

# **LONG TERM MONITORING USING TRANSECT AND LANDSCAPE APPROACHES WITHIN THE HINDU-KUSH HIMALAYAS**

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## **International Mountain Biodiversity Conference**

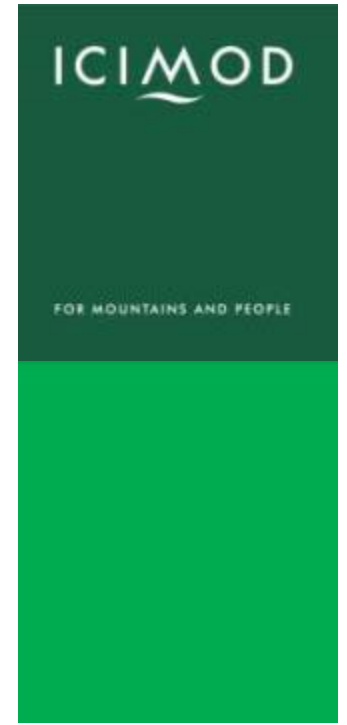
**Biodiversity Conservation and Management for Enhanced Ecosystem Services: Responding to the Challenges of Global Change**

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**International Centre for Integrated Mountain Development (ICIMOD)  
Kathmandu, NEPAL**

# Presentation outline

- A. Introduction**
- B. Conservation and development challenges**
- C. ICIMOD's initiatives: an overview**
- D. Transboundary landscapes and transects and their rationales**
- E. Proposed framework**



# A. Introduction

- **Rich biodiversity**

Higher proportion of endemic and threatened species (parts of 4 global Biodiversity Hotspots), tropical to alpine comprised of grassland (39%), forest (20%), shrub land (15%), and agricultural land (5%). The remaining 21% covers barren land, rock outcrops, built-up areas, snow cover, and water bodies

- **Significant ecoregions**

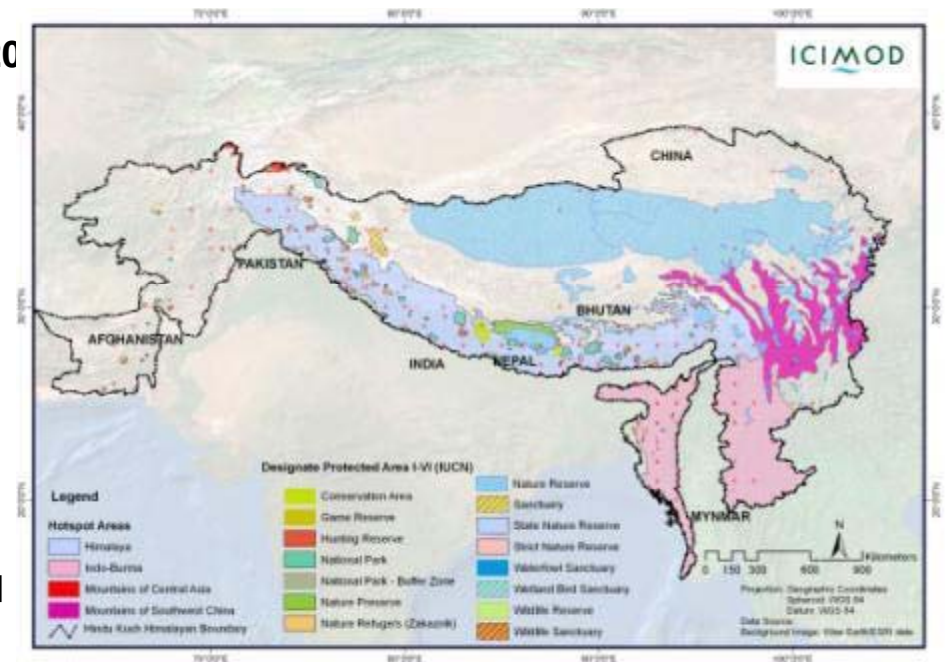
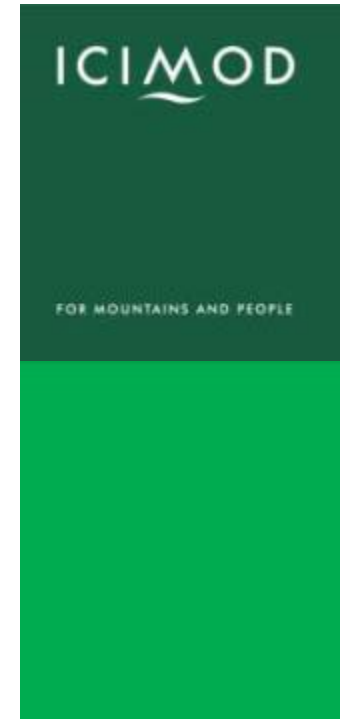
Out of 60 ecoregion, 30 represents 12 Global 20 ecoregions found in the HKH

