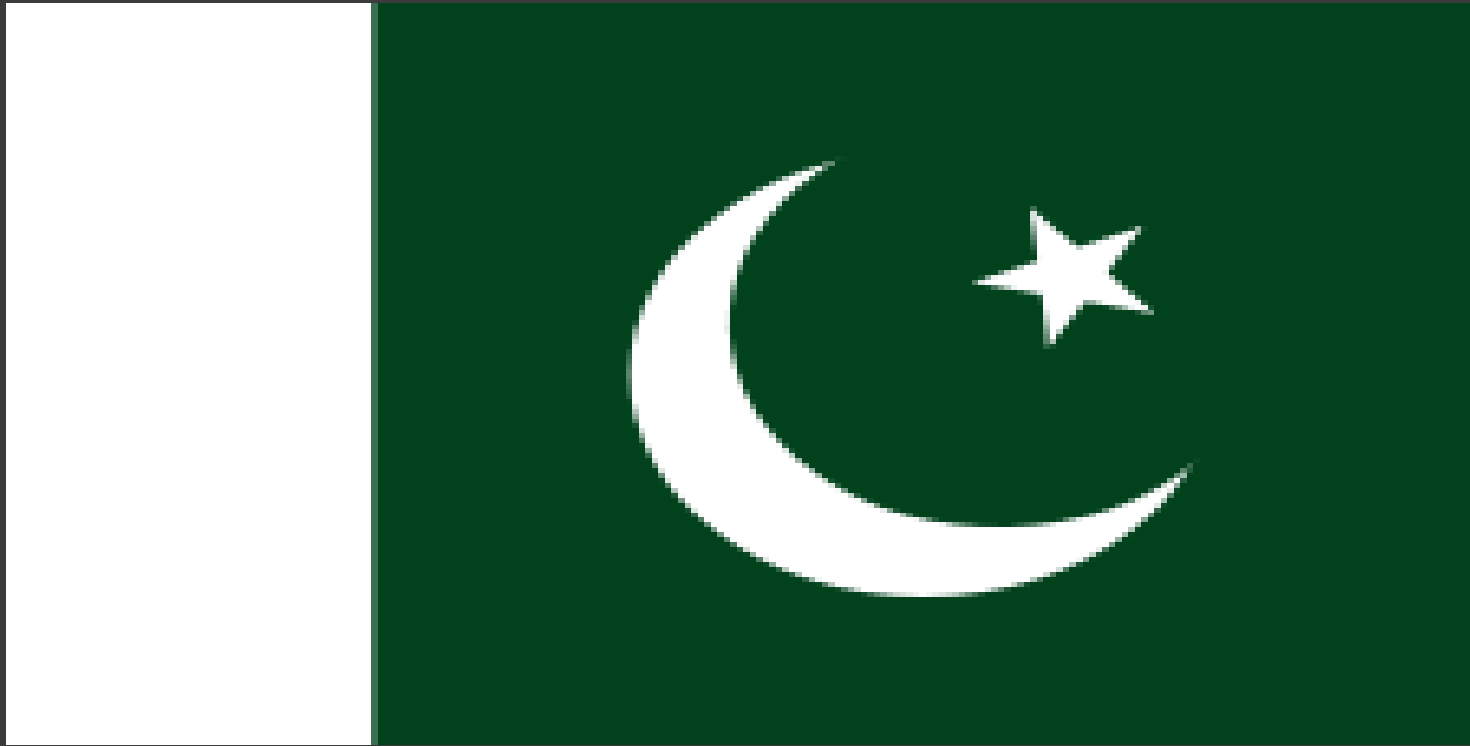


Islamic Republic of Pakistan



**Presentation to the Regional Workshop for East, South
and Southeast Asia on Cities and Biodiversity
Qingdao, China
By Umeed Khalid**

