

UIB Network - TWG 5

Hazards and risks:

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TWG-5: HAZARDS + RISKS AGENDA (2014)

- Identification of hotspots, risk mapping, land use
- Early warning system and monitoring systems combining scientific and community knowledge
- Structural measures to control erosion and sedimentation

July 2015 UIB Joint Proposal TWG-5

- Identification of hazard vulnerable areas (slope instability, land slide, avalanches etc.)
- Assessment of GLOF risk through survey and using satellite technology
- Ground verification of hot spots following multi hazard approach
- Mapping for entire UIB
- Recommendations on Early Warning Systems

Types of Hazards UIB

Geological Hazards

- Earthquakes
- Slope instability

Hydro Meteorological Hazards

- Snow storms
- Flash and River Floods
- Debris and Mud Flow
- Avalanches
- GLOFS
- Droughts
- Glacial retreat/advance

Hybrid

- Landslides
- Landslide Dam Outburst Floods (LDOFs)
- River Bank erosion

Stake Holders

Research Groups

Landslides & Debris Flows

- Foreign Research Groups (Ken Hewitt-Canada; Jack Shroder-Lewis Owen-USA)
- Geological Survey of Pakistan (on their own but also with the German Geological Survey).
- EvK2CNR with/without collaboration with KIU.
- Universities in Pakistan (NCEG-Peshawar; KIU; COMSAT)
- FOCUS Humanitarian Assistance Pakistan

Floods/GLOF

- Met Office, WAPDA

Disaster Management

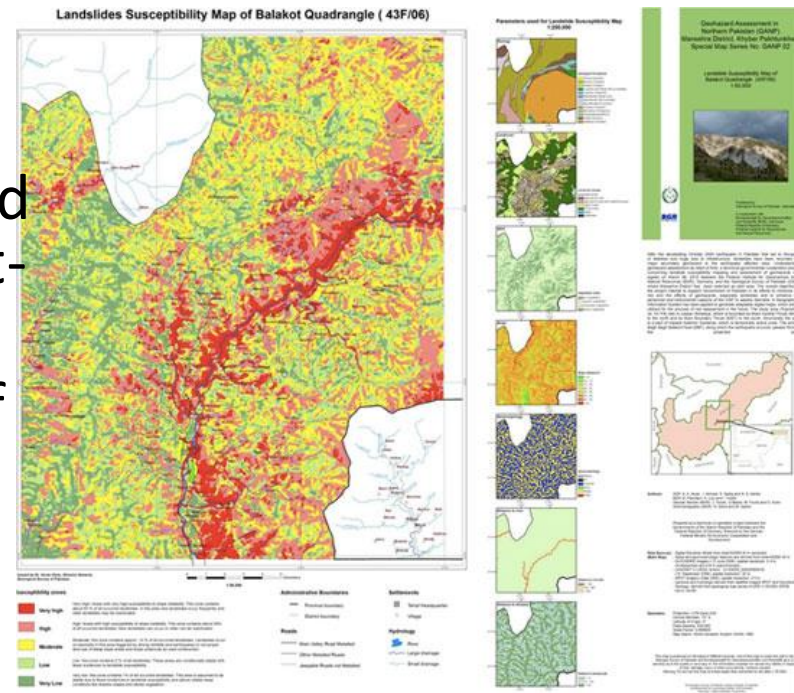
- GB Government- disaster management aspects
- FOCUS, AKRSP and other NGOs- Awareness, Community Preparedness
- Local Village Organizations-Preparedness and other disaster management aspects.
- KIU-Volunteers Program in rescue and relief.

Current Projects

- **KIU-NCEG** landslide hazard assessment for Bagrot and Nagar valleys
- **UNDP-Min of Climate Change**: Reducing Risks and Vulnerabilities from Glacial Lake Outburst Floods in Northern Areas
- **EvK2CNR** landslide susceptibility mapping in Bagrot and Shigar valleys.
- **FOCUS-WWF-ICIMOD**: small study on glacier flood EWS