- **Conservation measures**

39% (488 PAs) of terrestrial area under PA network with additional 330 IBAs, 23 RAMSAR and 13 World Heritage sites

- **High cultural diversity**

More than 1000 ethnic groups with their varied traditions and cultures



## B. Conservation and Development challenges

- **Physical change**

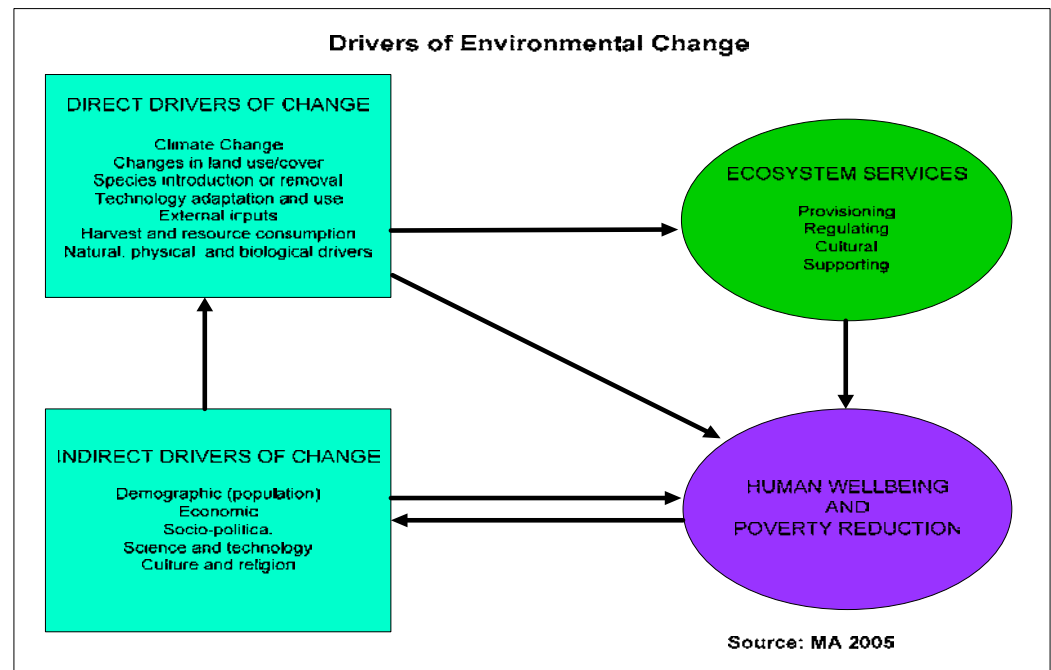
Over extraction of resources, introduced and invasive species, forest degradation, change in landuse/cover

- **Climate change**

Rise in temperature, seasonal change in precipitation regime, extreme weather conditions

- **Demographic and socio-economic change**

Immigration, poverty, limited development options, majority on subsistence livelihood



## C. ICIMOD's initiatives: an overview (1)

- **HKH level PA assessment**

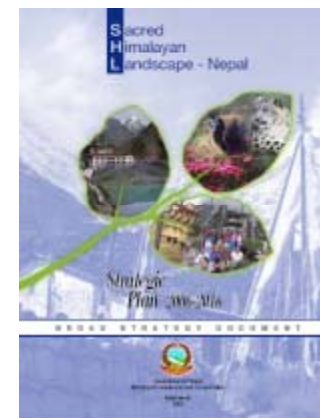
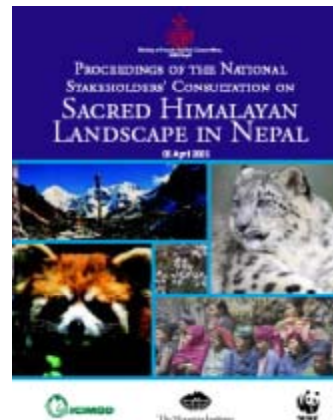
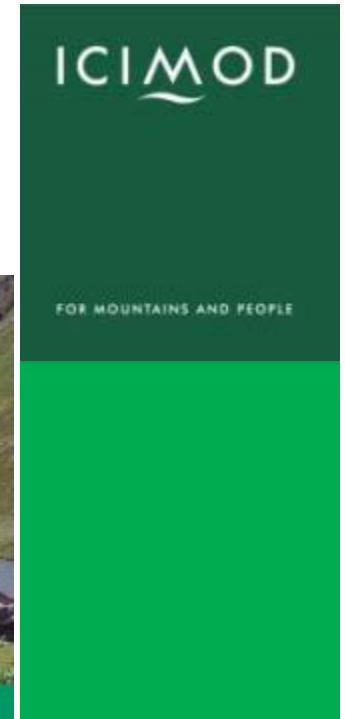
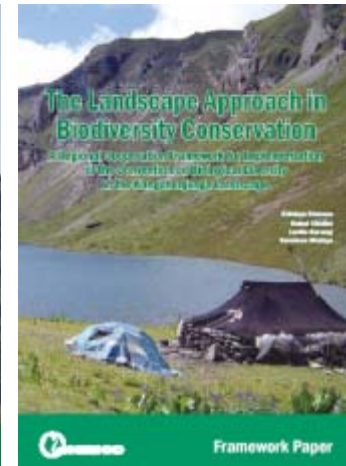
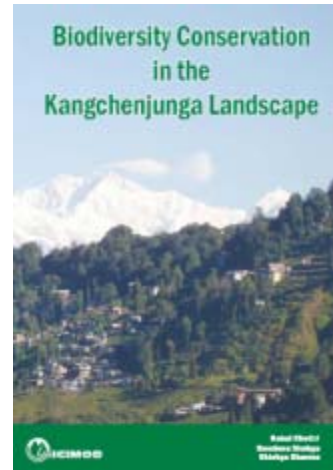
ICIMOD made a comprehensive assessment on PA coverage and came up with recommendations for future research

