

Water Management and Adaptation in Pakistan: Mobilizing Finance

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Climate Impacted Extreme events in Pakistan

- Unprecedented Flooding in the southern province of Sindh in 2011
- Devastating super floods experienced during July/August, 2010
- Large scale flooding in 1992, 1997, 2003 and 2006
- Localized Cloud Burst rains causing urban flooding of Lahore (1996), Islamabad (2001) and Karachi (2009)

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- History's worst drought during 1999 - 2002
- Intense heat waves during 2003, 2005, 2007 2010 (53.7 °C) and 2014
- Severe cyclonic storms in 1999, 2007 and 2010
- Recurring GLOF events, flash floods, avalanches and landslides in Northern Pakistan

Climate Risk Vulnerability Index by Maple Croft

Country	Rank in 2010/2011	Rank in 2009/2010
Bangladesh	1	12
India	2	56
Philippines	6	44
Pakistan	16	29
Nepal	4	11
Afghanistan	8	3

Climate Risk Index by German Watch

Rank	Country	CRI Score	Death Toll	Deaths per 100000 inhabitants	Absolute Losses (M \$ PPP)	Losses per unit GDP in %	HDI
1	Pakistan	3.5	1891	1.1	25316	5.42	145
2	Guatemala	6.33	229	1.59	1969	2.80	131
3	Colombia	8.0	320	0.70	7544	1.73	87
4	Russia	11.0	56165	39.3	5537	0.25	66
5	Honduras	14.67	139	1.73	220	0.65	121
6	Oman	17	24	0.81	1314	1.73	89
7	Poland	17.83	151	0.40	4745	0.66	39
8	Portugal	19.67	47	0.44	1749	0.71	41
9	China	23.50	2889	0.22	33395	0.33	101
10	Tajikistan	24.17	27	0.35	262	1.77	127

Adaptation – price tag

- Annual adaptation costs for Pakistan will be in the range 6 - 14 billion USD by 2050 (NEEDS Report)
- IUCN in 2009 suggested that USD 50 B are required for water sector in the next 20 years
- Pakistan's adaptation costs are mounting in billions while funding for adaptation is in millions
- Requirement far too big in comparison to what is actually being received

Reasons for Decline in Flow of CF to Pakistan

- Prime reason is the low availability of CF at the global level
- Pakistan's non-climate change related development challenges remained high
- Issues of terrorism, militancy and energy crisis
- Pakistan lagged behind other developing countries in formulating its CC policy
- Also it lagged in demonstrating its readiness to accept CF due to capacity issues

How is adaptation finance linked to development finance?

- Adaptation - part and parcel of infrastructure projects
- Adaptation funding though part of national development funds is not very visible
- Infrastructure projects - long gestation periods
- Adaptation finance falls far short of the needs of highly vulnerable countries like Pakistan

Funding Mechanism

- Public Sector Development Program at Federal level and Annual Development Program at Provincial level
- International development agencies and Funds i.e. UNDP, AF, GEF, SCCF, etc. and NGOs
- NGO funds - grass root level i.e. communities
- Many community led adaptation projects are run by national and international NGOs

Opportunities and barriers in terms of mobilization, access and delivery

- National Climate Change Policy
- Mobilizing climate finance
- Climate change cells federal ministries and provincial departments.
- Creating a facility followed by a National Climate Change Fund
- Barriers - lack of knowledge
- Cumbersome procedures
- High transaction costs.

