

Adaptation strategies at local level (water use and management and socioeconomic factors)

Muhammad Zafar Khan

Technical Working Group 6

**UIB Network Technical Working Group Meeting
26 July 2015, Islamabad**

Group Members/Contributors

ICIMOD

FOR MOUNTAINS AND PEOPLE

1. Dr. Bahadar Nawab Khattak, Department of Development Studies/Sustainable Water Sanitation Health and Development COMSATS Abbottabad
2. Dr. Bashir Ahmed, Water Resources Research Institute, NARC, Islamabad
3. Mr. Luca Listo, Programme Development, Ev-K2-CNR
4. Mr. Muhammad Zafar Khan, Department of Environmental Sciences, KIU, Gilgit



COMSATS Institute
of Information Technology, Abbottabad



Academic & Research Partnerships

- Karakoram International University has joined hands with Norwegian University of Life Sciences, Kathmandu University, Institute of Forestry Tribhuvan University, Nepal and Royal University of Bhutan to implement a project entitled “Sustainable natural resource management for climate change adaptation in the Himalayan region”
- The project aims at to promote teaching-learning and research activities in climate change adaptation through academic exchange, faculty development and capacity-enhancement.
- 10 students scholarships at MS level and 2 faculty scholarships at PhD level are being offered in climate change adaptation and mitigation and disaster risk reduction.
- Faculty exchange between Kathmandu University and KIU

Academic & Research Partnerships

- CIIT Abbotabad is currently implementing a project entitled “Humanitarian policy and practice in a changing climate, which is an Noragric led collaborative proposal between international practitioners and research institutions

Institutional Strengthening

- Mountain Areas Research Centre (MARC) currently being established at KIU
- High Mountain Research Centre at CIIT, Abbotabad.

Integration of climate adaptation in University Curricula

- Department of Environmental Science at KIU organized a consultative workshop to revise curriculum of the subject “climate change” at MS level
- Experts from Norwegian University of Life Sciences, Kathmandu University and Institute of Forestry, TU Nepal, GB EPA, WWF, UNDP GLOF Project attended the workshop
- Teaching-learning modules regarding climate change adaptation in mountainous areas were integrated in the existing curricula
- Similar curriculum development exercises have also been conducted in CIIT Abbotabad to promote teaching-learning in climate change adaptation