- **Facilitation for regional cooperation**

ICIMOD initiated transboundary cooperation in four transboundary landscapes with substantial progress in Kangchenjunga

- **Impact of climate change on biodiversity**

ICIMOD made a comprehensive assessment on impact of climate change on biodiversity for the eastern Himalayas with four white papers and a status report





## C. ICIMOD's initiatives: supportive elements (2)

- Biodiversity conservation**

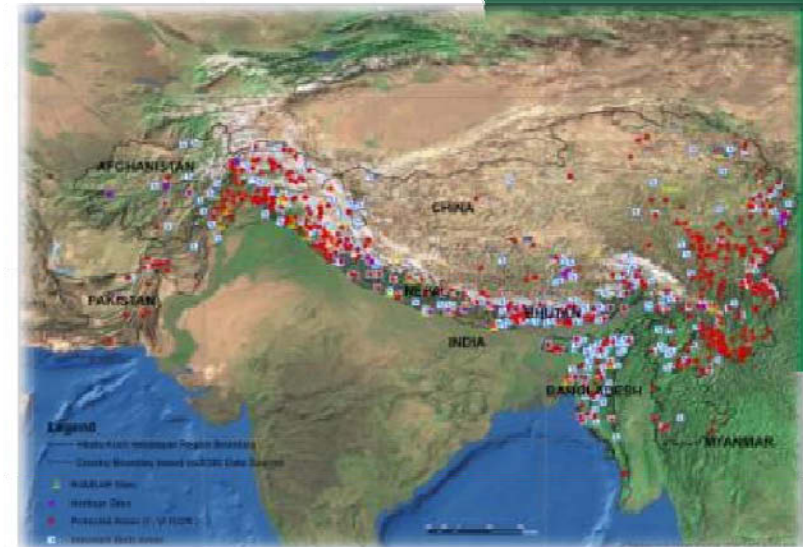
Protected areas, Important Bird Areas, Ecoregions, World Heritage sites, Access and benefit sharing

