



How to address local vulnerabilities and ecological restoration?



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Climate Change and Pakistan's Vulnerability

Pakistan ranked first on the Germanwatch Climate Risk Index (CRI) 2025 as the most vulnerable country to climate change

An increase in mean temperature of 0.63°C over the past century

Pakistan ranks 150th in readiness and 146th in vulnerability.

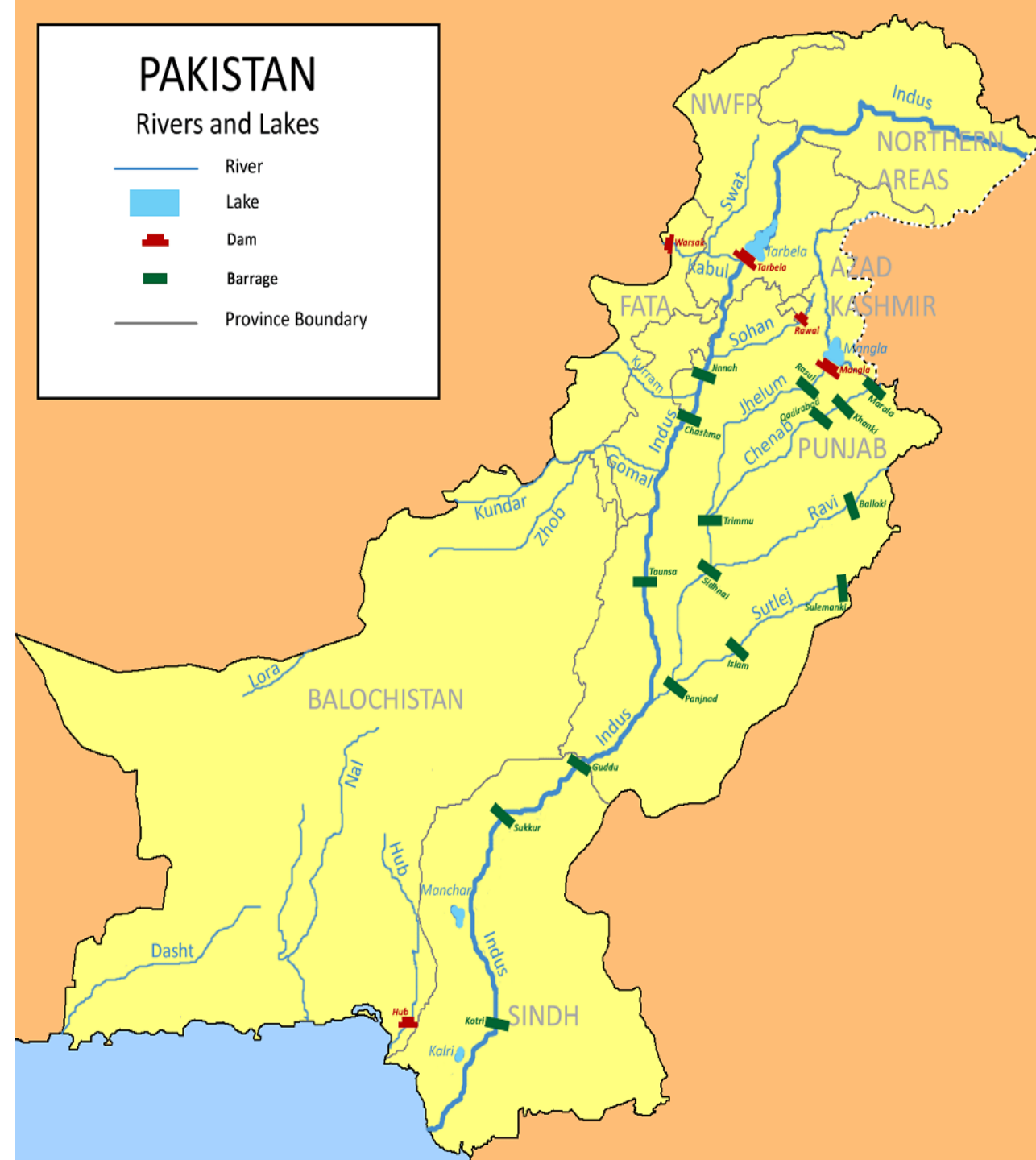
GHG Contribution: 178th out of 213 countries, highlighting its minimal carbon footprint.