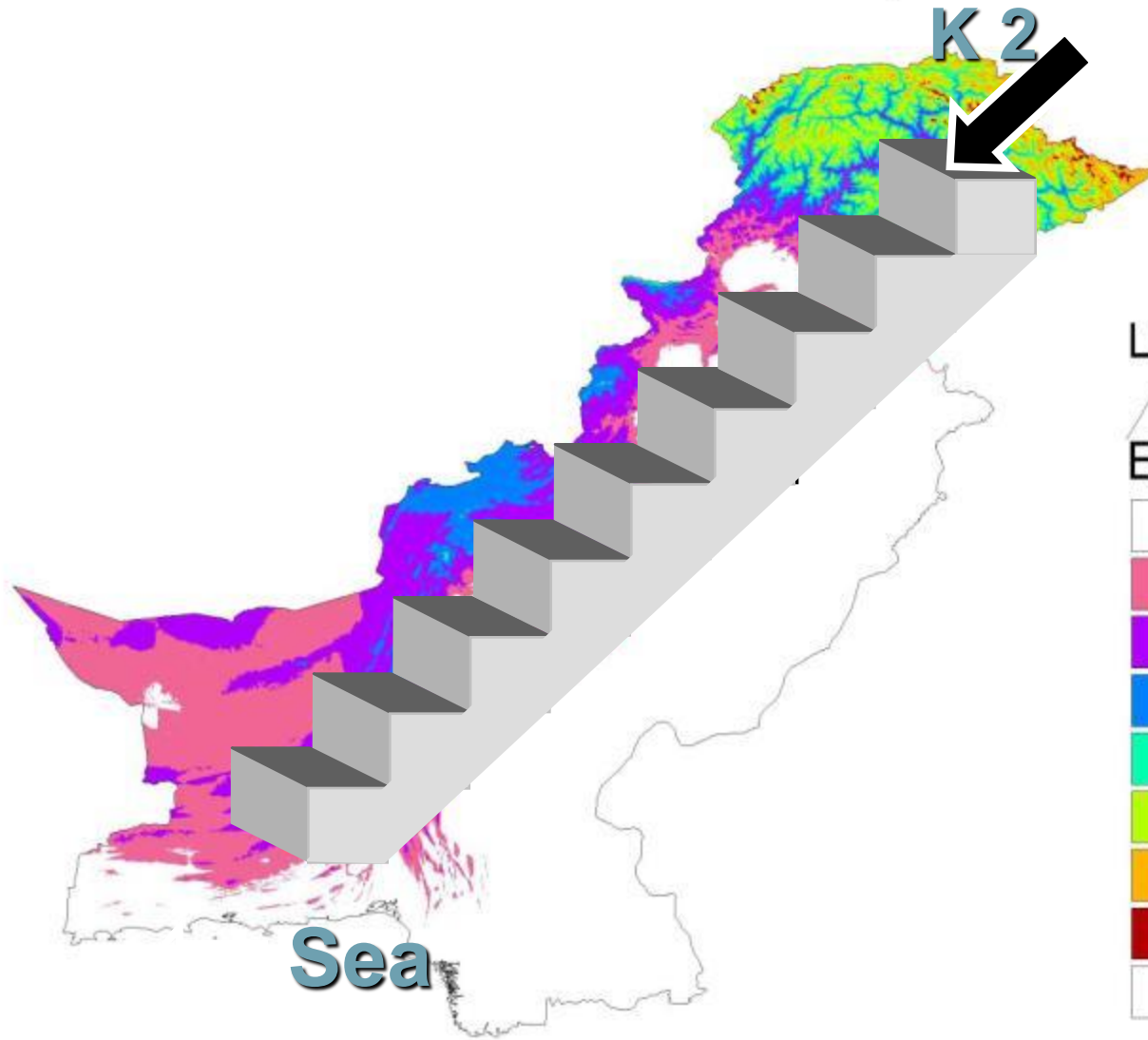


K2

About 1,000 miles

Arabian Sea

Elevation Map of Pakistan



LEGEND

△ Pakistan
Elevation (m)

1 - 500
500 - 1000
1001 - 2000
2001 - 3000
3001 - 4000
4001 - 5000
5001 - 6000
6001 - 8238
No Data

