

INTERNATIONAL CONFERENCE ON  
MOUNTAINS AND CLIMATE CHANGE

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# Mountain Areas Management

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High Summit  
LECCO 2013

# Mountain Protected Areas Worldwide

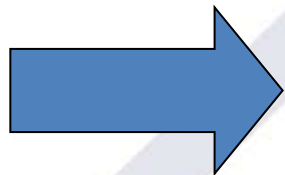


- Mountain areas cover 39.3million km<sup>2</sup> worldwide, i.e.26.5% of the world's terrestrial area
- Nationally designated PAs cover 14.3%(5.6million km<sup>2</sup>) of the world's mountain areas outside Antarctica
- Mountain PAs make up 32.5%(17.3million km<sup>2</sup>) of the world's total terrestrial protected area coverage in 2009.

# Mountain Protected Areas Features

- High elevation range
- Limited human presence
- Mainly on public land

Intact ecosystems/low impact by local communities



**MARGINAL AREAS**



# Mountain Protected Areas Benefits

- Complex and rare biodiversity

Evolution in extreme environmental conditions

- Ecosystem Services

*(Millennium Ecosystem Assessment, United Nation 2005)*

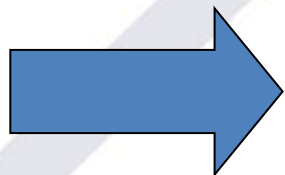
1. Provisioning: energy, food and water,.....

(US Rocky Mountain provide 85% of the water for human requirements)

2. Regulating: carbon sequestration and control of climate, purification,.....

3. Supporting: nutrient cycle and primary production,.....

4. Cultural: traditional, spiritual and recreational benefit, .....



**HIGH VALUE AREAS**



# Mountain Areas Management



# Altitudinal distribution of fauna and flora

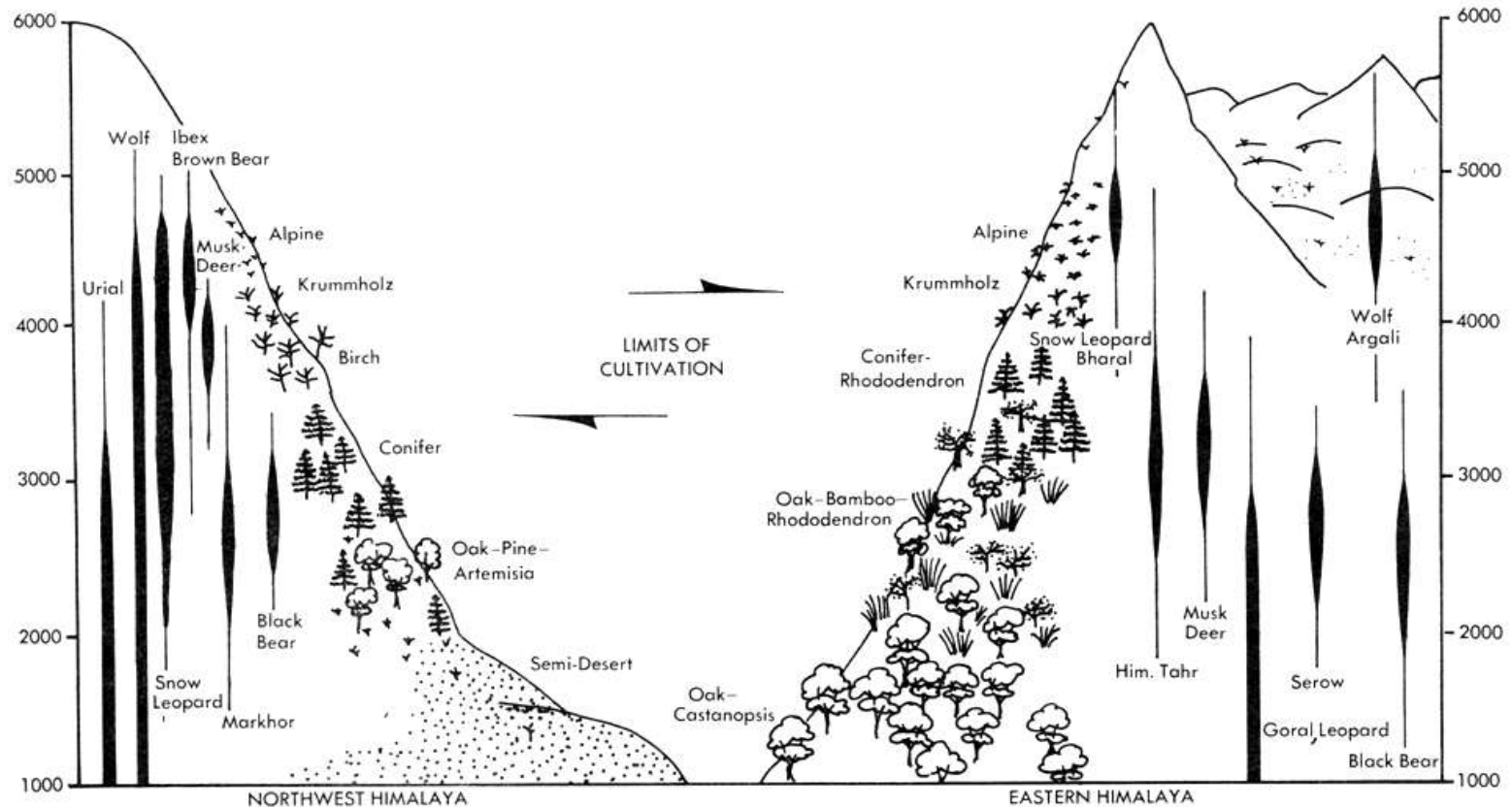
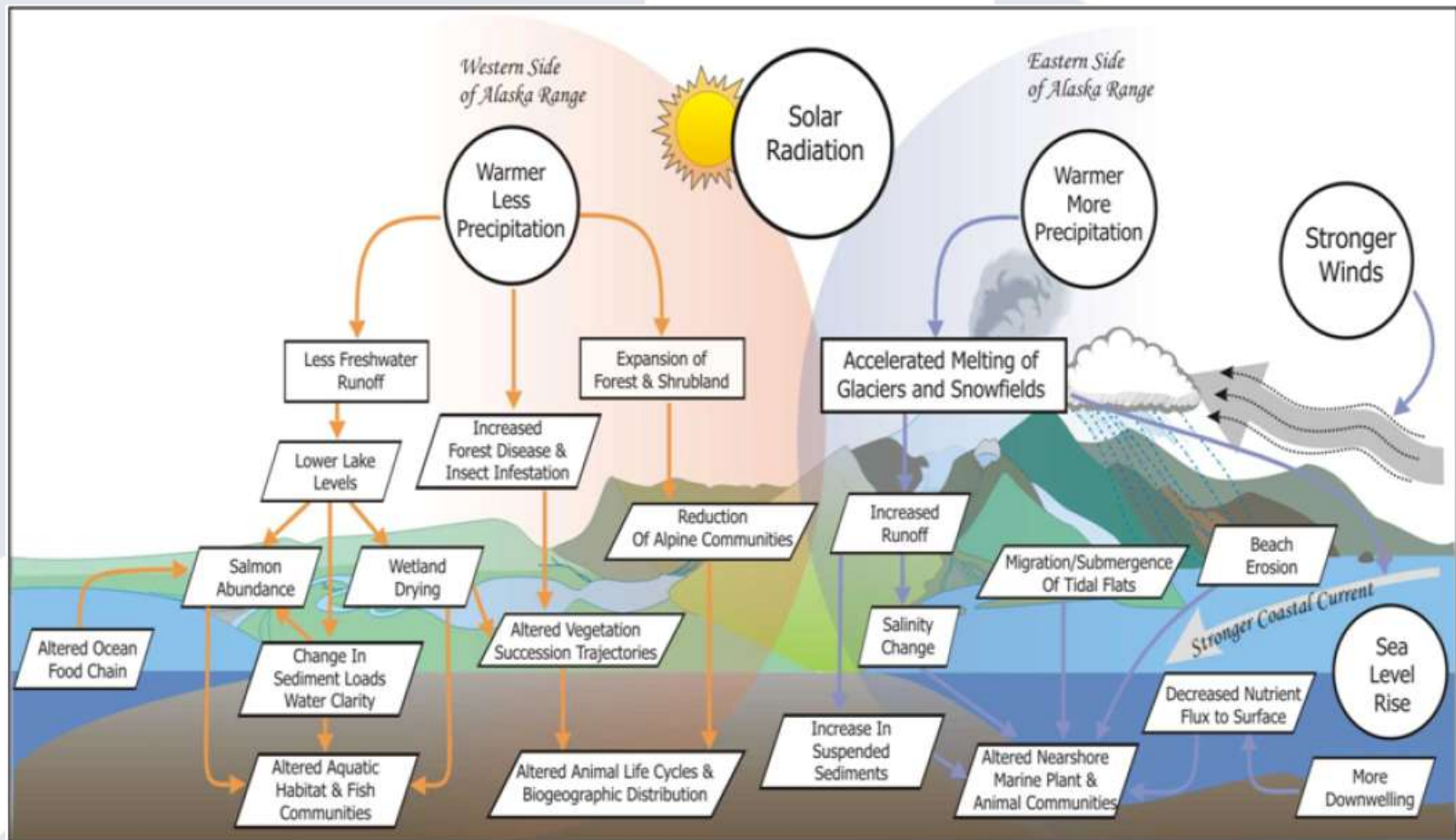