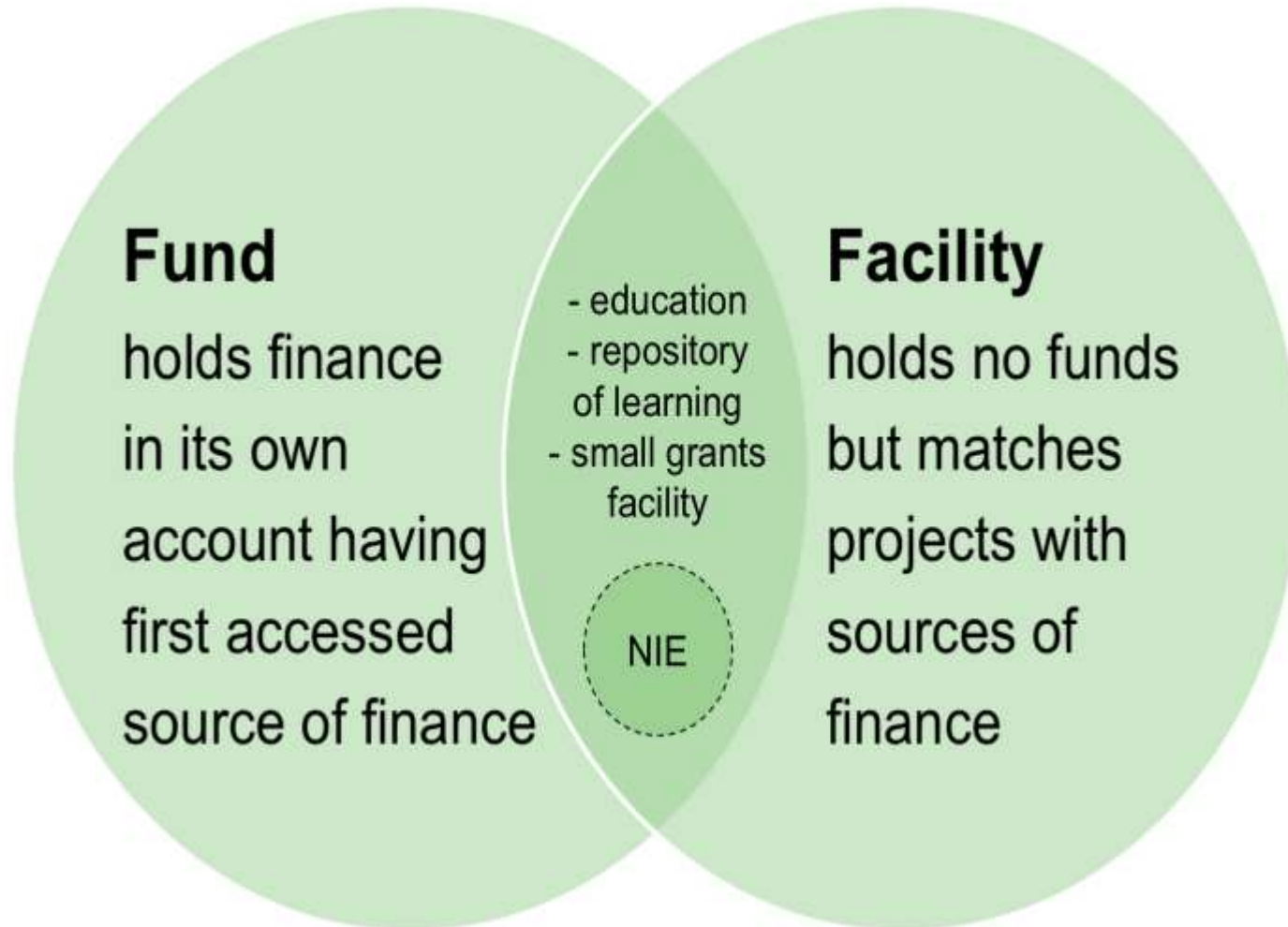
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- Flow of resources from Federal to provincial levels
- Devolution of certain functions from the federal level to the provinces in 2011
- Lack of clarity at subnational levels about accessing funds