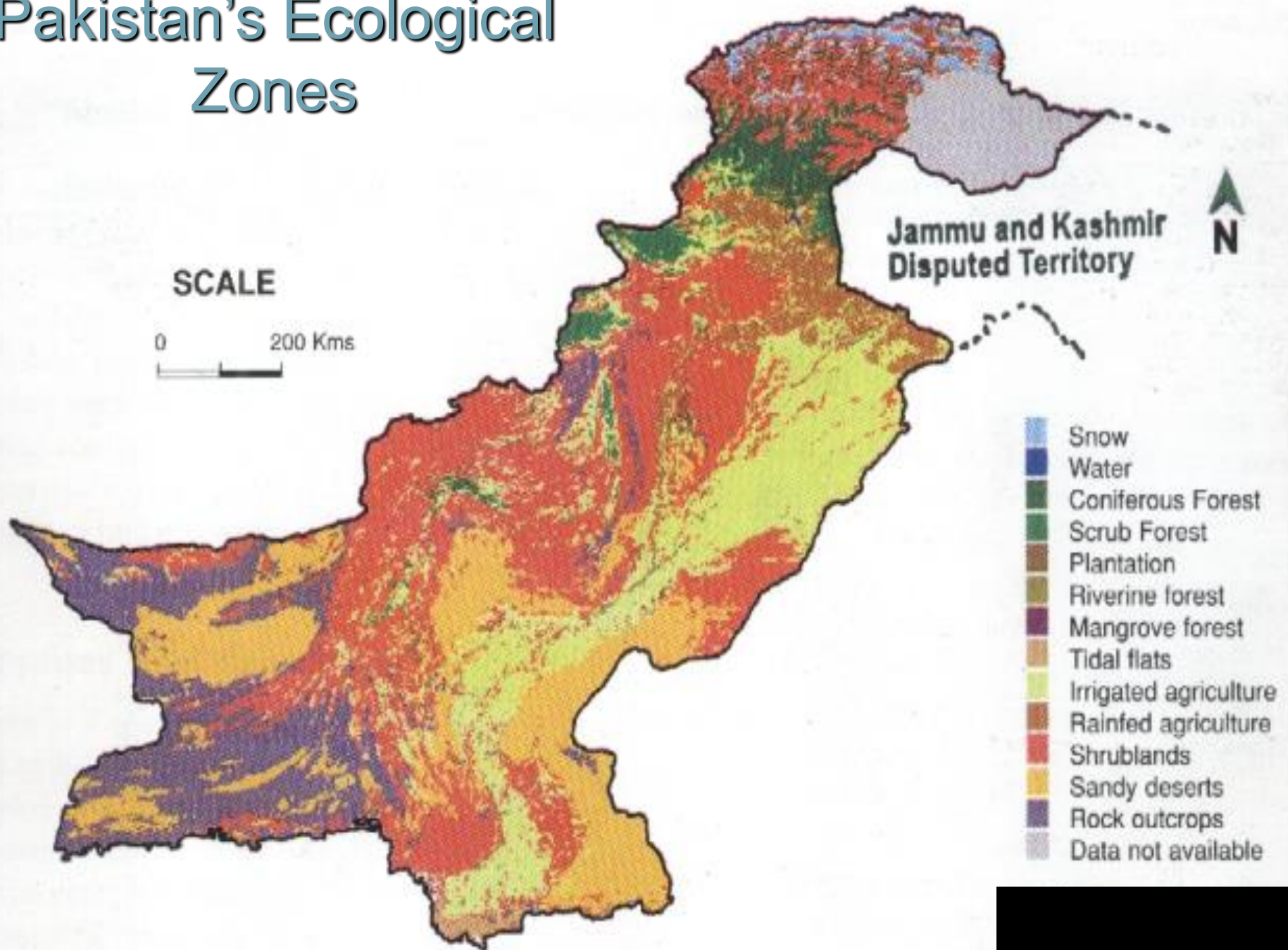


ESRI



Produced by the GIS Lab
of WWF-Pakistan using
software donated by
ESRI Inc., Redlands, CA.

