

# Knowledge Coproduction to Address Contemporary Challenges in the Himalayas (Multi-actor and Transdisciplinary Perspectives)

November 25-27, 2022  
Kathmandu, Nepal

Organized by  
Cluster of Cooperation (CLOC) Network  
Knowledge 2 Action South Asia



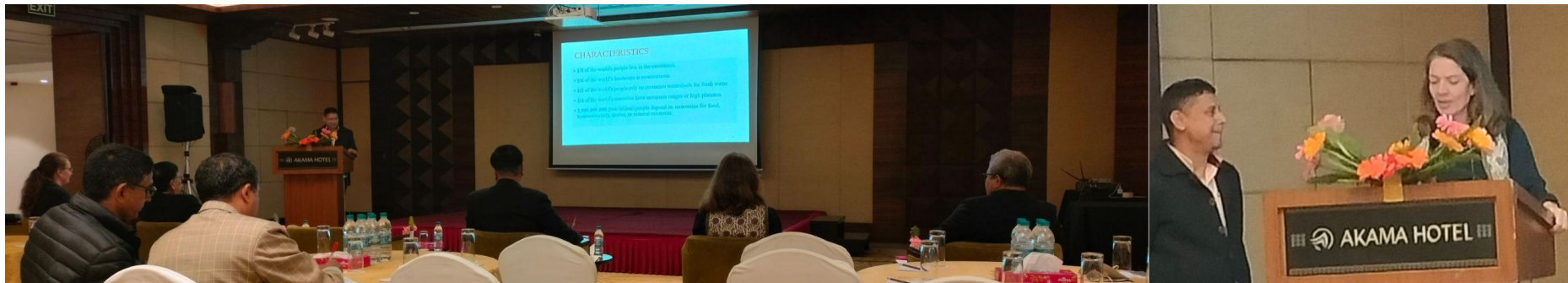
Facilitated by  
Central Department of Hydrology and Meteorology (CDHM), Tribhuvan University

# Session I: Opening session

Chair: **Deepak Aryal**

Rapporteurs: **Bekha Ratna Dangol and Chet Nath Tiwari**

- Deepak Aryal
- Lena Robra (Swissnex)
- Dharma Kanta Baskota (TU VC)
- Binil Aryal (TU Science Dean)
- Dhiraj Pradhananga (UNESCO)
- Workshop objectives
- Introduction of the participants
- Importance of the workshop
- UNESCO Chair Program in Mountain Water Sustainability



# Session I: Opening session

- Introduction of CDHM/TU
- Introduction of K2A (knowledge to action)
- Introduction and scope of Institute of Science and Technology
- Further collaboration (Prospective programs)
  - Climate Impacts on Global Mountain Water Security
  - Mountain Solutions Lab for the Himalayan Region

VC: “I am delighted to see the program schedule, it also has field trip, round table discussion, videos, and storytelling activities. It’s well planned to keep the participants refreshed.”



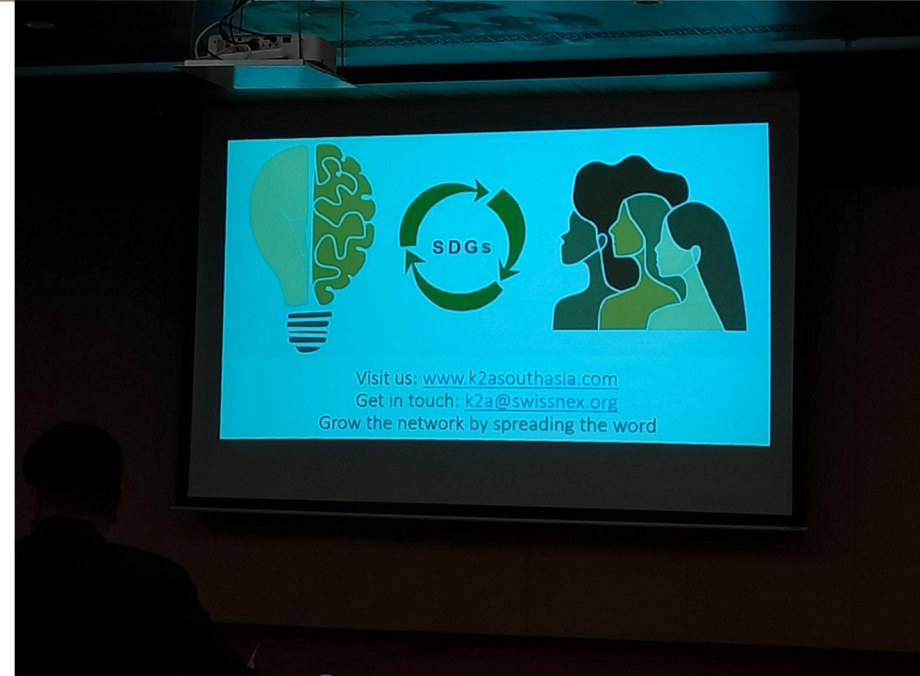
## Our Mission

Connecting Switzerland, India,  
and the world in education,  
research and innovation.