Fig. 19. The vertical zonation of the vegetation and the altitudinal distribution of large mammals in the northwestern and eastern Himalaya.

# Conceptual model of expected changes from Climate Change on Park ecosystems

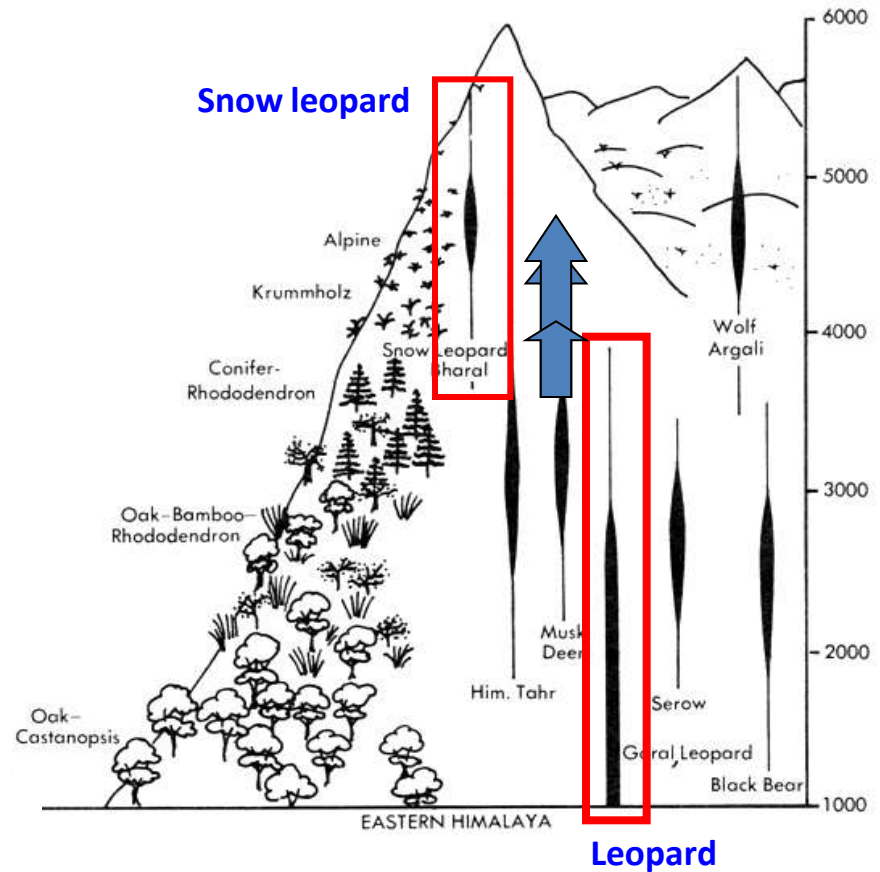




# Snow leopard range



Snow leopard

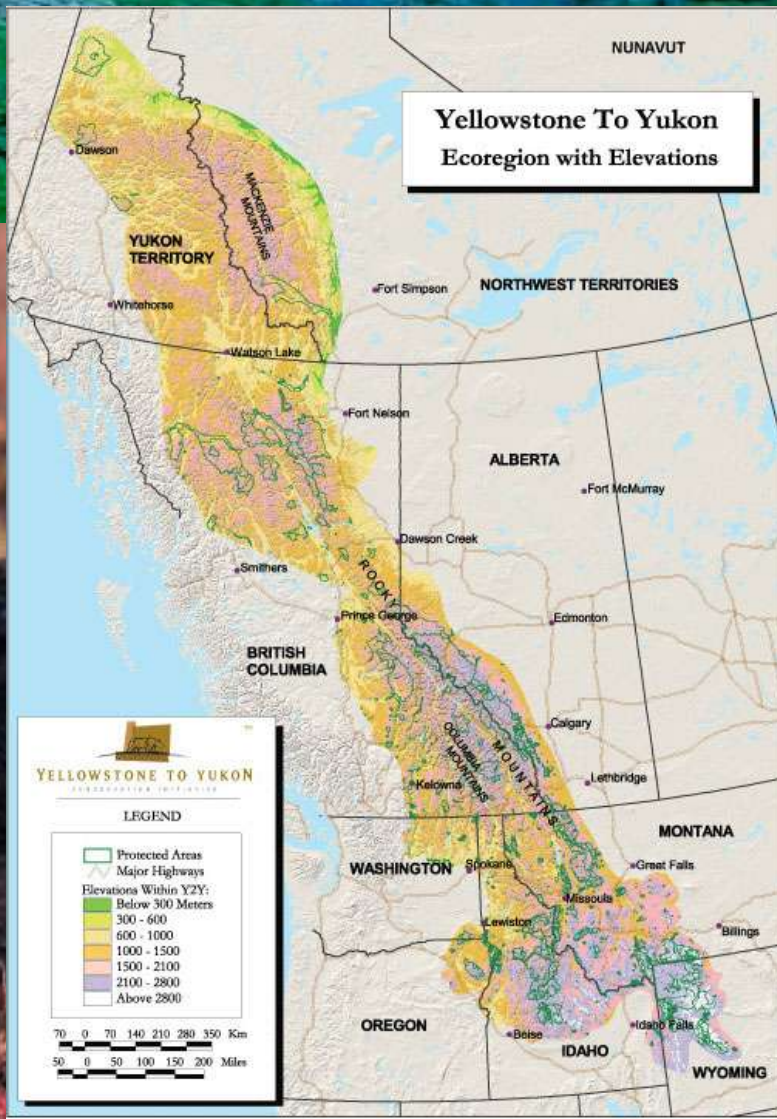
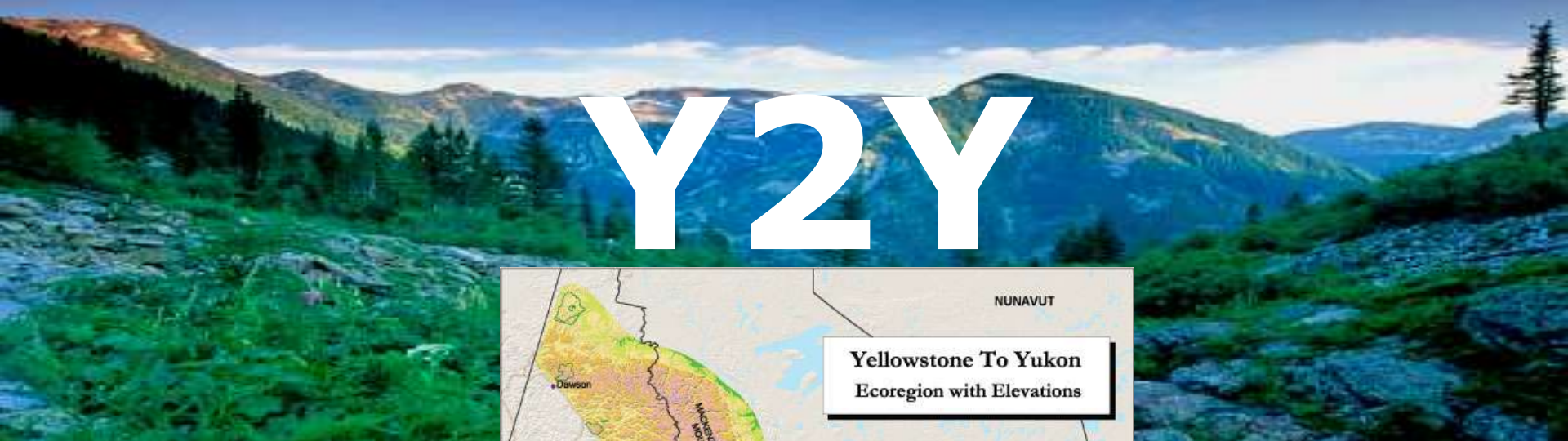




# Mountain PAs and Climate Change approach

- Promote specific researches on Climate Change impact on ecosystems
  - Mountain PAs as field lab
  - Long term research programs with multidisciplinary approach
  - Improvement of cooperation between PAs and between research groups
- Conservation and improvement of biodiversity
  - Improvement of the ecosystem's resilience
- Improvement of linkage between the PAs
  - Ecological corridors (agricultural lands)
  - Biosphere Reserves / Peace Parks, .....