Pakistan's Ecological Zones



WWF- Global 200 Eco-regions

Five are located in Pakistan:

- ❑ The North Arabian Sea**
- ❑ The Indus Ecoregion**
- ❑ Rann of Kutch**
- ❑ Tibetan plateau**
- ❑ Western Himalayan Temperate Forests**

BIODIVERSITY OF PAKISTAN

Palaeartic (Himalayas and Balochistan uplands) Examples. Brown Bear, Lynx, Otter

Indo-Malayan (Indus plains including Thar Desert) Examples. Grey Goral, Himalayan Langur, Blue Bull

Ethiopian (Makran Coast and in the Thar Desert) Examples. Chinkara and Goitred Gazelle, Honey Badger

Biodiversity Of Pakistan

S. #	Taxa	Total Species Reported in Pakistan
1.	Mammals	195
2.	Birds	668
3.	Reptiles	192
4.	Amphibians	22
5.	Fish (freshwater)	198
6.	Fish (marine)	788
7.	Echinoderms	25
8.	Mollusks (Marine)	769

Biodiversity Of Pakistan (Continued)

S. #	Taxa	Total Species Reported in Pakistan
9.	Crustaceans (Marine)	287
10.	Annelids (Marine)	101
11.	Insects	>5000
12.	Angiosperms	5700
13.	Gymnosperms	21
14.	Pteridophytes	189
15.	Algae	775
16.	Fungi	>4500

Major Threats to Biodiversity of Pakistan

- ❑ Habitat degradation**
- ❑ Deforestation**
- ❑ increase in human population**
- ❑ Increase in livestock population**
- ❑ Illegal harvesting**
- ❑ Illegal trade of wild fauna and flora**
- ❑ Urbanization**

Major Threats to Biodiversity of Pakistan (Conti..)

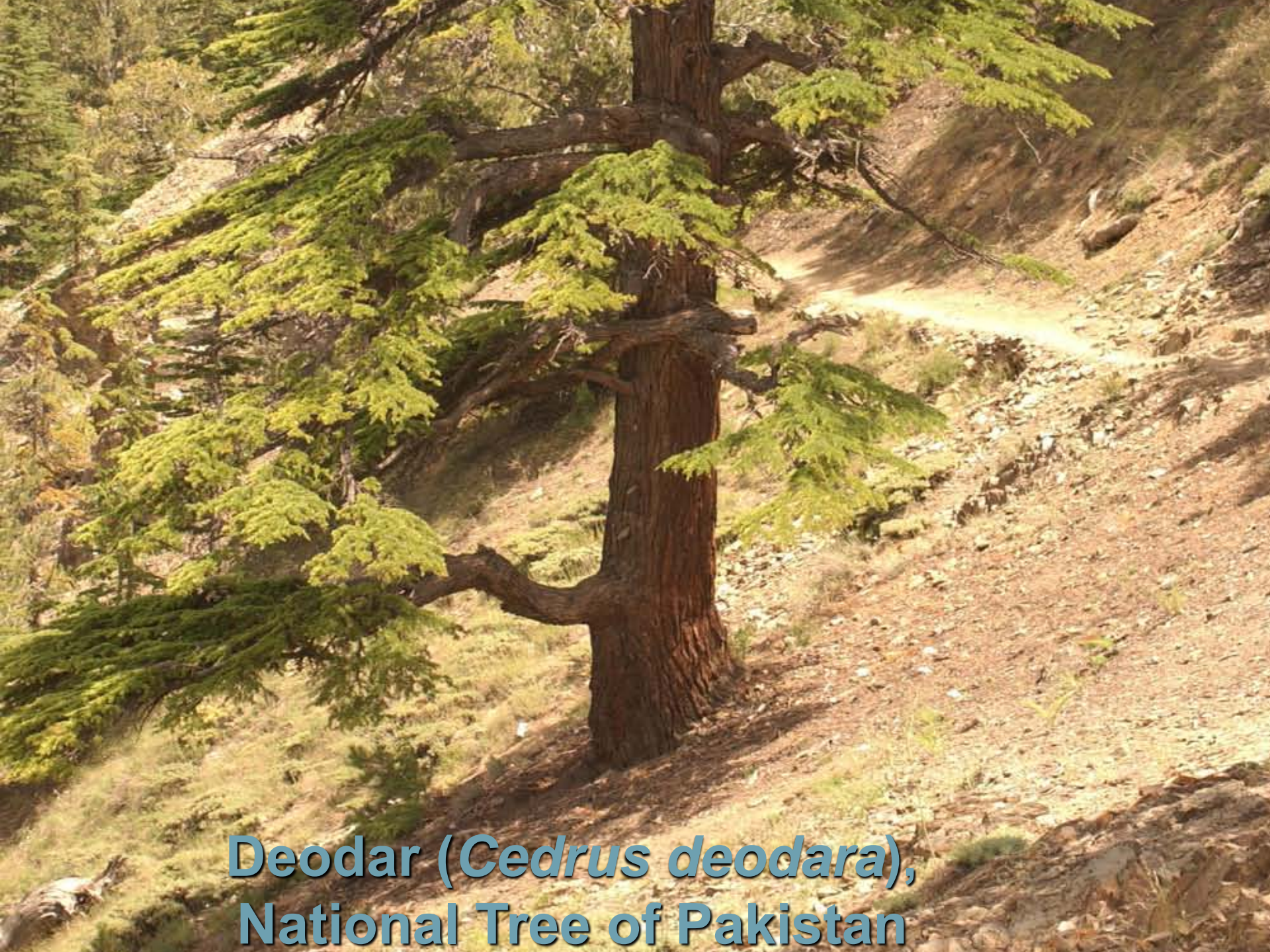
- ❑ **Agricultural expansion**
- ❑ **Water diversion for irrigation purposes**
- ❑ **Weak enforcement because of limited infrastructure and remoteness of areas**
- ❑ **Pollution**
- ❑ **Infrastructure development**
- ❑ **Introduction of invasive species**
- ❑ **Lack of awareness**