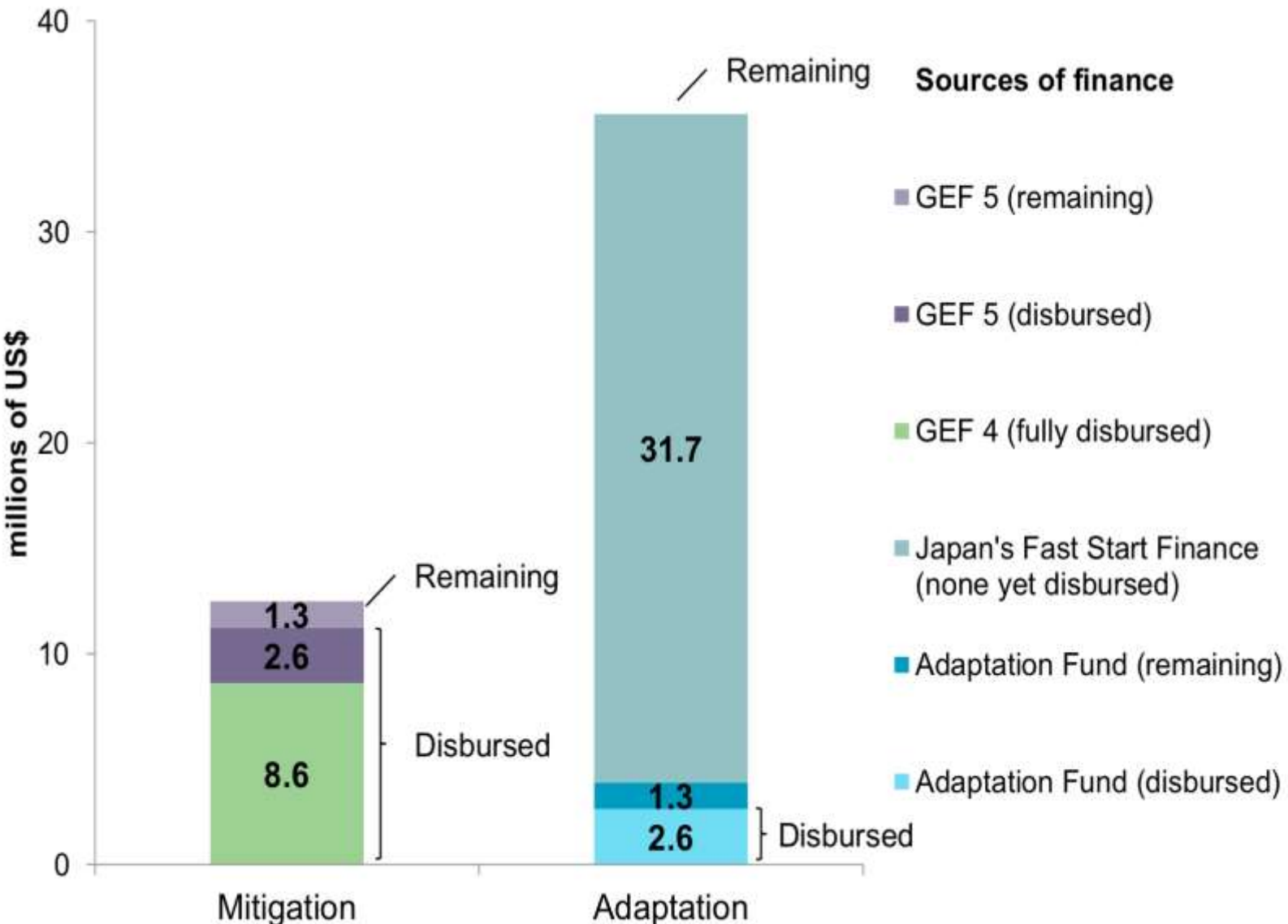
Scaling up of adaptation finance

- Fund management through a facility or National Climate Change Fund
- Develop public-corporate-civil society partnerships for financing
- Sensitize sectoral ministries/departments about different avenues of funding for adaptation
- Increase understanding amongst stakeholders regarding the co-benefits
- Dedicated funds for adaptation
- Innovative means to address risks
- Effective regulatory systems

Climate Change Fund Vs. Facility



Climate Finance from dedicated sources available for adaptation and mitigation activities in Pakistan