# Y2Y





# CENTRAL KARAKORAM NATIONAL PARK

To Protect the Highest Park between the Earth and the Sky



Ambasciata d'Italia  
Islamabad



Government of  
Pakistan



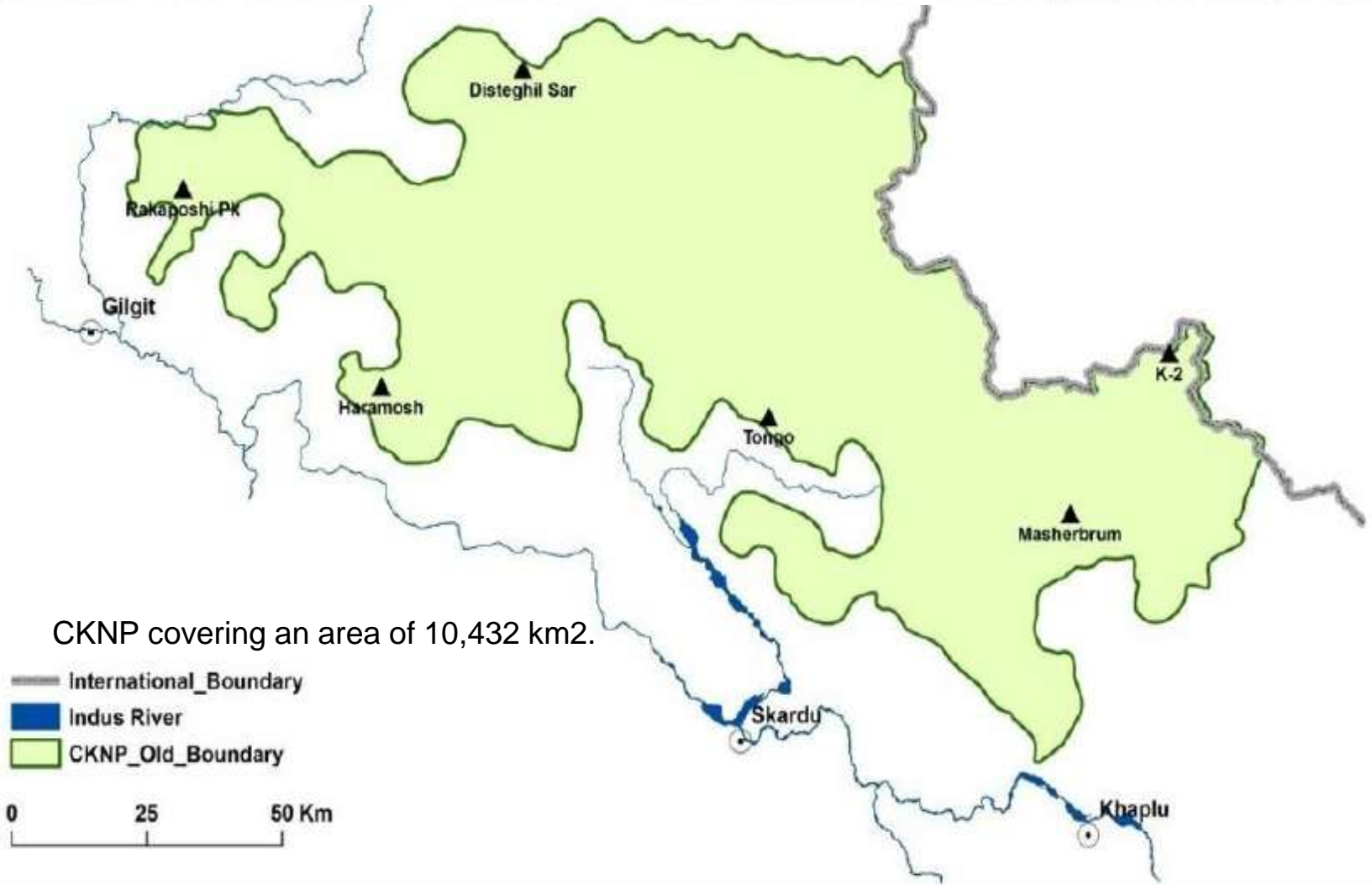
Government of  
Gilgit-Baltistan

# CKNP Notification

No. Admin-III-II(28)/93

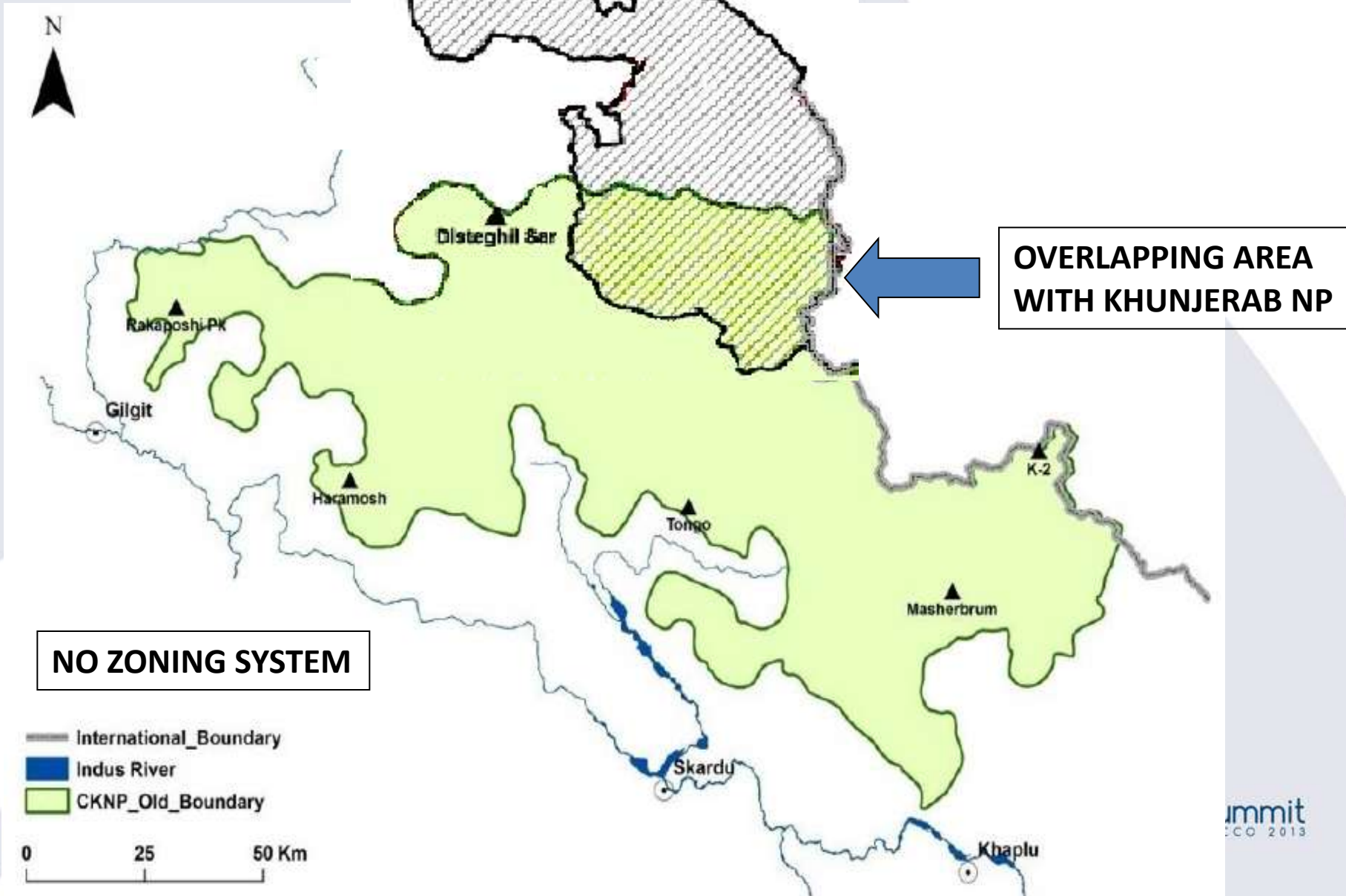
Dated: 30-05-1996

up to Peak 6000 on Pak China international border. The Park boundary is along well defined geographical features and excludes all villages, settlements and pasture lands as shown in the enclosed map and these are listed in Annex-A of this Notification.