- Cryosphere and water resources**

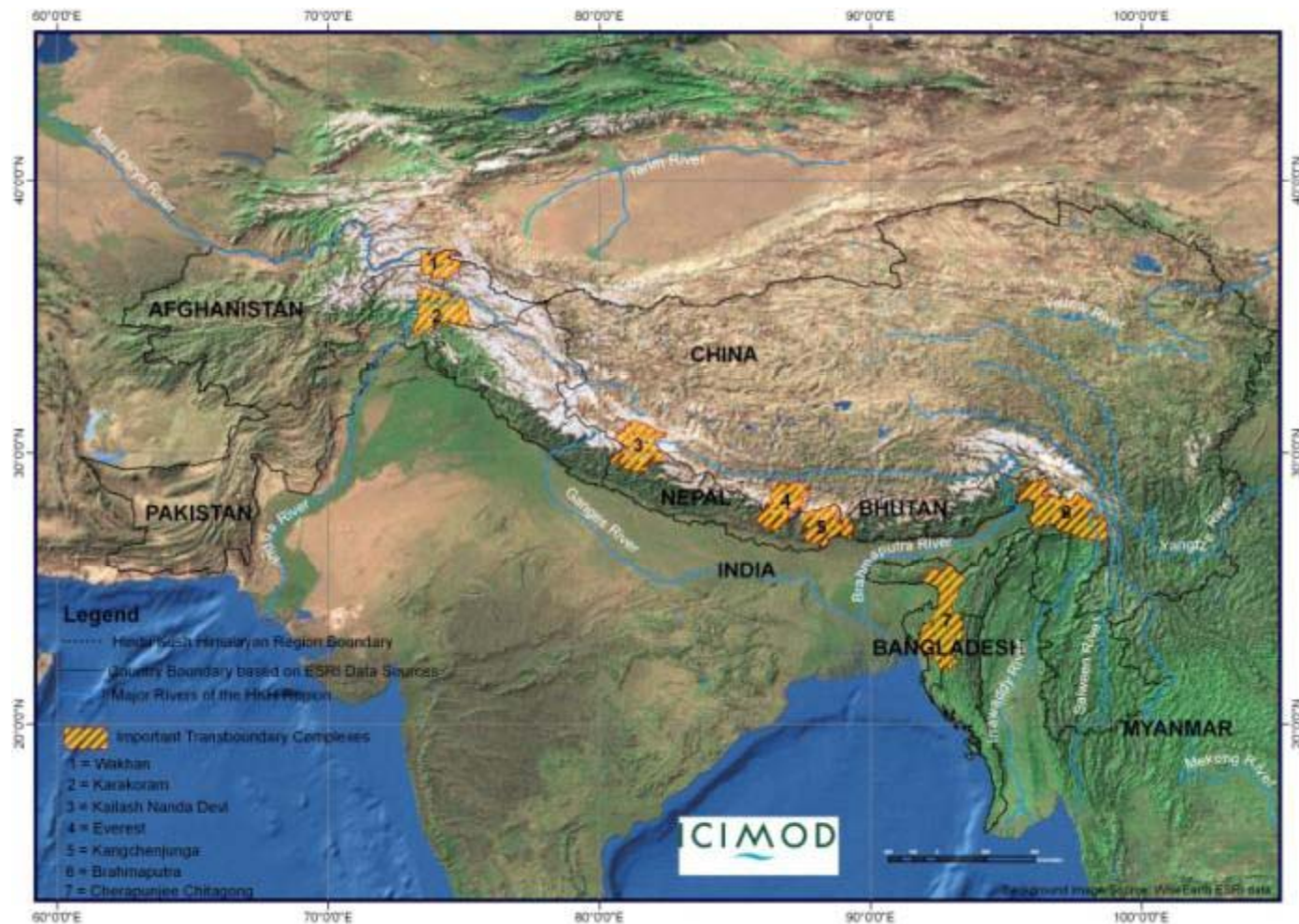
Snow and ice, GLOFs, wetlands including RAMSAR sites, river basins and watersheds, Atmospheric Brown Cloud

- Livelihood based on biodiversity**

Medicinal and Aromatic Plant (MAPPA) including value chain, Honey bees, tourism



## D. Transboundary landscapes (1)



ICIMOD identified seven critical transboundary landscapes covering west to east, dry to wet and low to high altitude situations covering all HKH countries and the major farming systems found therein

## D. Rationale for 'transboundary approach' (2)

- **Habitat contiguity**

The region is home to many globally significant species and use wide range of habitats beyond the existing PAs and even beyond the political boundaries

- **PA coverage and transboundary PAs**

The 7 TBLs covers only 5% of the total HKH area with 41 Transboundary PAs

- **Transboundary issues**

There are many transboundary issues such as illegal trade, poaching, forest fires, spread of diseases