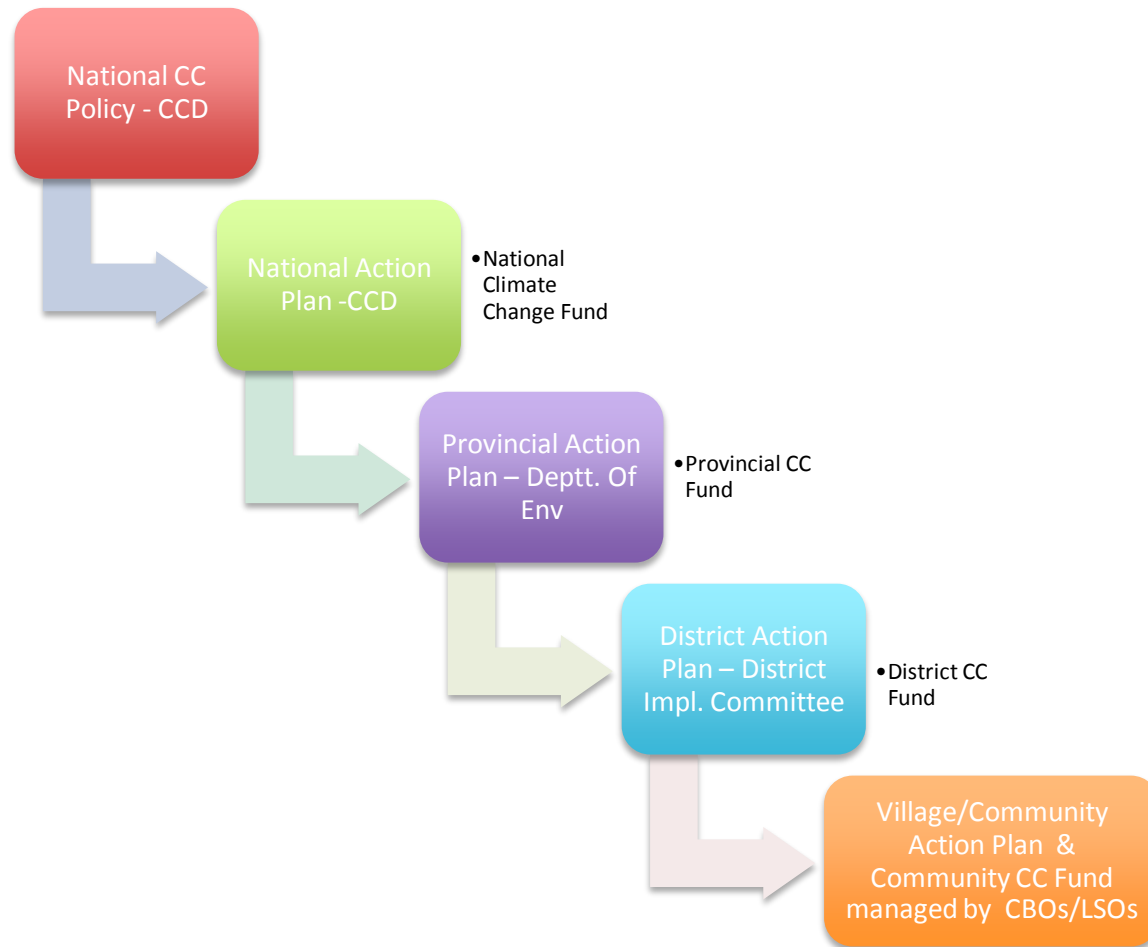


Source: www.climatefundsupdate.org

Enabling Environments for increased mobilization and involvement of private sector

- Consultations for creation of NIE
- Implementation Committees at the National and Provincial levels with public private partnership have been notified with clear ToRs
- Proactive engagement by communities for private sector support
- Private sector response encouraged by government in the form of tax incentives
- Increased realization by private sector as part of their corporate social responsibility
- Better risk insurance coverage

Institutional arrangements for CF after devolution



Co-benefits between adaptation and mitigation

- Adaptation and mitigation are two sides of the same coin
- Without adequate adaptation, mitigation efforts would not achieve the desired results
- Adaptation in general increases the cost of development, however, benefits are likely to outweigh the costs
- Adaptation in particular for water sector projects has substantial cost benefits

Adaptation funding for various initiatives at subnational levels

RAIN WATER HARVESTING

- USD 6.2 M for 20 union councils of earthquake affected areas of Pakistan
- 250,000 people from 40,000 households will benefit
- 60-80% household requirement will be met
- Builds resilience against unexpected water supply in the hilly rural and fragile areas
- Water becomes available at consumption point