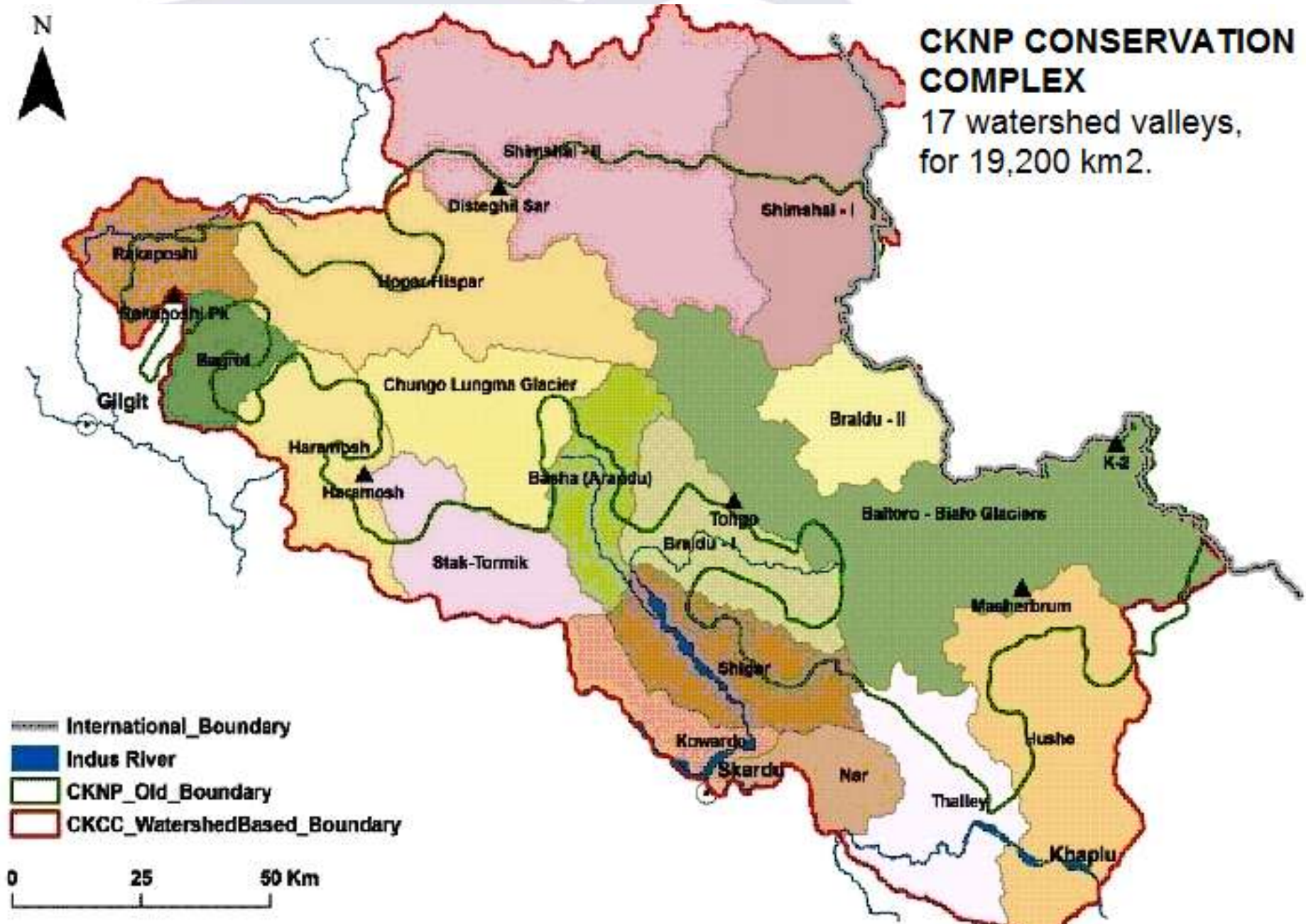




# Management gaps



# CKNP Management Plan



# CKNP management analysis

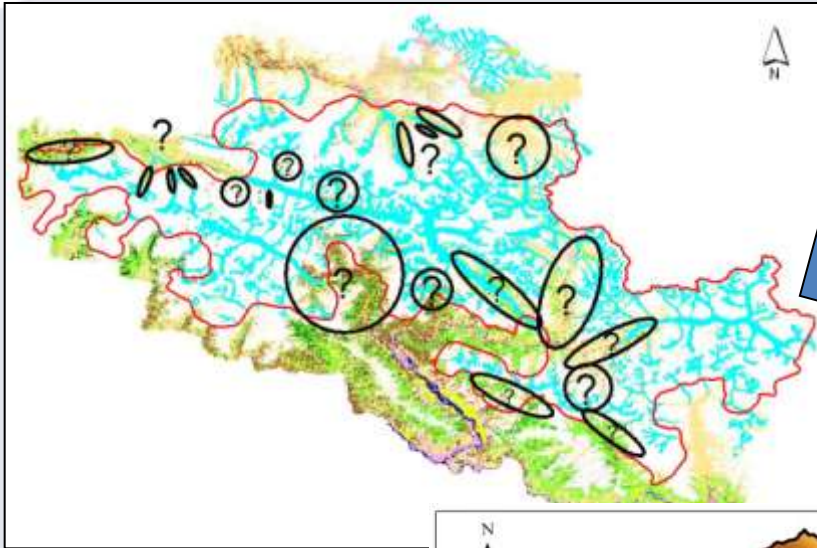
- necessity of reliable basical data for Park and Zoning System delineation

It is not possible to manage what it is not well known !

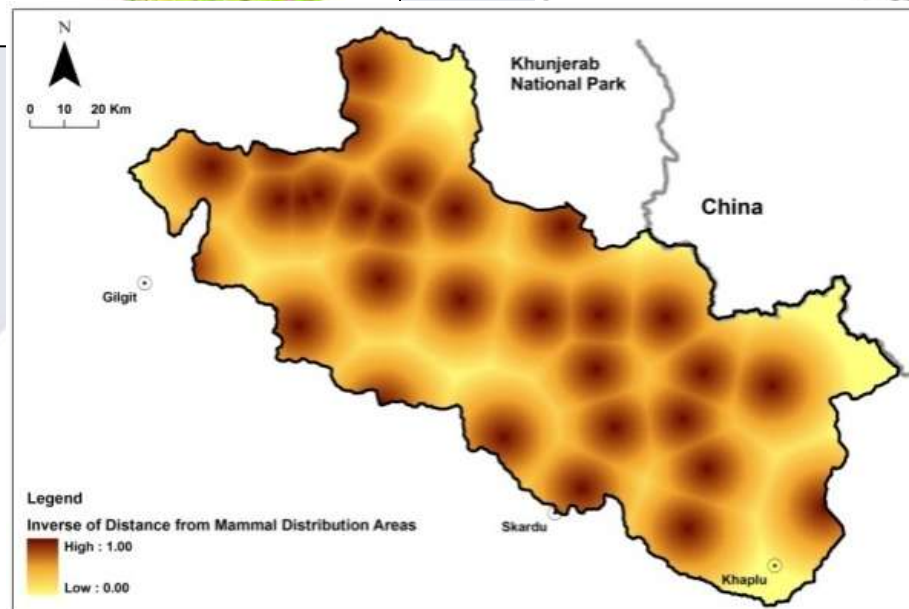
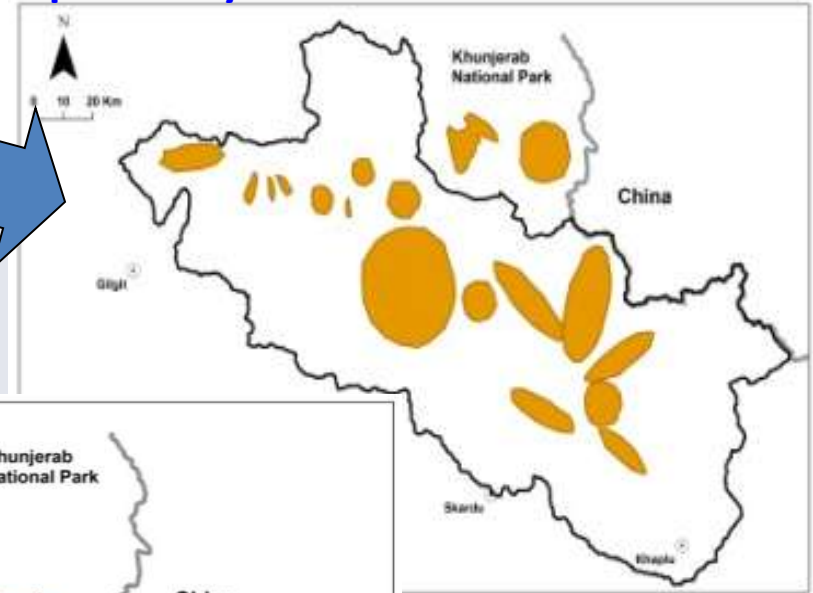


# Large mammals distribution

Where the large mammals are ?



