

Changes in the Himalayan wetlands will affect both the environment and the economy. There is an urgent need to increase our understanding of the wetlands ecosystems, the role they play, and the potential changes and their impact, so that appropriate plans for management can be developed. Collaborative approaches will be needed to address the knowledge gap and to introduce management action to support the conservation and wise-use of wetlands, and thus ensure a sustainable future for the water and biodiversity resources of the Himalayas.

## The Himalayan Wetlands Initiative

The Himalayan Wetlands Initiative (HWI) has developed since 2002 as a forum for integrated wetland conservation and wise use and so far has been endorsed by the Governments of India, Myanmar, Nepal, and Pakistan. The Initiative was endorsed as a regional initiative of the Ramsar Convention in 2009

([http://www.ramsar.org/pdf/sc/40/key\\_sc40\\_decisions\\_e.pdf](http://www.ramsar.org/pdf/sc/40/key_sc40_decisions_e.pdf)) and is supported by ICIMOD, WWF International, Wetlands International, and IUCN, with ICIMOD as the HWI host institution.

The HWI works as an open informal regional partnership of the Ramsar focal points (administrative authorities of the Convention in each country), the Ramsar Convention Secretariat, international and regional partners, and national organisations. The overall goal is the “conservation and wise use of the wetlands and wetland complexes in the Himalayan region by promoting regional collaboration between the governments of the countries sharing the region and between other relevant institutions”. Achieving this means developing an understanding of regional issues related to climate change, degradation of wetland ecosystems and biodiversity, and infrastructural development. The major objectives proposed for 2009-2011 are to develop information management methodologies for Himalayan wetlands; develop mechanisms and facilities for cooperation, networking, and capacity building; promote needs-based joint research, particularly for high altitude wetlands and related river basins: devise and promote best practices on Himalayan wetland management; develop a participatory communication, education, participation, and awareness (CEPA) programme for the Himalayan wetlands; and build policy support for the implementation of Himalayan wetlands conservation.

## The way forward

The HWI provides a formal means for regional conservation and understanding of wetlands in the greater Himalayan region. The strategic activities will help to fill the knowledge gap on wetland information, needed for wetland assessment and management activities. ICIMOD has implemented a series of projects as a first step towards understanding and managing Himalayan wetlands (see Box). These activities will be followed by joint research under the HWI to give a solid foundation for conserving wetlands and provide an insight into the environmental, social, and cultural roles of wetlands in the region. Communities will be involved in the HWI process through knowledge sharing at all levels; and information will be disseminated to highlight the importance of, and threats to, the Himalayan wetlands.

The HWI has a potential for strengthening and formalising networks between stakeholders working with and managing wetlands and thus supporting exchange of regional experiences and development of a shared understanding of wetlands and their management. By assessing the needs of stakeholders and managers,

## Asian Wetlands Inventory approach and catchment management

ICIMOD in partnership with Wetlands International, the Centre for Ecology and Hydrology (UK), and ARGEOPS (Netherlands) undertook a pilot study on the application of the Asian Wetlands Inventory approach and stakeholder-led catchment management in Bhutan, China, India and Nepal. Outputs included:

- a Greater Himalayan Wetland Information System (inventory method and knowledge base, see <http://www.ghwis.icimod.org:8081/wetlandsnew2/index.php>)
- a vulnerability assessment tool (for value determination and identification of threats to, and impacts on, Himalayan wetlands)
- capacity needs assessment for policy and technical support
- a report on the engagement of different players including the private sector in wetland conservation

training programmes will assist in developing this network and build capacity in the region. This cooperative network can help promote best practices for wetland management, leading to a dramatic increase in the conservation status of wetlands, a rise in the number of Ramsar sites, and formal implementation of management plans across the region.

Policy development related to the objectives of the Initiative will be targeted to develop a formal basis for support of a regional framework for conservation and wise use for implementation at local, national and international levels. Through its activities, the HWI will assist in preserving the environmental integrity of the Himalayan wetlands to enable sustainable management of resources, and ultimately contribute to maintaining and improving livelihoods throughout the HKH region.

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