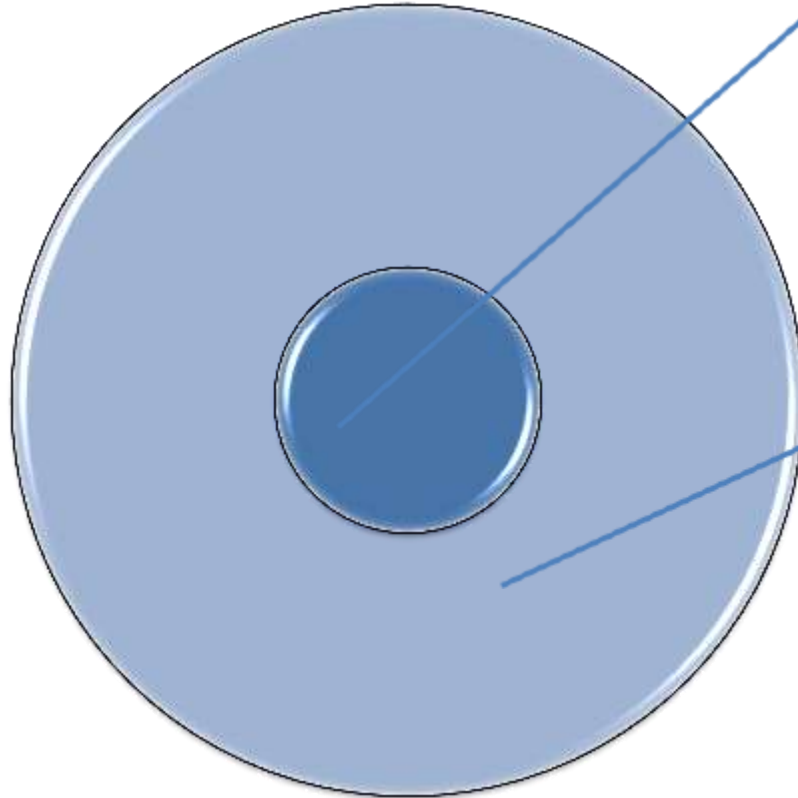


Reducing Risks & Vulnerabilities from Glacial Lake Outburst Floods (GLOFs) in Northern Pakistan (PAKISTAN GLOF PROJECT)



ADAPTATION FUND

Project Objectives



for

1. To develop the human and technical capacity of public institutions to understand and address immediate GLOF risks for vulnerable communities in Northern Pakistan

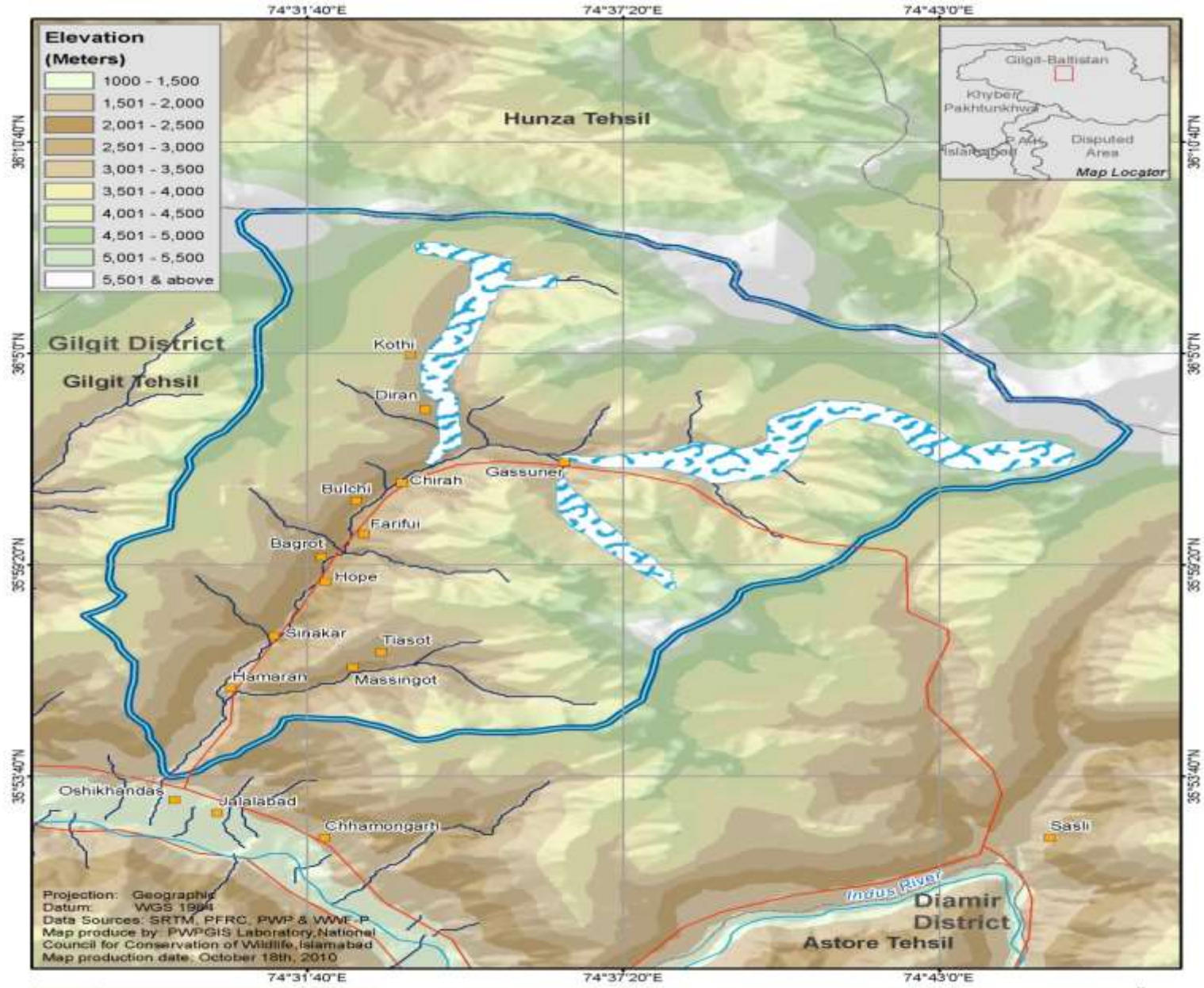
2. To enable vulnerable local communities in Northern Areas of Pakistan to better understand and respond to GLOF risks and thereby adapt to growing climate change pressures