Markhor (*Capra falconeri*)
National Mammal of Pakistan





Chukar (*Alectoris chukar*)
National Bird of Pakistan

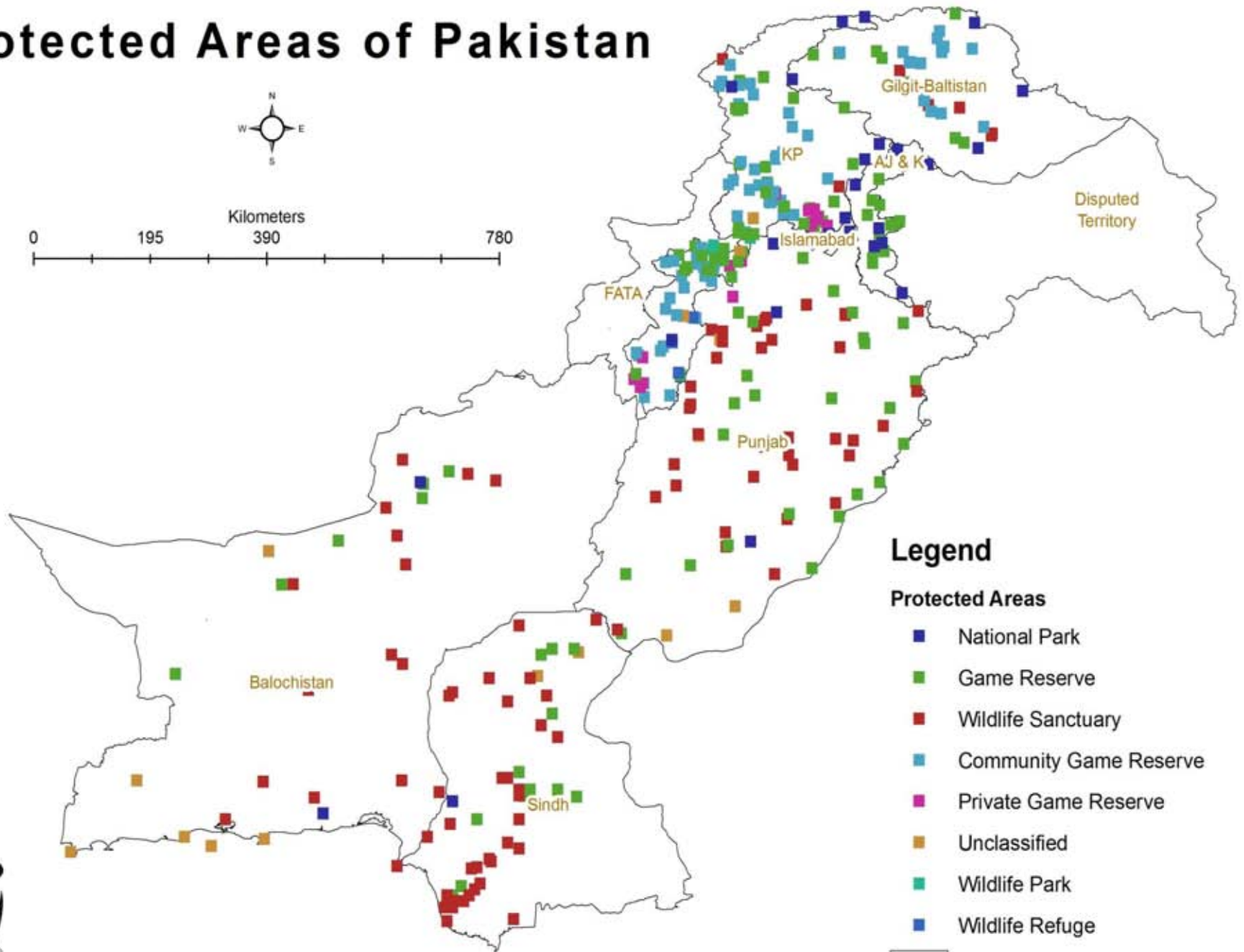
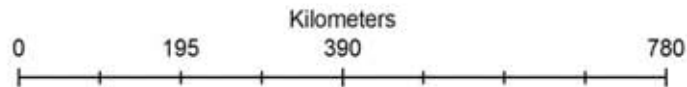