Mammal distribution areas in CKCC, reported by Ev.K2.CNR

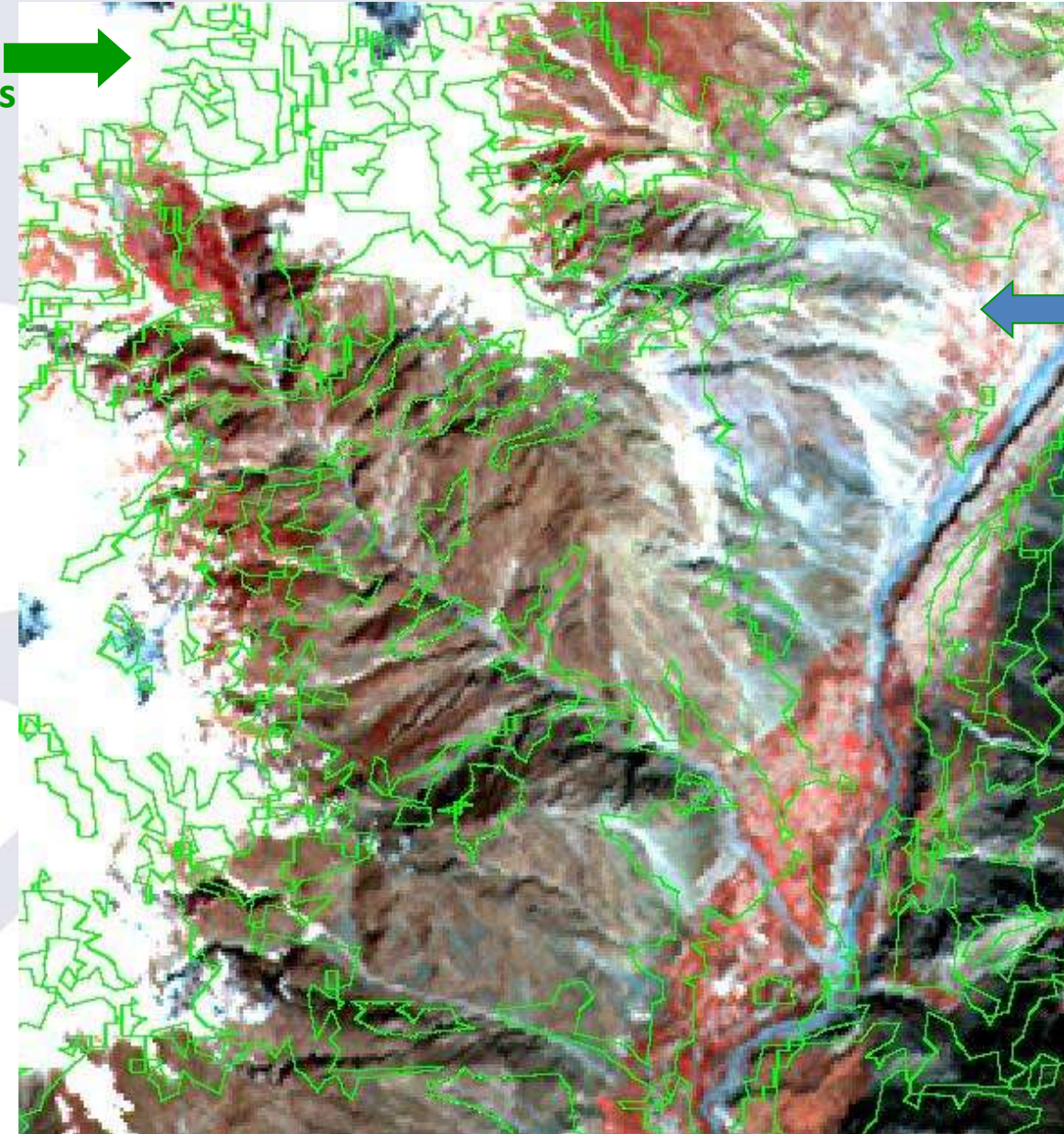


Large mammal habitat suitability in CKCC, estimated as inverse distance from the mammal distribution areas.



# Forest distribution

Land cover  
forest patches



Satellite images

# CKNP management analysis

- necessity of reliable basical data for Park and Zoning System delineation

- the natural resources use by local communities is made for subsistence

due to the hard life condition in mountain area in general and in CKNP in particular.

- the natural resources use by local communities follow a customary governance system,

sometimes very different between near communities, than following the new government laws

- the choosen management follows a conservationist approach

considering the necessity to preserve the pristine wilderness managing the PAs as “island” by not allowing any extraction of resources.

# CKNP Management Plan new approach

- **define reliable basic data for Park and Zoning System delineation**
  - Digital Elevation Model
  - Land Cover Map
  - Glacier Cadastre
  - Catchments Division Areas
  - Geological Map
  - Landslide Susceptibility Map
  - Wildlife Distribution (ungulates and carnivores, was chosen as “umbrella species”)
  
- **use of a Participatory Approach**

Park fulfils not only a function of conservation but also considers the necessities of local communities, and this especially for the high mountain areas where they live in a critical situation.
  
- **delineate a simple Management Plan, immediately operative in CKNP contest**

delineation of boundaries and zoning system, excluding:

  - Villages
  - Main roads
  - Main mining areas
  - Main agricultural areas near the villages