Timeframe and Project Budget

Timeline:	4 years
Planned date of start:	May 2011
Effective date of start:	Nov 2011
Delay in implementation:	6 months
Planned date of completion:	April 2015
Expected date of completion:	November 2015

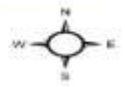
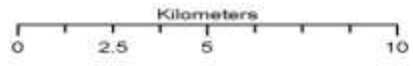
Total Allocated Resources:	US\$= 7.6 mil
UNDP Share:	US\$= .5 mil
Adaptation Fund:	US\$= 3.6 mil
Government's in-kind Share:	US\$= 3.5 mil

1-Project Location Bagrot Valley



- Legend**
- Locality
 - Road/Track
 - Drainage
 - River
 - Tehsil Boundary
 - Valley Watershed
 - Glacier

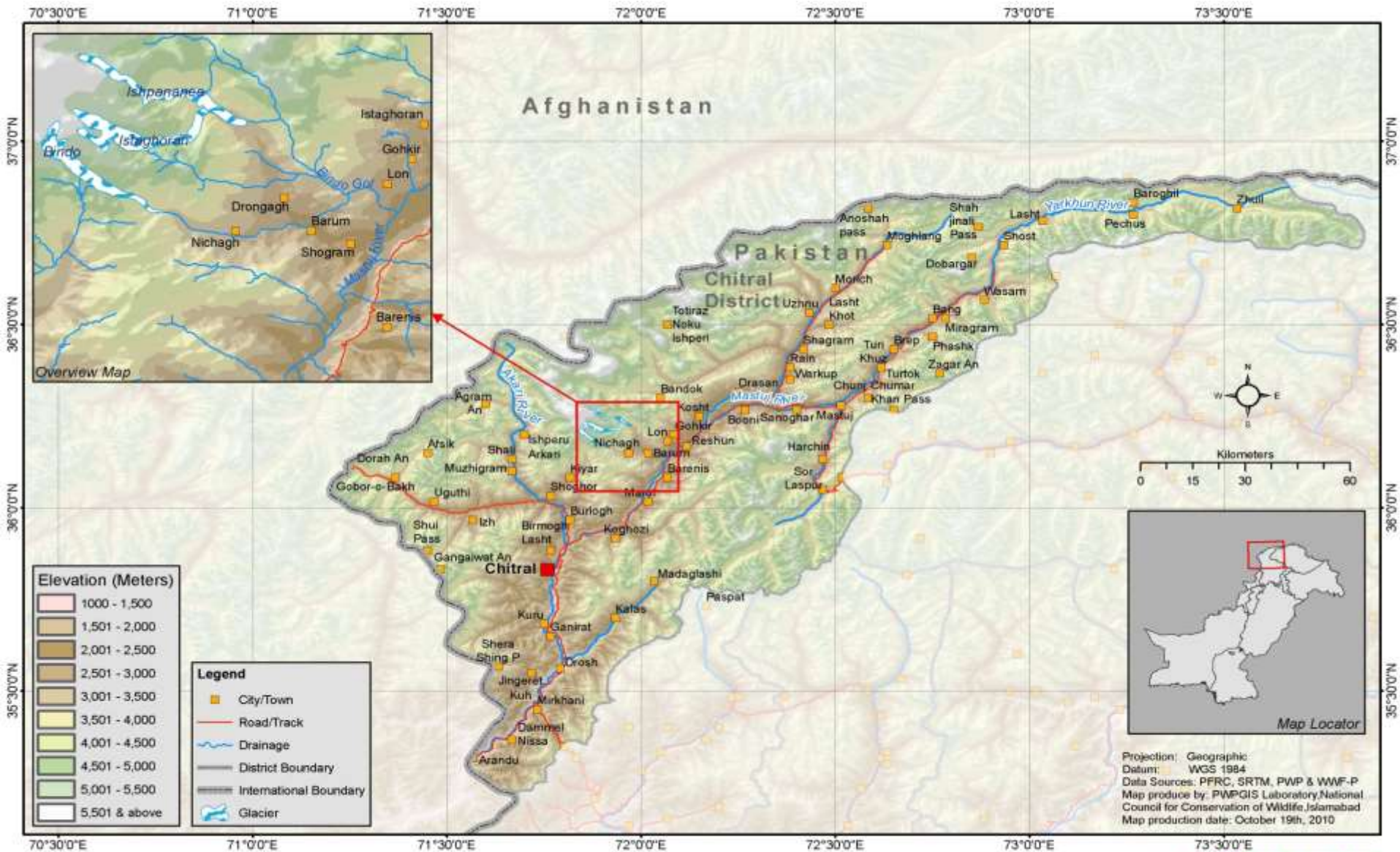
Map of Bagarot Valley



Disclaimer: The depiction and use of boundaries, geographic names and related data shown here do not necessarily imply official endorsement or acceptance by Pakistan Wetlands Programme / WWF-Pakistan.