**Deodar (*Cedrus deodara*),
National Tree of Pakistan**

Protected Areas Network in Pakistan

- ❑ **Wildlife management and conservation in Pakistan, a provincial subject**
- ❑ **However, liaison with international agencies, conventions and coordination with provincial/territorial authorities is carried out at Federal level**
- ❑ **Millennium Development Goals, Protected Areas up to 12% of its total land area by 2015, which has already been achieved. Total protected area is now more than 12%**
- ❑ **Protected Areas include following categories:**
 - ✓ **National Parks: 26**
 - ✓ **Wildlife Sanctuaries: 92**
 - ✓ **Game Reserves: 89**
 - ✓ **Community Conservation Areas: 115**
- ❑ **19 Ramsar Sites, total surface area of 13,43,627 ha.**

Protected Areas of Pakistan



Legend

Protected Areas

- National Park
- Game Reserve
- Wildlife Sanctuary
- Community Game Reserve
- Private Game Reserve
- Unclassified
- Wildlife Park
- Wildlife Refuge

□ Province Boundary

Summary of National Parks in Pakistan

Province / Territory	Total Area (km2)	National Parks		
		Number	Area (ha)	Area Percent
Azad Jammu and Kashmir (AJK)	12,431	7	99,191	7.98
Gilgit – Baltistan	347,190	5	2,016,745	5.81
Balochistan	68,879	2	643,539	9.34
Khyber Pakhtunkhwa	74,521	6	196,649	2.64
Punjab	205,345	4	210,824	1.03
Sindh	140,914	1	308733	2.19
Islamabad capital Territory (ICT)	906	1	17,386	19.19
Federally Administrated Tribal Area (FATA)	27,220	0	0	0
Total for Pakistan	877,406	26	3,493,067	3.96