Damages and reconstruction of USD 30 billion, displacement of more than 8 million people, and fatalities of around 1,700 people (2022 Flood)



Pakistan's Water Apportionment & Downstream Reality

- The **1991 Water Apportionment Accord (WAA)** remains the cornerstone of inter-provincial water sharing in Pakistan.
- While it aimed to ensure **equitable distribution**, evolving realities, population growth, climate variability, and upstream infrastructure, have strained its implementation.
- **Sindh**, as the most **downstream province**, faces the compounded effects of reduced freshwater flows, limited representation in decision-making, and rising ecological stress in the **Indus Delta**.
- The intensifying **climate crisis**, including erratic monsoons, prolonged droughts, and frequent floods, has deepened inequities between upstream and downstream users, threatening livelihoods and ecosystem health.



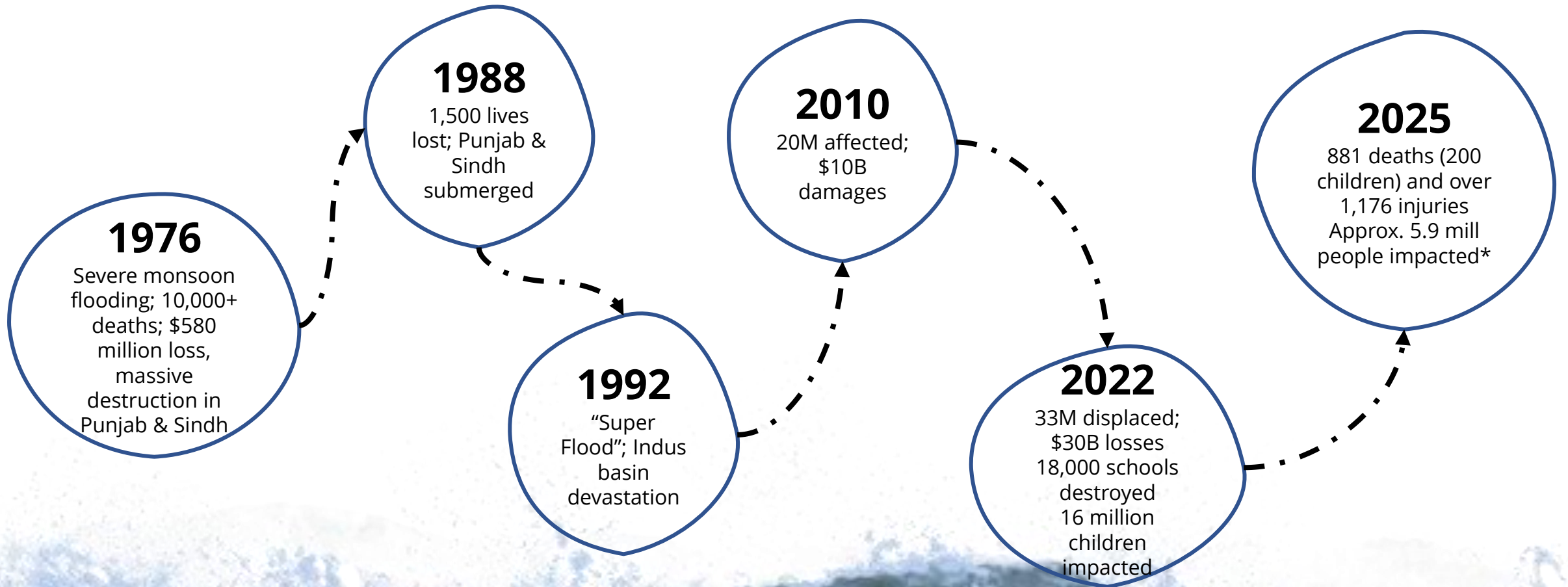
The Downstream Crisis