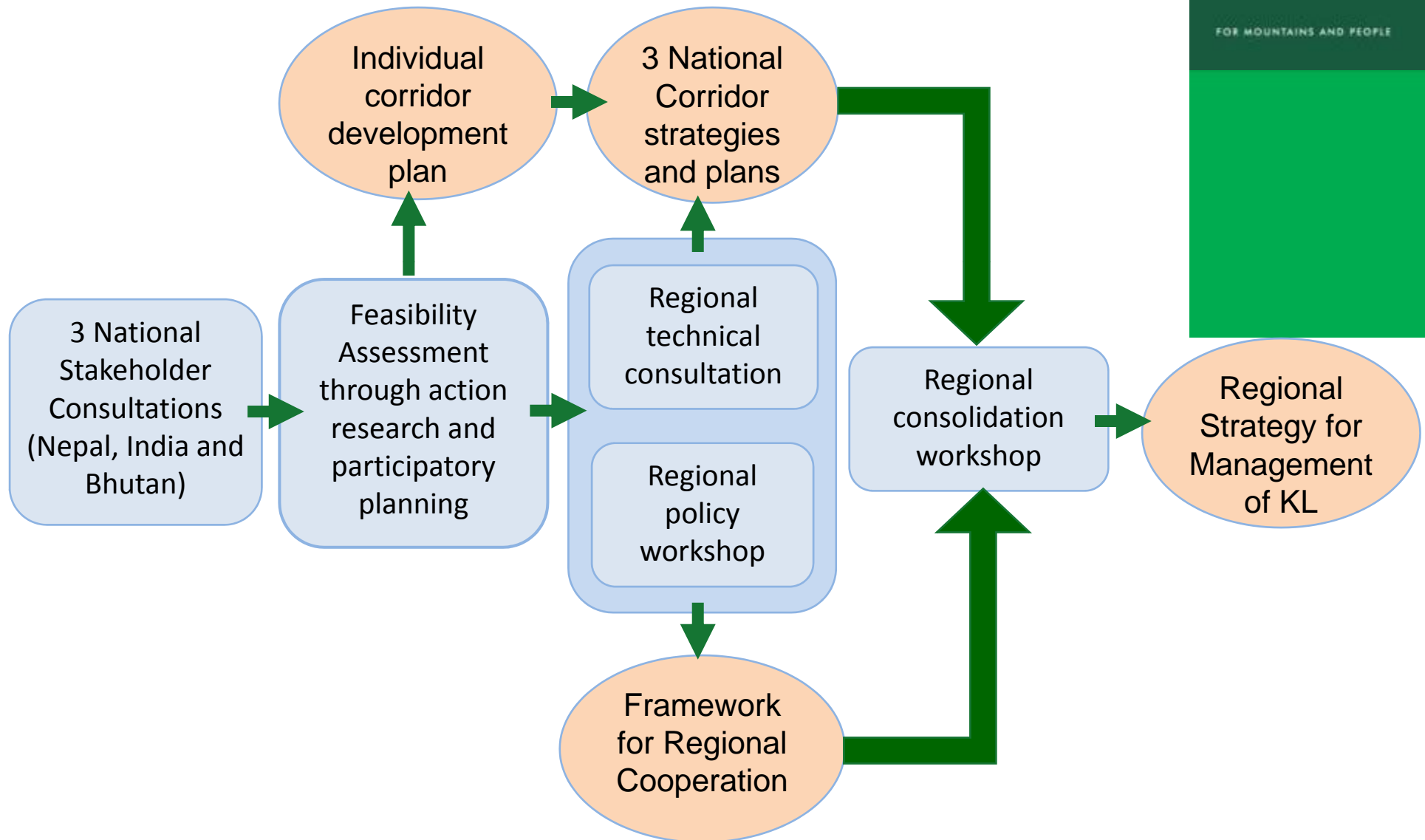
- **Conservation effectiveness**

Most of the PAs are scattered as 'conservation islands', small and lack connectivity in between, necessary for viable population as well as in the context of climate change adaptation