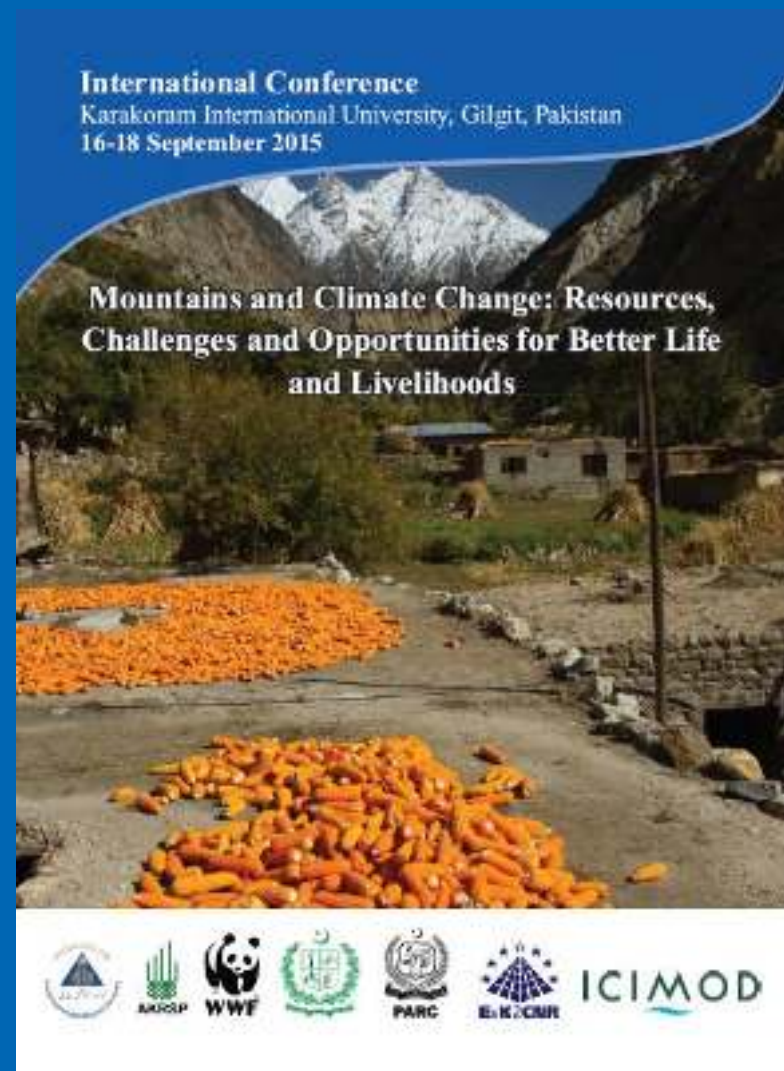


International Conference on Mountains and Climate Change

ICIMOD

FOR MOUNTAINS AND PEOPLE

- KIU in collaboration with GoGB, MARC/PARC, WWF and Ev-K2-CNR is planning to organize ICMCC in September 2015
- Adaptation and mitigation is one of the key themes under Climate Change
- About 50 speakers including 10-15 international participants are expected talk about climate change, cryospheric monitoring and sustainable mountain livelihoods



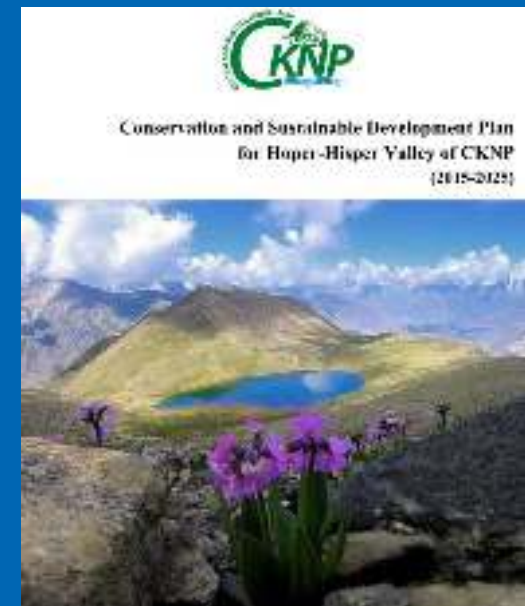
Teaching-learning activities to understand CC adaptation

- Students of Environmental Sciences, KIU were taken to field exposure visits to witness community-based adaptation and mitigation measures to GLOF and other climate induced hazards in Bagrote valley
- Students learned about numerous interventions such as slope stabilization, river training, protective embankments, 'safe heavens', village-based emergency response cells, etc



Ev-K2-CNR and Partners Initiatives on CC Research and Adaptation in CKNP

- Ev-K2-CNR and WWF-Pakistan jointly carried out comprehensive assessment of natural resources in four valleys around CKNP covering more than 30 villages
- Current status, use patterns and trends including indigenous knowledge on key natural resources including agriculture, water and land resources, forests, livestock and rangelands, community organizational set up etc were comprehensively documented
- Based on the situational analysis Conservation and Sustainable Development Plans (CSDPs) have been prepared for four valleys around CKNP
- Climate Change adaptation through improved natural resource use is an integral part of the CSDPs



Ev-K2-CNR and Partners Initiatives on CC Research and Adaptation in CKNP

2 Automatic Weather stations + climate analyses



- Positive trend in winter precipitation.
- Negative trend in minimum summer temperatures.
- Strong uncertainties.