- **Sea Intrusion & Salinity:** With declining river discharge, seawater has encroached inland by over 80 kilometers in some areas, salinizing soil and freshwater sources.
- **Loss of Livelihoods:** Declining agricultural productivity, collapsing fisheries, and land degradation are forcing mass migration from deltaic villages.
- **Ecological Collapse:** The once-thriving mangrove ecosystem, a critical buffer against storms and erosion, has been severely degraded, though recent restoration efforts are showing recovery potential.





Floods in Pakistan - A Timeline of Devastation





Devastation Caused by the 2025 Floods in Pakistan

Local Vulnerabilities — When the Delta Dies, People Lose Home, Food & Future

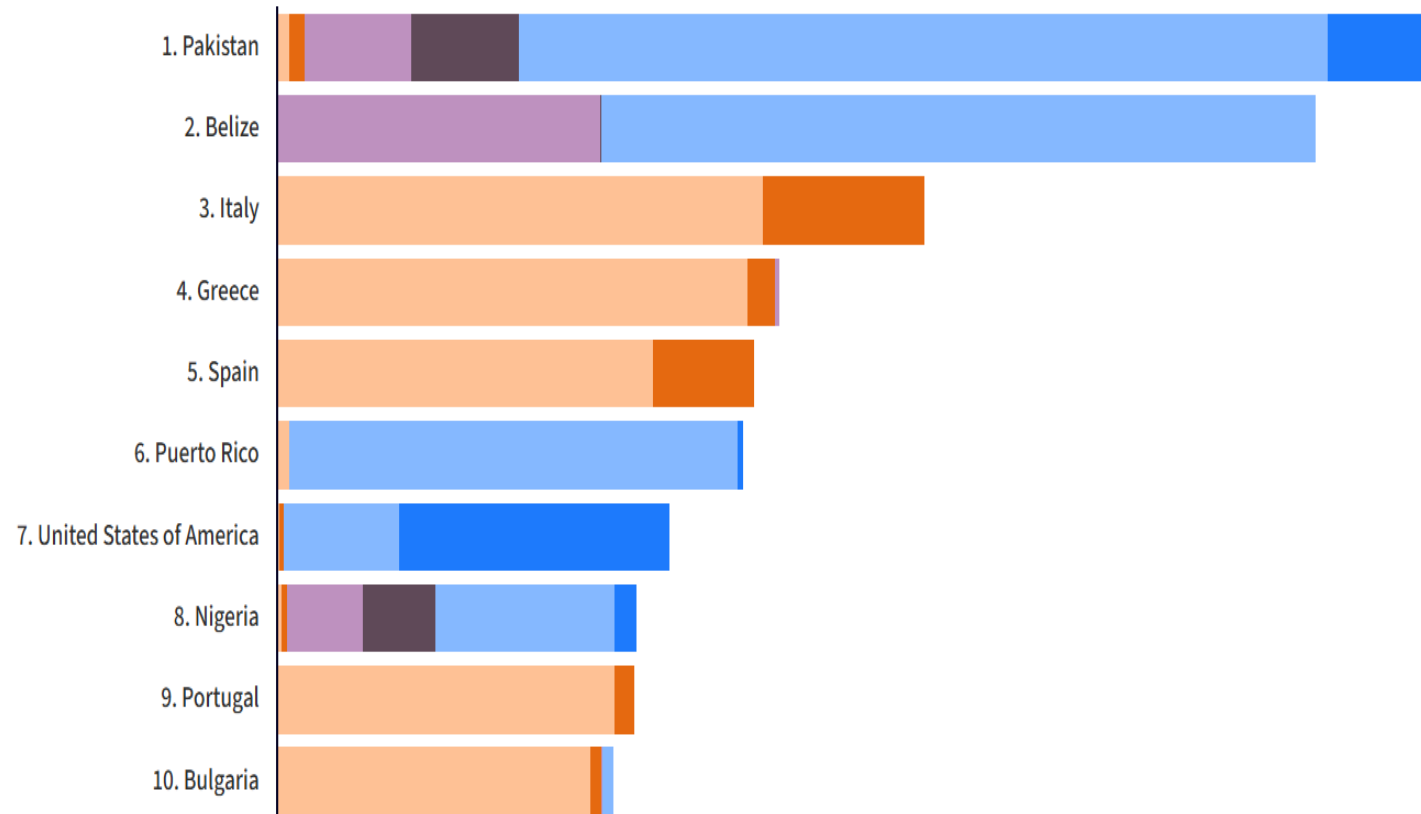
- Coastal erosion & land loss
- Mangrove degradation (and mixed recovery)
- Fisheries collapse & declining catches
- Salinization & groundwater contamination
- Food insecurity & livelihood loss
- Gender impacts
- Cultural erosion & displacement