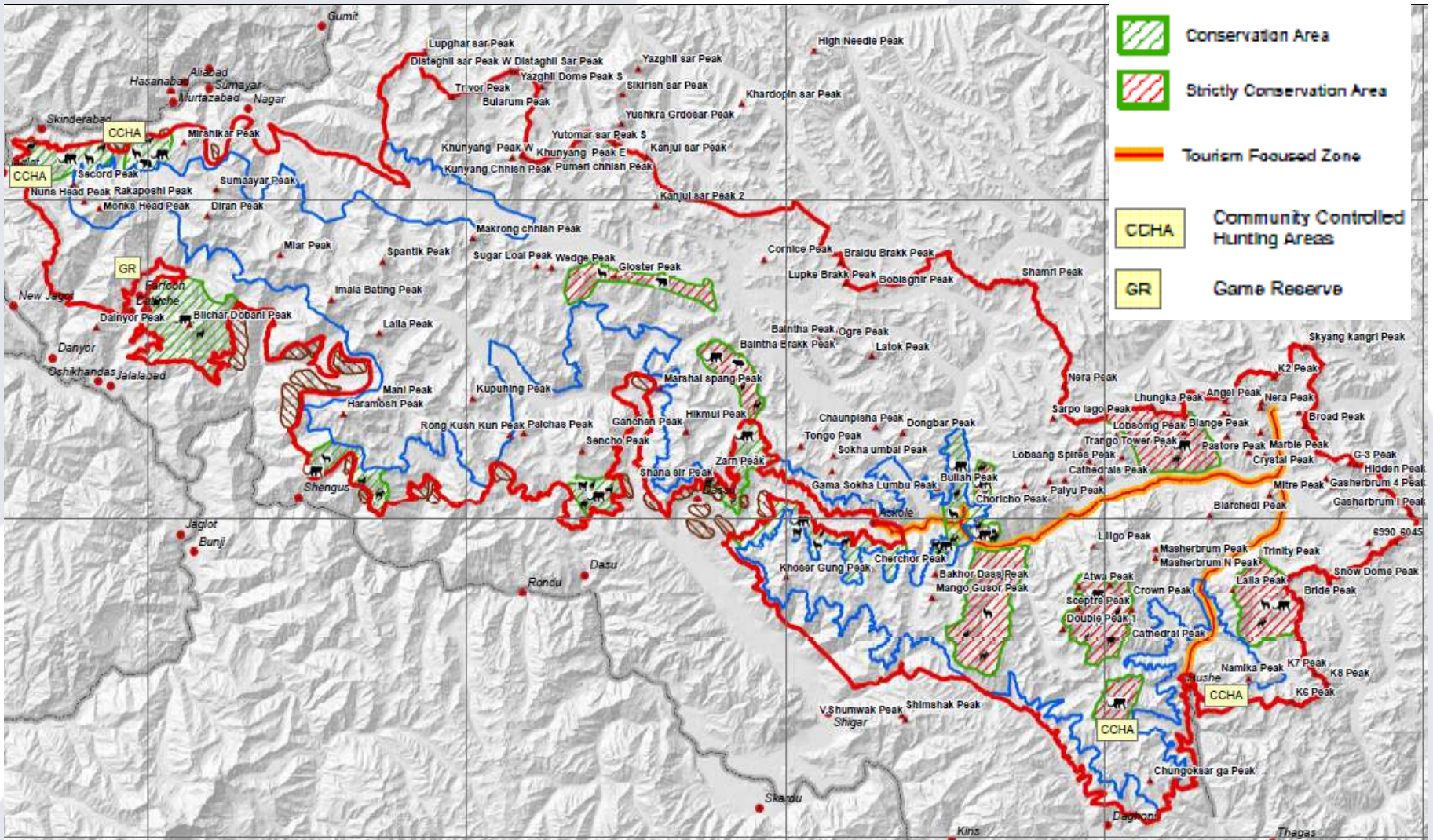
# CKNP Boundaries & Zoning system

## Legend

-  CKNP Border
-  CKNP Core Zone
-  Mining Area

## Protected Areas

-  Conservation Area
-  Strictly Conservation Area
-  Tourism Focused Zone
-  CCHA Community Controlled Hunting Areas
-  GR Game Reserve





# CKNP Management indication

Summary of the management indication in the CKNP zone system	Local communities and Gilgit-Baltistan people admittance (no fees) ▲	Pakistani and foreigners visitors admittance ▲	Local communities livestock grazing ▲	Presence of pack animals ▲	Presence of dogs	Hunting ▲	Game bird hunting	Fishing	Firewood collection ▲	Timber extraction ▲	Collection of medicinal herbs & not timber forest products ▲	
Buffer Zone	✓	✓	✓	✓	×	×	×	×	✓	✓	✓	
Conservation Area	✓	✓	✓•	✓•	×	×	×	×	✓	✓	✓	
Community Controlled Hunting Area	✓	✓	✓•	✓•	×	✓	×	×	✓	✓	✓	
Core Zone	✓	×*	✓••	×	×	×	×	×	×	×	×	
Tourism Focus Area	✓	✓	×	✓	×	×	×	×	×	×	×	
Low Frequency Tourism Area	✓	✓	×	×■	×	×	×	×	×	×	×	
Occasional Tourism Area	✓	✓	×	×	×	×	×	×	×	×	×	
Strictly Conservation Area	×*	×*	×	×	×	×	×	×	×	×	×	

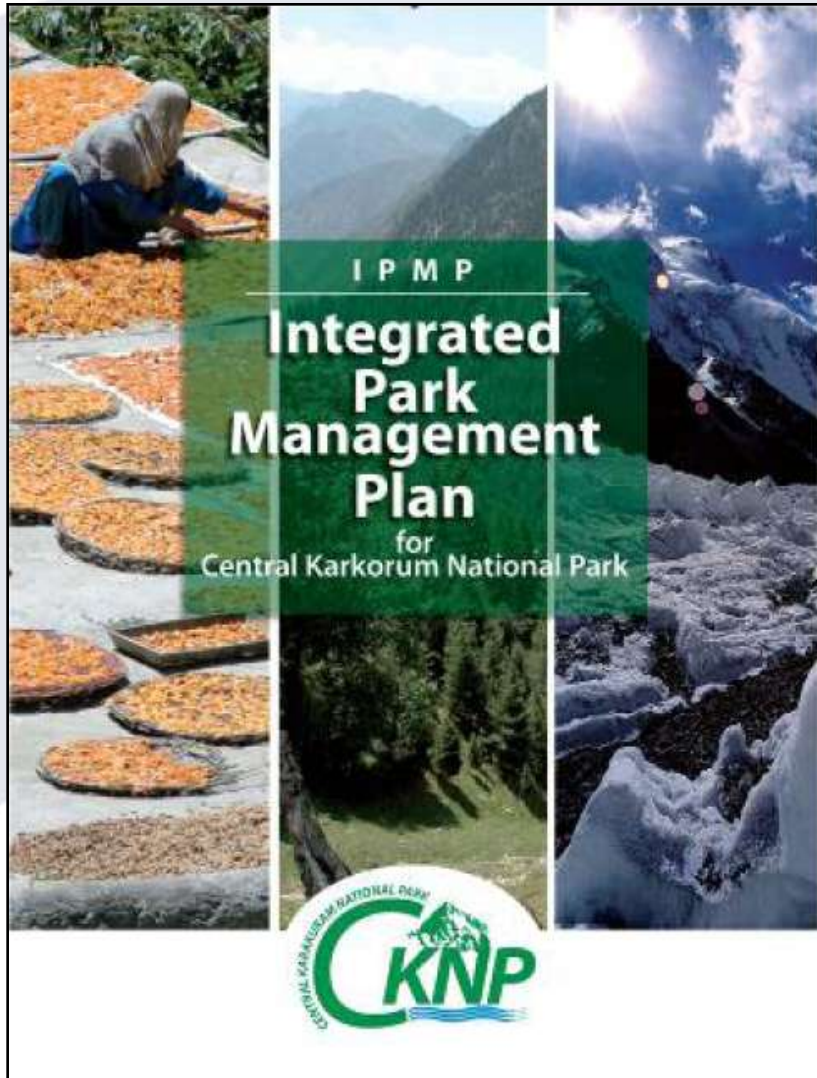
▲ following the specific management indication