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Photo Credit: Swissnex





# Session II: Climate Change Scenarios in the Himalayas

Chair: Deepak Aryal

Rapporteur: Rikita Bhandari

- AP Dimri (Oral)
  - *Basanta Raj Adhikari*
  - *Chhatra M Sharma*
  - *Shree Ram Subedi*
  - *Om Katel*
  - *Madan Sigdel*
  - *Mohammad Azmat*
  - *Akasha Shama*
  - *Fatima Akter*
- (Round Table)*

- Change in precipitation pattern in the Himalayas
- Climate change and climate extremes in the Himalayas









## Session II: Climate Change Scenarios in the Himalayas

- More uncertainty in the higher elevation, climate uncertainty
- Insufficient data and information
- Atmospheric dynamic is complex, and precipitation distribution complexities
- Elevation dependent warming
- Climate warming at higher elevation during winter

- Instead of reducing own carbon footprint, fund has been allocated to loss and damage
- Need of dedicated team in climate change study, and continued research.
- Need to improve models
- Communicating with the people about extreme events is important

## Session II: Climate Change Scenarios in the Himalayas

- GLOF, flash floods, water scarcity
- Number of precipitation days are decreasing (NE India)
- Lacking human connection in hydroclimate data

- Open science and open data
- Lack of enough data and observation
- People perceptions, hydroclimatic extreme are increasing
- Upstream-downstream linkages (Bhutan-Bangladesh)



# Session III: Societal impact of climate change (Part I)

Chair: [Lena Robra](#)

Rapporteur: [Lakpa Lama](#)

- Priya Rajput (Oral)
- *Kedar Koirala*
- *Lakpa Lama*
- *Durlav Rayamajhi*
- *Yojan Basnet*  
(Video presentation)

- Transhumance pastoralism in the wake of changing climatic scenarios: Experiences of Bakarwal Tribe
- Smallholder farmers in Nepal: Contribution in sustainable agriculture, challenge and way forward
- Transforming and disappearing lifestyle of Chhauri Goth in the Himalayan Valley
- Climate change, myth and livelihood of Dho-Tarap

# Session III: Societal impact of climate change (Part I)

- Sustainable farming practices
- Challenges in behavior change
- Challenges in indigenous practices
- Indigenous plants being replaced by exotic plants
- Not moving to safer places (employment, culture and religious, resource availability)
- Less grasses, less snowfall, precipitation is irregular and unpredictable
- Dried water

- Seed bank
- Participatory observation
- Local technologies
- Climate change is not only science, it is a political issue
- Ample of goals and policies, need to translate them into action

# Session III: Societal impact of climate change (Part II)

Chair: Binod Pokharel

Rapporteur: Aakriti Adhikari

- Jiban Mani Poudel
- Parameshwari Kattel
- Sherjung Gurung
- Bal Bahadur Tamang
- (Villegers voice)
- Dilli Prasad Poudel
- Anita Shrestha
- Kedar Koirala
- Shree Ram Subedi
- Antonia Fluck
- (Round Table)

- Story of Seti flood case
- Smallholder farmers in Nepal: Contribution in sustainable agriculture, challenge and way forward
- Climate change, myth and livelihood of Dho-Tarap

## Session III: Societal impact of climate change (Part II)













# Networking breaks



# Networking breaks





# Session IV: Field excursion to the Melamchi flood

Chair: Basanta Raj Adhikari and Suresh Marahatta

Rapporteur: Bekha Ratna Dangol and Chet Nath Tiwari



- Sharing about the scenario of Melamchi flood
- Visiting to the settlement relocated areas and discussion on societal impacts



## Session IV: Field excursion to the Melamchi flood



# Melamchi Debris Flow on 15 June 2021

- Cause and mechanism of the flow
- Flood extent
- Loss lives and infrastructures
- Elevation profile of the river
- Location map of the devastated and deposition area
- Precaution to adopt in future
- Loss of ecosystem services, fertile land, drinking water and livelihood
- Reluctant to migrate to other places

# Session V: Climate Affairs Matters

Chair: Jurt Vicuna Munoz Christine

Rapporteur: Rikita Bhandari

- Om Katel (Oral)
- *Fatima Akter*
- *Mahmuda Akter Mity*
- *Shree Ram Subedi*
- *Amrit Devkota*
- *Meeta Keswani Mehra*
- *Bhim Dhoj Shrestha*  
(Round Table)
- Climate Affairs: Usable thoughts on climate, water, and weather
- How people are dealing and communicating with climate issues?
- Gaps between policies, research and local knowledge, and how all the aspect can be connected with each other





## Session V: Climate Affairs Matters

- Glacier retreat
- Observed climate changes over the Himalayas
- Precipitation phase change in the mountains
- Alarming warming!
- Vulnerable to climate change - cyclone, saltwater intrusion

- Need to have climate data from sensors to be verified with indigenous knowledge
- Transboundary issues are to be addressed
- Communication of weather and climate to the community
- Locally-based adaptation (eg. leaf plates, eco-toilets)
- Capacity building, technology, ICT, EWS, climate communicators
- Minimize the lack of coordination





## Session V: Climate Affairs Matters







## Gaps between policies, research and local knowledge, and how all the aspect can be connected with each other

### *Group discussion*

1. What is the importance of policies, research and local community knowledge while dealing with climate crisis?
2. What is the status of the integration of policies, research and community knowledge while working on climate action and how are they connected? How have you envisioned gaps in the integration of all aspects?
3. What could be done to reduce gaps in policies, research and local knowledge in the policy provision?
4. How does multi-disciplinary or multi-perspective support reduce the gaps?





# Group discussion

## Group I:

- Policies are there but lacking implementation
- Open science and knowledge
- Indigenous knowledge on disaster
- Lack of pre-disaster preparedness
- Curriculum should be evolved to local context
- Bottom-up approach with community-based approach



# Group discussion

## Group II:

- Research needs to validated with local knowledge
- Top - down approach from central govt. to provincial, and then to local government
- Localized policies to be formulated
- Effective coordination between stakeholders





# Final words

- Experts, locals, educators, students, journalists, practitioners
- Impacts of climate change, “Planet” or “Poverty”
- Solutions are proposed
- Challenge is there on making USEFUL information USABLE
- HOPE!

- Science must be understandable to community
- Linkage between physical science to social and community need and, Social science - Physical science
- **Collaboration and partnership**