Climate Risk Index: Top 10 Most Affected Countries

2022 ▾

Fatalities per 100,000 Fatalities Affected per 100,000 Affected Losses % of GDP Losses

*1993-2022: Indicators describe annual average



Ecological restoration is not charity for nature; it's survival for us all



Free-flowing rivers
concept



Environmental Flows
(E-flows) in the Indus
Basin system



Reconnecting
hydrological cycles
for resilience



Water justice =
ecological justice



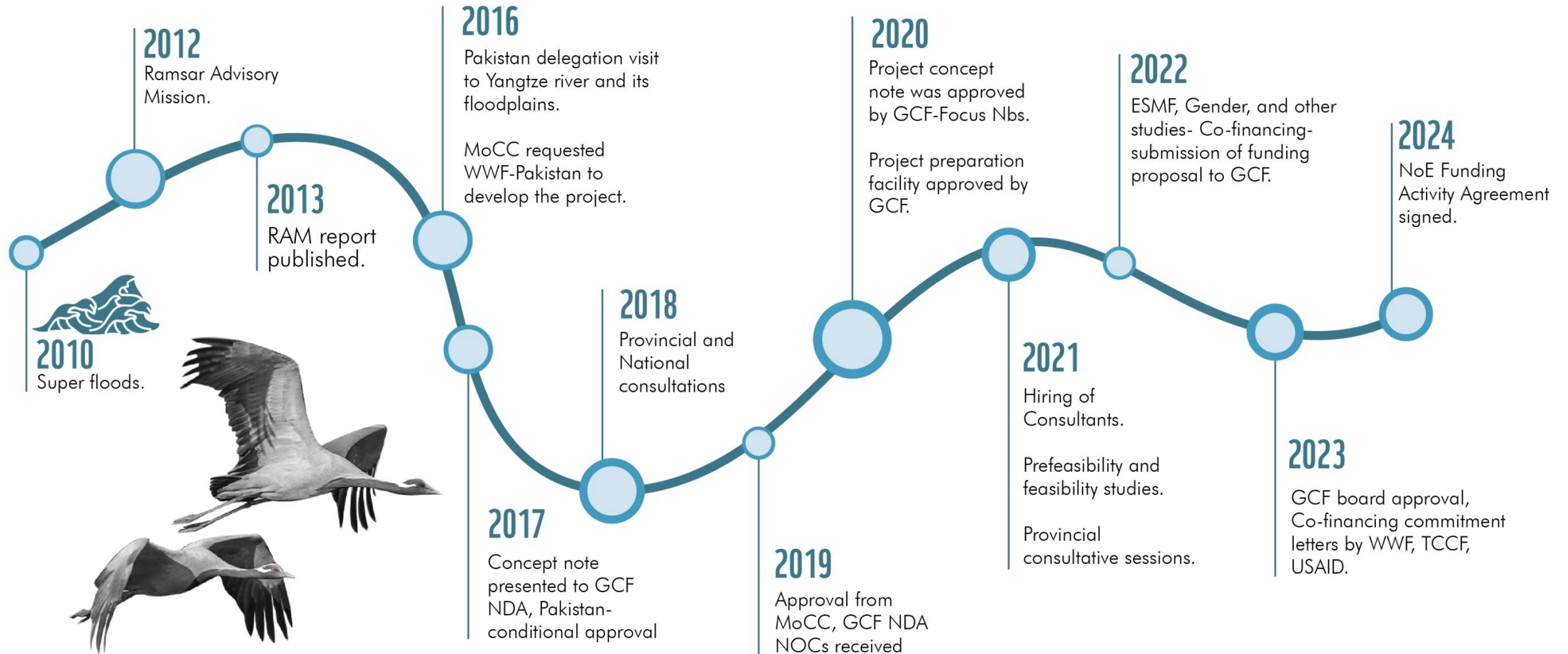
Pathway to action



WWF-Pakistan in Action



RECHARGE PAKISTAN - CHRONOLOGY



SITES

DI Khan, Ramak, Chakar Lehri, Manchar Watersheds

VISION

By 2050, Ecosystem-based Adaptation contributes towards better climate resilience, water and food security, and sustainable livelihoods in Pakistan

FINANCING



GCF Financing:
USD 66 million



WWF Co-finance:
USD 1.8 million



The Coca Cola
Foundation Co-finance:
USD 5 million



IMPACT

By 2030, flood risk reduced and water recharge enhanced at 6 sites in the Indus basin, building resilience of 10 million people and vulnerable ecosystems



PROJECT DURATION

7 years

BENEFICIARIES



Direct:

around 687,336 people

Indirect:

around 7,024,361 people



Water Resource Accountability in Pakistan (WRAP) Project Summary

Geographic Location:

1. Punjab-District (Khushab - Soon Valley)
2. KP-Districts (Mansehra, Abbottabad, Haripur, Kohistan, Chitral Upper & Lower)
3. GB-Districts (Gilgit, Hunza, Ghizar, Skardu, Astore, Ghanche, Diamer, Nagar, Shigar, Kharmang)

Project Outcome:

The project aims to pilot **Nature-based Solutions (NBS)** at selected locations in Punjab, Gilgit-Baltistan, and Khyber Pakhtunkhwa in partnership with relevant stakeholders, including water management for improving the health of natural ecosystems, better water resource management, and livelihood improvement.



Enhancement of traditional irrigation structures

Core Challenges

Systemic Gaps

Response remains reactive; adaptation, financing, and institutional coordination are weak.

High Vulnerability

Among the most climate-affected countries, facing floods, droughts, heatwaves, and glacier melt.

Strategic Direction

Policies and NDCs exist but require urgent implementation, capacity, and resource mobilization.

Severe Impacts Agriculture, water security, and urban resilience under threat; poorest and marginalized most affected.



Call to Action — Aligning Water Justice with Ecological Integrity

- Water Justice is Ecological
- Reforming the Water Apportionment Framework
- Establish a Delta Restoration Fund
- Institutionalize an Ecological Health Mindset

Way Forward

1. Consolidating Leadership for Unified Climate Action

- Facilitate cross-sectoral collaboration among government, civil society, and technical experts to drive cohesive climate governance.

2. Pitching Scalable Climate Projects

- Submit proposals for initiatives like **Recharge Pakistan**, focusing on nature-based solutions, flood resilience, and community engagement.

3. Piloting Climate-Resilient Infrastructure

- Launch demonstration projects in high-risk zones to showcase replicable models of sustainable and adaptive infrastructure.





Thank You