\* only with entrance permission released by the CKNP Directorate

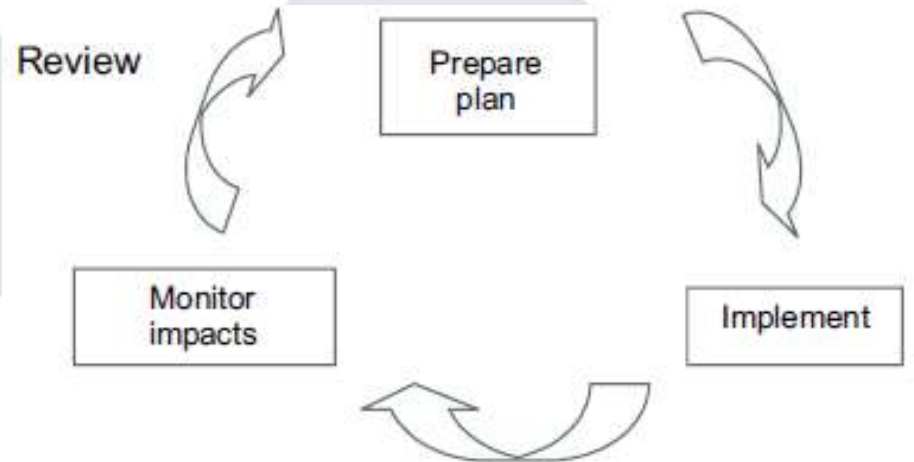
• in this area the veterinary and vaccination program for livestock has high priority

•• accepted only free roaming yak, cow and crossbreed. A specific program for the presence of these animals has to be developed with the local communities.

■ allowed only in Trango area.



**March 2013**



**Management planning process**  
(from Thomas and Middleton, 2003)

# Evaluation and consultation process

## 15 Valleys

Hushey  
Thalley  
Dhagoni  
Shigar  
Lower Braldo  
Upper Braldo  
Basha  
Baghicha /Tormik  
Astak /Shengus  
Haramosh  
Bagrote  
Ghulmat  
Miachar  
Nagar  
Danyore/Jutal/Juglot



**100%**

Involvement in community level meetings

**150 villages**



Households:

**19.688**

Populations:

**151.047**

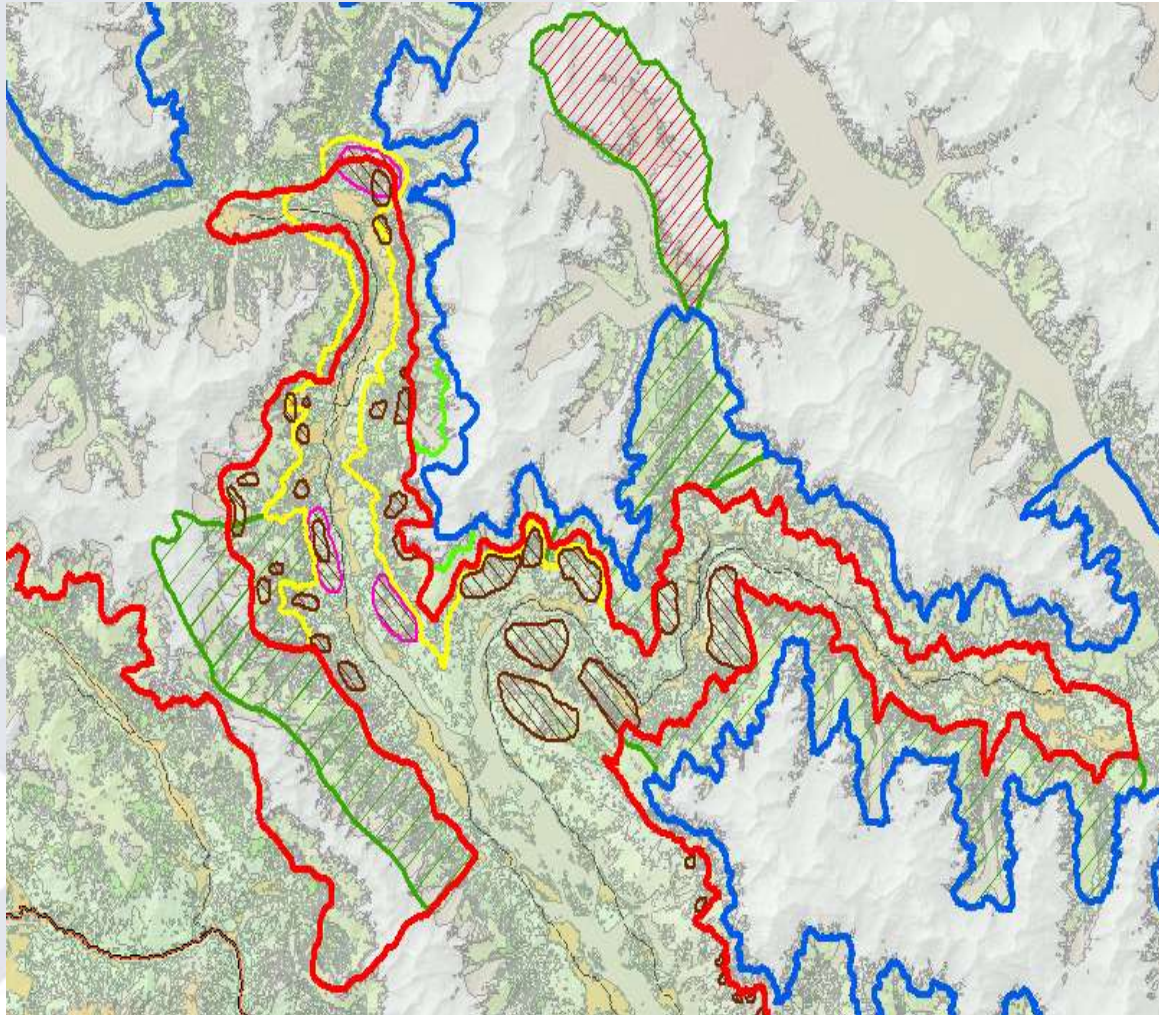


**72%**

Involvement in Community level meetings



# Implementation process



*In red and blue: the current borders*  
*In yellow and green: the previous border*  
*In pink: mining areas changed/deleted*



*Thank you !*