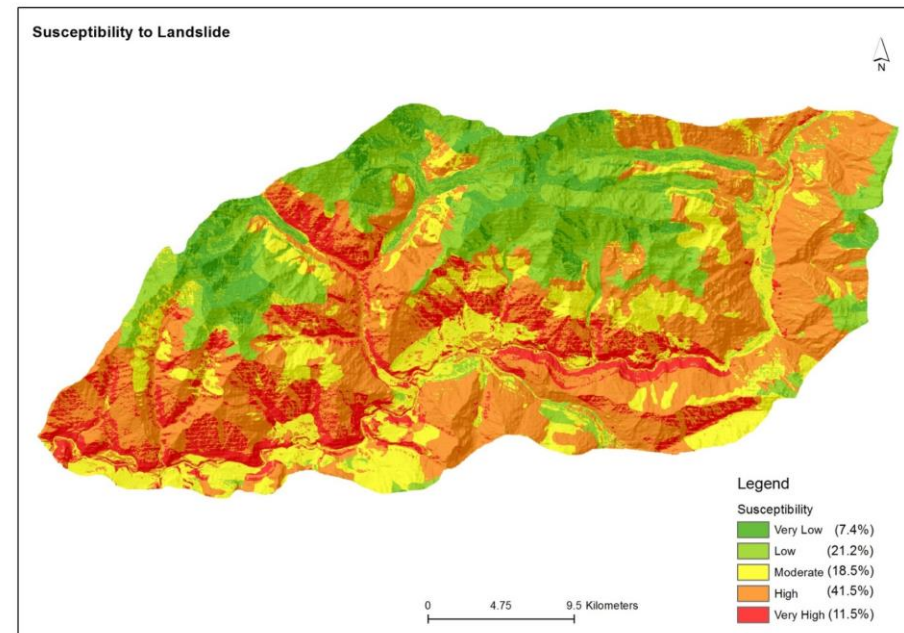
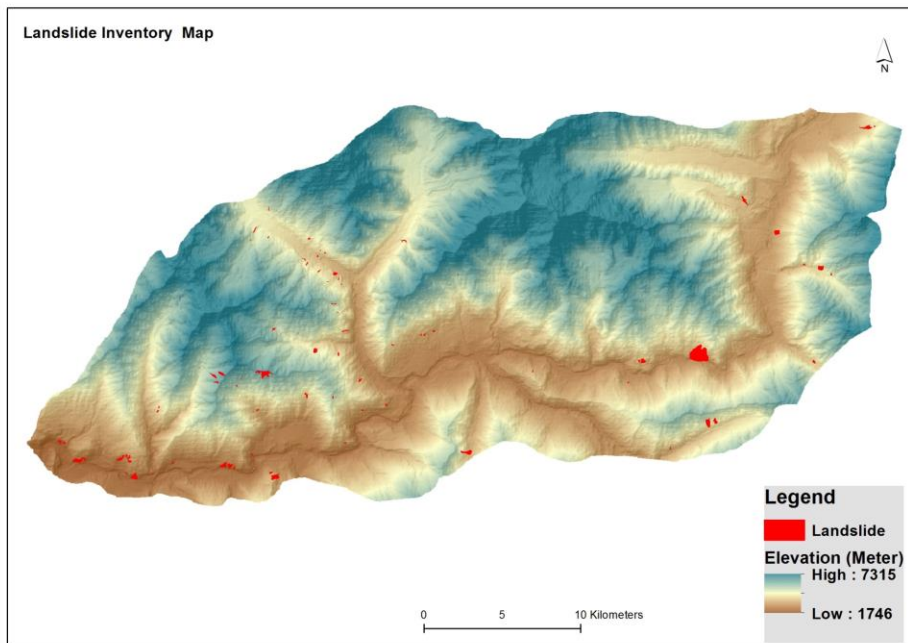
Geological Survey, Pakistan

- Study Of Hazardous Areas of Hunza-Nagar District Gilgit Baltistan
- Causative Mechanisms of Terrain Movement In Hunza Valley Gilgit Baltistan
- Geological upheavels In Kharhong Valley District Skardu, Gilgit-Baltistan
- Post disaster threats In Attabad and adjacent areas, Hunza Valley, Gilgit-Baltistan
- Geotechnical Causes For Failure Of Karli Dam, Hattian-Bala, Muzaffarabad, Azad Jammu And Kashmir



National Centre of Excellence in Geology, Peshawar

- Landslide susceptibility modeling using geospatial technology, a case study from Hunza-Nagar, Gilgit Baltistan



NCEG-Peshawar & FOCUS Humanitarian Assistance

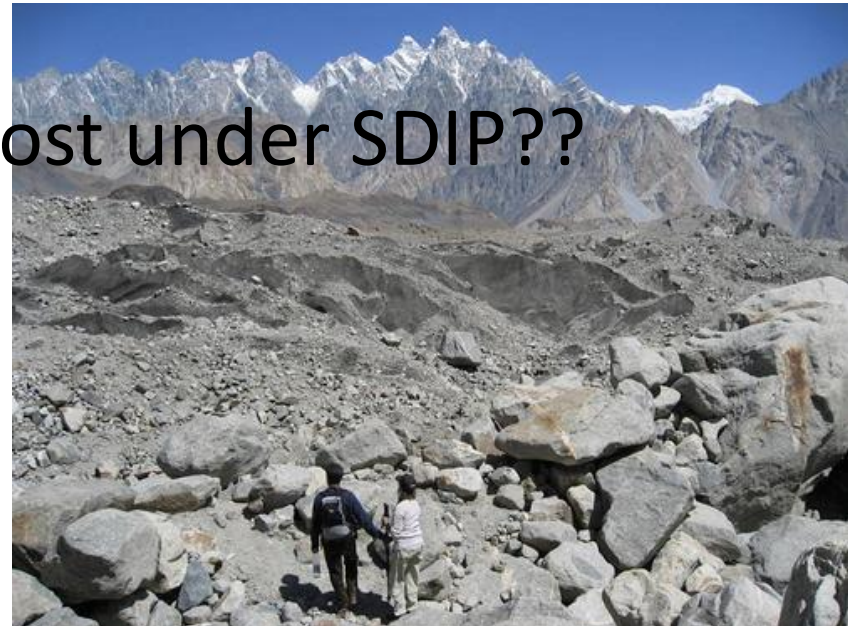
- GPS, GPR, Total Station, Geotechnical studies
 1. Herath Landslide, Chitral
 2. Mayun landslide, Hunza



FOCUS-ICIMOD

KIU-ICIMOD

- Focus and ICIMOD has initiated a community based hazard monitoring of Gulkhin glacier, Hunza.
- KIU-ICIMOD Cryosphere research + Permafrost Summer School
- New research on permafrost under SDIP??



Framework

- Macro-level hazard assessment using satellite images and GIS technologies.
- Ground verification for identification of hot spots.
- Multihazard approach.
- Linking hazard, vulnerabilities and calculating risk.
- Providing a scientific base for disaster management.

Role of UIB Network

- Guidelines how to materialize networking between all stakeholders and achieving clearly laid out objectives.
- Capacity building in hazard assessment & DRR.
- Incentives through research grants encouraging cross-institution collaboration.
- Translation of science into action involving local governance and communities.
- Members of TWG-5? Regular communication + time availability (ToR of WGs a good step)