

Work Package 4 – Capacity building and knowledge exchange

WP 4.1: Specialized Master's course in climate change science, climate system dynamics, impact, risks and policies for students from 3 riparian countries (Afghanistan, Pakistan and India) in China.

The main objective of this WP is to strengthen and develop the capacity of riparian countries in order to improve the evidence base to enhance reliability of adaptation and climate resilience models at the basin level. Proposed activities include a specialized Master's program for students from India, Pakistan and Afghanistan on climate change science, climate system dynamics, risks and policies at NUIST (China) and organization of targeted short-term training courses for mid-career professionals on themes related to climate change, water resources, adaptation strategy and other related issues.

Host institution: NUIST, Nanjing China

Intake capacity: The program is designed for 40 students total. There will be one cohorts each year of 20 students each for two consecutive years.

Course details: A two-year Master's degree program with specialization in glaciology, hydrology, meteorology, high altitude research and related subjects with the objective that the enrolled students will pursue a PhD in these fields. The program will be comprised of two cohorts and will start from the second year of the program.

Estimated budget: Total budget is USD 879,000. The amount includes 900 USD/student/month, which includes fees, food, lodging and health insurance in China. The budget details are shown in Annex 12.1. [Funding source TBD]

Partners: TBD

WP 4.2: Specialized training/capacity building courses/programs on climate change impacts, water resources management, climate risk, adaptation strategies and related themes for government officials, teachers, policy makers and civil society from India, Pakistan and Afghanistan

Host institution: All partner institutes will participate (KIU, KU, TERI and others)

Intake capacity: Need based

Course details: Course content and structure will be designed and tailored by the host institute keeping in view the target audience. All partner institutes will be encouraged to participate in the course development. Potential courses included are:

- Courses in glacier field investigations, like mass balance methods and streamflow partitioning, will be offered by Kashmir University;
- Short-term courses in numerical weather forecasting, climate change scenarios, rainfall/snowfall dynamics in future, seasonal rainfall predictions, drought and flood forecasting/modelling will be offered by the Pakistan Meteorological Department (PMD);
- Short-term courses in applied remote sensing and geographical information system (GIS) will be offered by University of Kashmir with support from The Energy Research Institute (TERI), India;
- Short-term courses on glacier studies, hydro-meteorological data processing and analysis will be offered by the Pakistan Meteorological Department (PMD) and the Glacier Monitoring Research Centre (WAPDA);
- Courses in glacier hydrology will be offered by The Energy Research Institute (TERI), New Delhi; and
- Short-term courses in monitoring, modelling, forecasting, water resource management, socio-economic, risk assessment and vulnerability assessment will be offered by the National Climate Center (NCC), China. Further, NCC could also offer courses for arid research with focus on water saving and irrigation technology.

Capacity building needs of different partner institutions:

- Kashmir University needs training in downscaling of the Climate data;
- Afghanistan needs training in different water related courses such as basin hydrology modelling, drought and flood modelling, downstream flood forecasting and awareness;
- TERI needs training in modelling of glacier data e.g. mass balance modelling; and
- NCC needs training in monitoring, modelling and forecasting for water resource management, socio-economic, risk and vulnerability assessment.