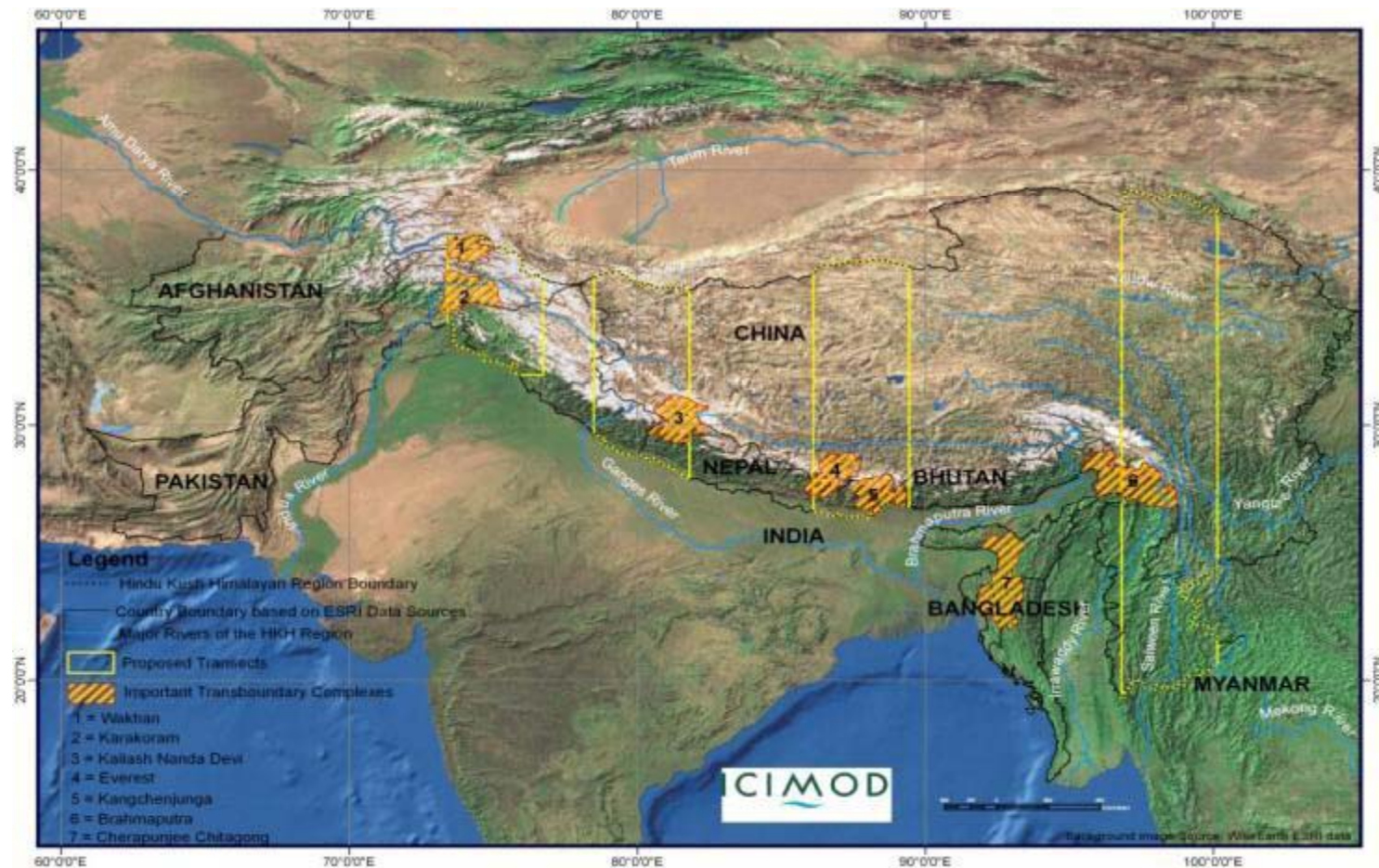




## D. ICIMOD's initiatives: an example from KL (3)



## D. Transect approach (4)



ICIMOD identified four transects running south to north including six out of seven transboundary landscapes covering other attributes such as ice and snow cover, wetlands including RAMSAR sites, river basins, hotspots, ecoregions, PAs, IBAs World Heritage sites and GLOFs

## D. Rationale for 'transect' approach (5)

- **Data deficit region  
'White spot'**

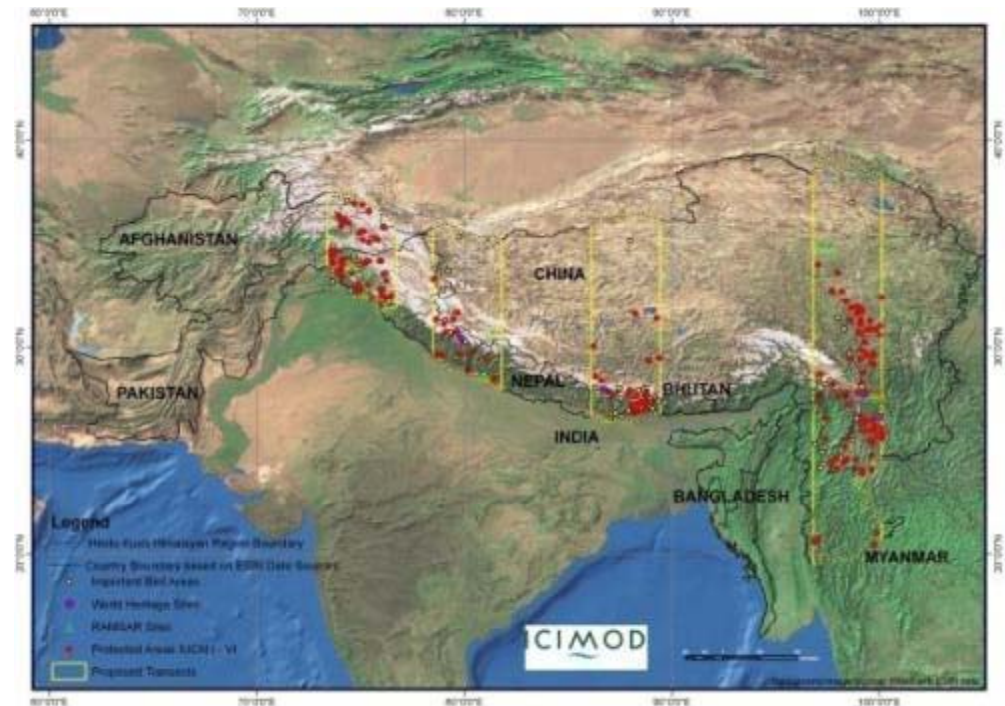
IPCC report revealed that inspite of its significance the HKH region is a data deficit region (IPCC 2007)