Summary of Wildlife Sanctuaries in Pakistan

Province / Territory	Total Area (km2)	Wildlife Sanctuaries		
		Number)	Area (ha)	Area Percent
Azad Jammu and Kashmir (AJK)	12,431	0	0	0.00
Gilgit – Baltistan	347,190	3	164,100	0.47
Balochistan	68,879	14	1,192,335	17.31
Khyber Pakhtunkhwa	74,521	3	34,212	0.46
Punjab	205,345	38	208,589	1.02
Sindh	140,914	33	744,755	5.29
Islamabad Capital Territory (ICT)	906	1	7,000	7.73
Federally Administrated Tribal Area (FATA)	27,220	0	0	0
Total for Pakistan	877,406	92	2,350,991	2.68

Conservation of Biodiversity (National Level)

- ❑ The Pakistan National Conservation Strategy (1992)**
- ❑ Biodiversity Action Plan (2000)/NBSAP**
- ❑ Pakistan Environmental Protection Council (PEPC)**
- ❑ Climate Change Division (Forestry Wing)**
- ❑ Focal Point for CBD, CMS, CITES and Ramsar Convention**
- ❑ Biodiversity Directorate**
- ❑ Biodiversity Working Group**
- ❑ Climate Change Policy**
- ❑ National Forest Policy (under consideration)**
- ❑ National Wetlands Policy (under consideration)**

Legislative Cover:

- ❑ Pakistan Trade Control of Wild Fauna and Flora Act 2012**
- ❑ The Pakistan Environmental Protection Act, 1997**
- ❑ Customs Act, 1969**

Conservation of Biodiversity at Sub-national/Provincial Level

- ❑ **Provincial Conservation Strategies**
- ❑ **Territorial Conservation Strategies**
- ❑ **Provincial Forests and Wildlife Departments**
- ❑ **Provincial Agriculture and Livestock Departments**
- ❑ **Provincial Environmental Protection Departments**
- ❑ **Provincial Fisheries Departments**

Legislative Cover:

- ❑ **The Sindh Wildlife Protection Ordinance, 1972**
- ❑ **The Balochistan Wildlife Protection Act, 1974**
- ❑ **The Khyber Pakhtunkhwa (N.W.F.P) Wildlife (Protection, Preservation, Conservation and Management) Act, 1975**
- ❑ **The Gilgit-Baltistan (Northern Areas) Wildlife Preservation Act, 1975**
- ❑ **Azad Jammu & Kashmir Wildlife Act, 1975**
- ❑ **The Punjab Wildlife (Protection, Preservation, Conservation and Management) (Amendment) Act, 2007**
- ❑ **The Islamabad Wildlife (Protection, Preservation, Conservation and Management) (Amendment) Act, 2008**
- ❑ **Provincial Environmental Protection laws**
- ❑ **Provincial Forests Laws**
- ❑ **Provincial Fisheries Laws**

Conservation of Biodiversity (District Level)

- ◉ **14th August 2001**
District Governments were introduced in Pakistan
- ◉ **District Forest Officer**
- ◉ **District Agriculture Officer**
- ◉ **District Livestock Officer**
- ◉ **District Fisheries Officer**
- ◉ **District Environment Protection Officer**
- ◉ **District Water Management Officer**

**Zoological Gardens, Wildlife Parks, Botanical Gardens,
Fish hatcheries, Aqua culture, Crab and Shrimp culture**

Conservation of Biodiversity (Cities Level)

**Capital Development Authority in Islamabad
(Entire ICT is Protected Area including Margalla
Hills National Park)**

**Marghazar Zoo, Proposed Zoo-Cum Botanical
Garden, Natural History Museum, NARC**

- ⦿ **Biodiversity Conservation Efforts in Provincial Capitals (Lahore, Karachi, Quetta, Peshawar, Gilgit, Muzaffarabad)**
- ⦿ **Biodiversity Conservation Measures in Major Cities**
- ⦿ **Conservation Strategies for selected Regions/Areas**

Conservation of Biodiversity (Village/Valley Level)

Community Based Conservation (Most successful model)

- ⦿ **Biodiversity Conservation Efforts in remote areas at village/valley level**
- ⦿ **Incentive-Share (80%) of trophy hunting and sport hunting**
- ⦿ **Community share is spent for Biodiversity conservation and social uplift**

Lesson Learned

**Efforts for Biodiversity
Conservation at all possible
levels**

(starting from National to Village level)

Thanks for your attention