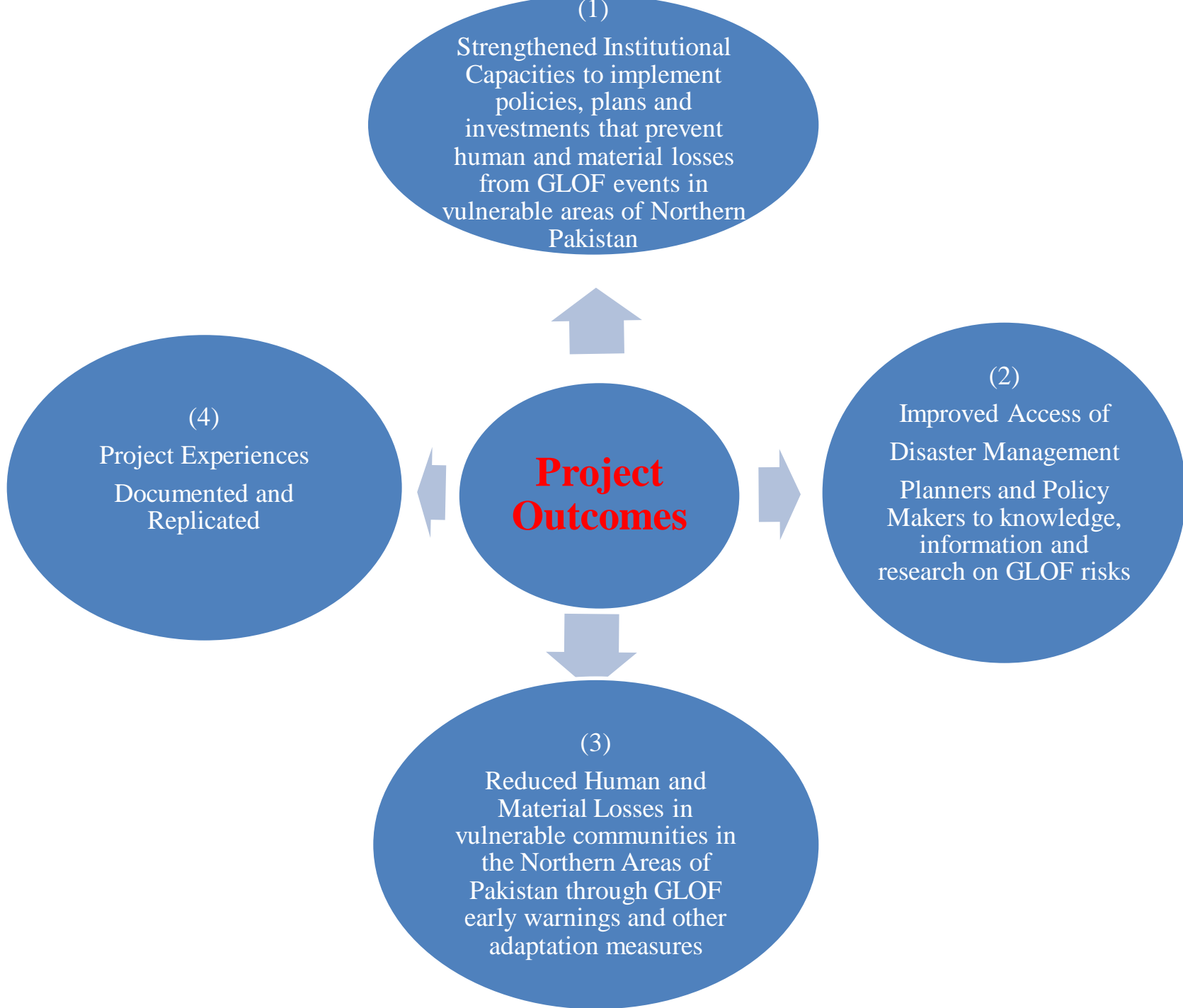
2-Project Location Bindo Gol Valley



Topographic Map of Drongagh Area, District Chitral



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Glacial lake in Bagrote valley



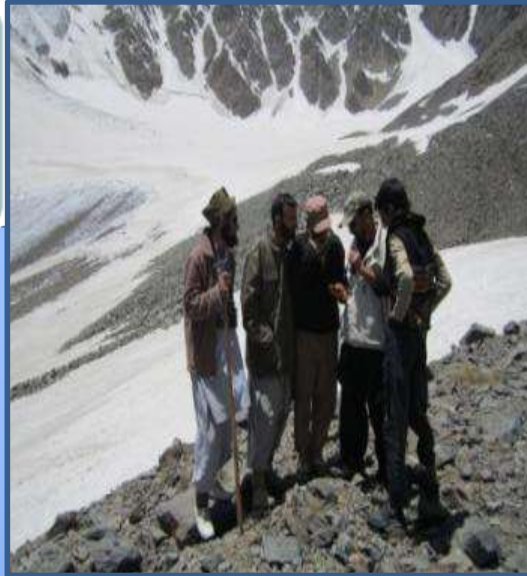
Bagrote village in Gilgit Baltistan



Field assessment and surveys

3. Visit of Multidisciplinary team to Bindo Gol organized

1. Multidisciplinary team visited Bindo Gol and Bindo glacier for assessment
2. Vulnerability assessment undertaken
3. GLOF baseline documentary developed
4. GIS maps developed



Risk & Vulnerability Analysis



Weather Observatories Installations



Collection of data on climatic conditions

2. Establishment of weather observatory in Bindo Gol

1. Site selected for observatory
2. Weather observatory with 5 basic MET equipment established in Bindo Gol
3. Community members trained in data collection



Adaptation Structures (Engineering Structures)



Progress made against the agreed activities

Progress on CCAs

1. Two Protection Walls of 170 and 200 feet long plus rivers diversion (100% work completed)
2. River Diversion at Shogram Payeen (completed)

River diversion



Physical work in Progress in Shogram



Protection Wall at Shogram



CCAS in Bindo Gol



Before Diversion

After



Before

After



GLOF DRM Trainings



Community Sensitization & Strengthening



Community Organization for DRR

1. Establishment of DRMC and VHVGs

1. Community orientation Meetings in different hamlets of Bindo Gol organized
2. Disaster Risk Management Committee established
3. 4 Village Hazards Watch Groups established in the valley (herders and retired soldiers)
4. Need Assessment of DRMC and VHVGs conducted
5. Financial support provided for augmentation of Community DRM Fund



Awareness and outreach activities





Thank You