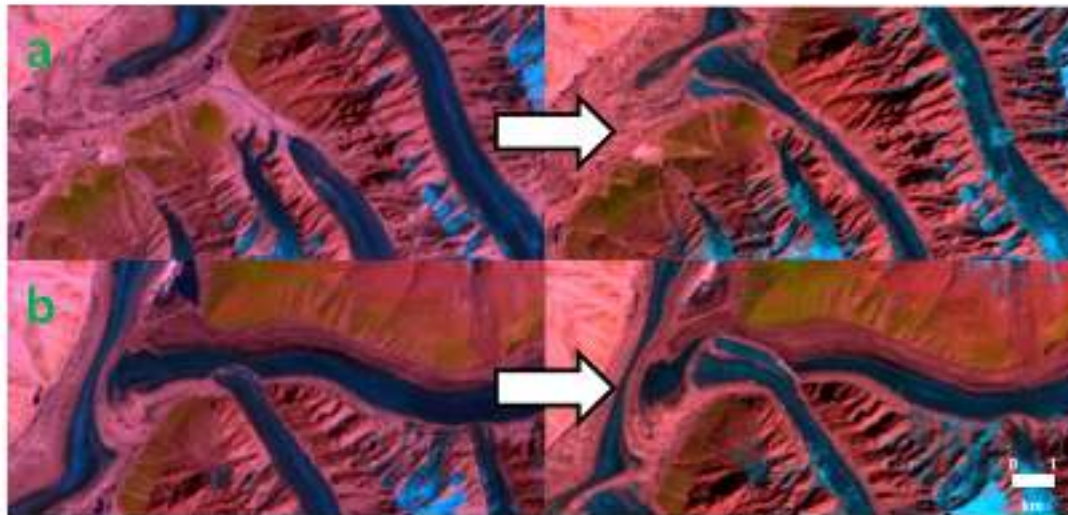
Ev-K2-CNR and Partners Initiatives on CC Research and Adaptation in CKNP

Glacier inventory: the Karakorum anomaly

- 2 inventories of the CKNP glaciers (on ground + satellite images) – 2001 and 2010.
- 711 glaciers covering 4587 km².
- Glaciers dynamic: stable (+0.6 % in 9 years)

2001

2010



Panmah glacier

Ev-K2-CNR and Partners Initiatives on CC Research and Adaptation in CKNP

How to support livelihoods vs. climate change:

- Improve agriculture efficiency
- Natural resource-based best management practices contributing to ecosystem based adaptations



Ev-K2-CNR and Partners Initiatives on CC Research and Adaptation in CKNP

ICIMOD

FOR MOUNTAINS AND PEOPLE

Agriculture efficiency

- 15 water channels (27 km)
- 80 greenhouses
- 1 factory for processing of apricots
- Marketing studies
- Improved seeds (and orchards)



Ev-K2-CNR and Partners Initiatives on CC Research and Adaptation in CKNP

ICIMOD

FOR MOUNTAINS AND PEOPLE

Decrease dependency on natural resources

- 340,000 of fast growing trees planted
- 21 nurseries
- 90 improved cooking stoves



ICIMOD and WWF-Pakistan are joining hands to:

ICIMOD

FOR MOUNTAINS AND PEOPLE

- Study on water, energy and hazards to assess the current status of the pilot site i.e, Gulmith, Hussaini, Passu, Sost and Shimshal.
- Demonstrate improved irrigation system to increase production of vegetables, crops and fruits
- Manage water induced hazards such as GLOF events, landslides, erosion, flash floods and debris flows.
- Demonstrate innovative energy management options to address farm level energy issues.
- Enhance capacity of pilot communities for better management of water, energy and water induced hazards.

Suggestions/Way forward

SOPs/ToRs for the Technical Working Group

- Membership
- Interaction
- knowledge sharing
- Policy input

Thank you for your attention

For further information:
zafar.khan@kiu.edu.pk