- **Massive geographical area**

The HKH region is a huge area (more than 4 million sq km) and it is impossible for any institutions to cover all the area, hence representative areas were needed

- **Inconsistent data and research capacity**

The HKH member countries follow varied data acquiring methods with different capacities





## D. Rationale for 'transect' approach (6)

- **Inadequate research**

The HKH region has limited information on its flora, fauna and the ecosystem they lived in and on the implication of climate change

- **Area representation**

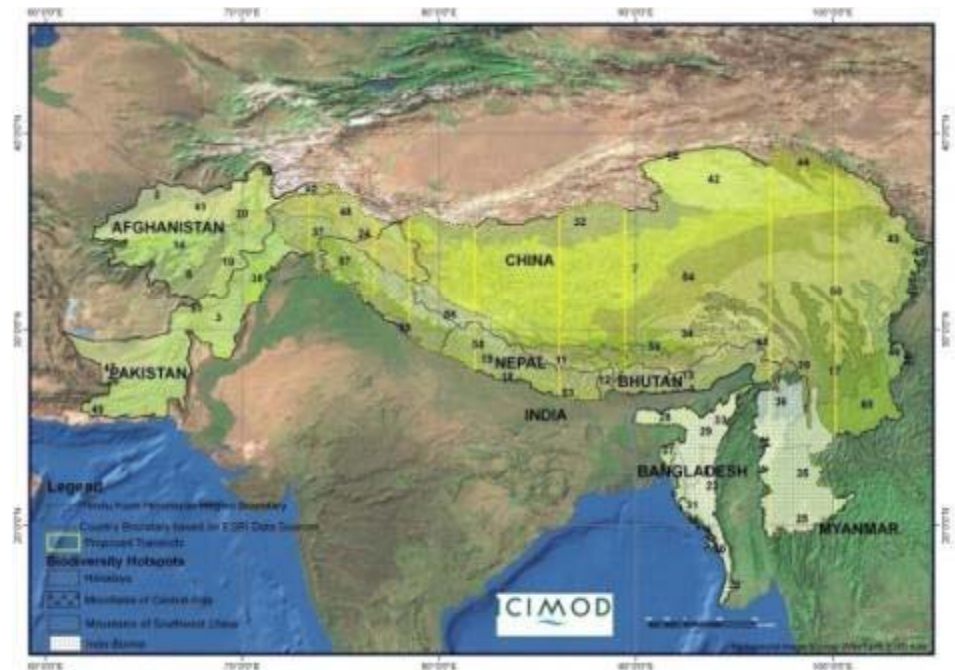
The transects covers 32% of the total HKH area with 182 PAs (35%), 11 out of 12 Global 200 Ecoregions found in the HKH:- good enough for representation

- **Latitudinal aspect**

It cover the regional perspectives, more importantly the latitudinal aspects in the prevailing climate change scenario

- **Need for coordination and capacity building**

For consistent data and filling the research gaps common research protocol and capacity enhancement of the HKH member countries is necessary





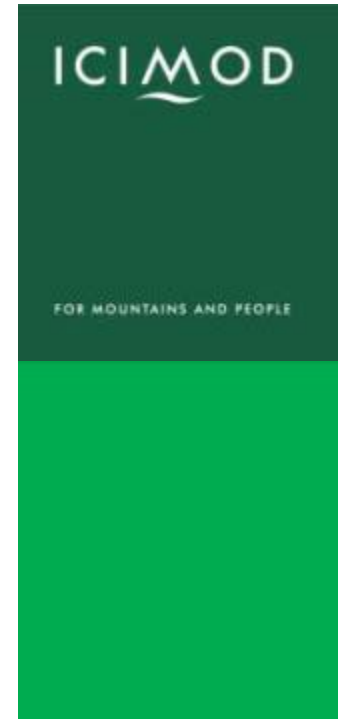
## E. Proposed framework (1)

- **ICIMOD as an intergovernmental regional centre**

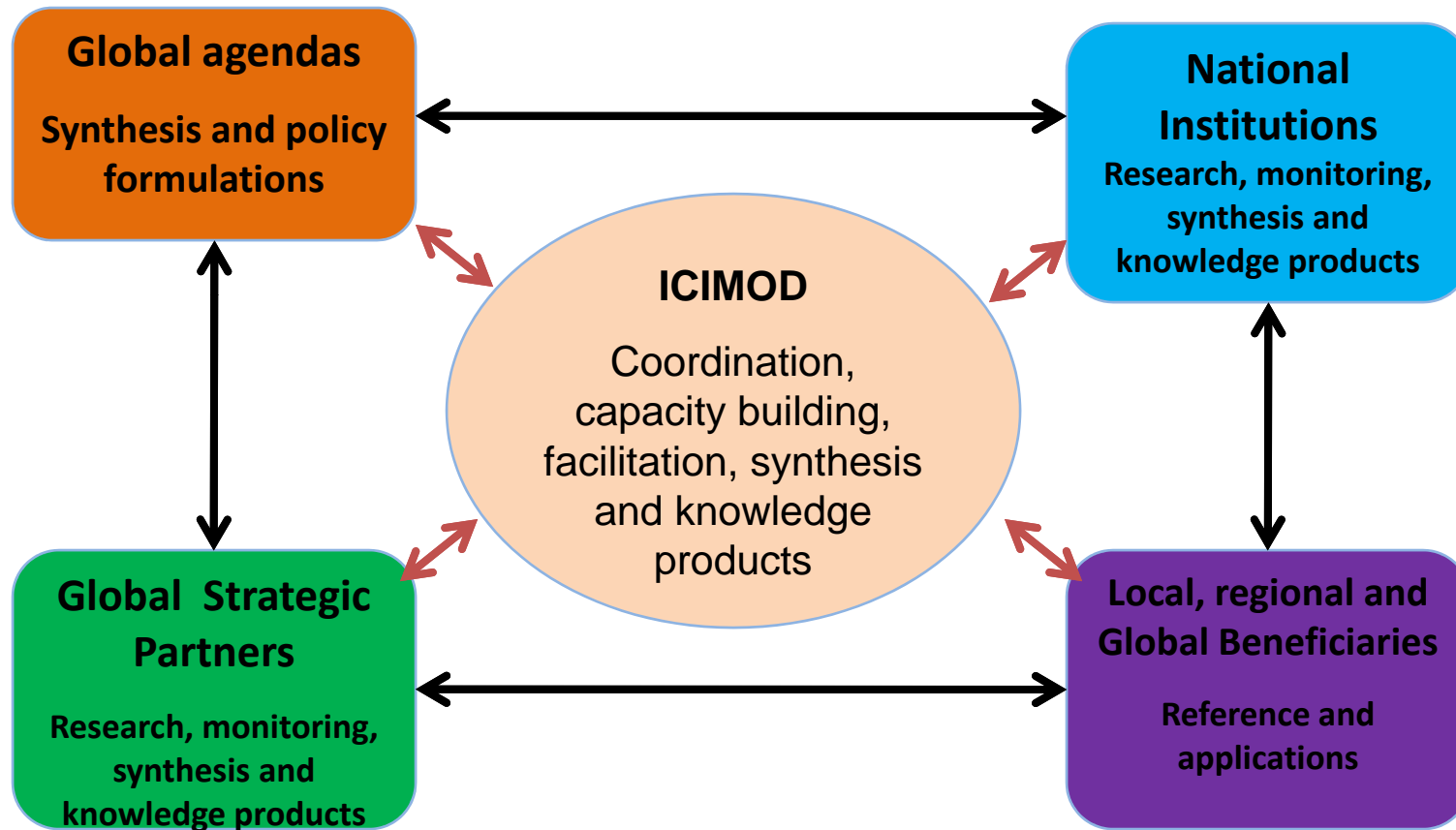
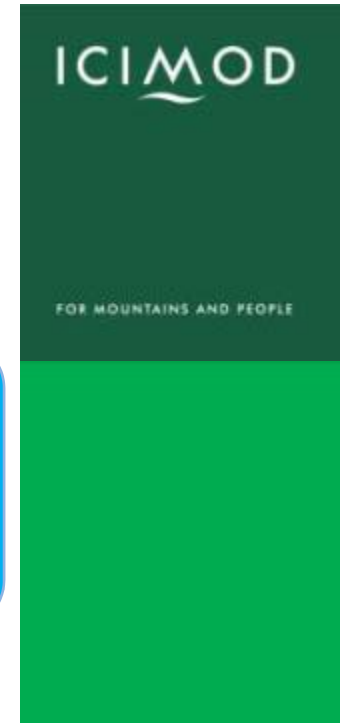
ICIMOD is serving as knowledge, learning and enabling centre for the past two and a half decades and advocating conservation and development by adopting mountain perspective framework

- **ICIMOD as a facilitator for customizing global agendas**

ICIMOD is advocating many global agendas such as ecosystem approach of CBD including mountain programme of work, ABS and MA framework



## E. Proposed framework (2)



**Partnering with global and regional institutions, ICIMOD propose to work as a lead institutions on facilitating research and strengthening knowledge base**

THANK YOU

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