

Upper Indus Basin (UIB) Network and Indus Forum (IF) Collaboration Meeting

22 - 25 May 2017

Kathmandu, Nepal



WORK PACKAGE-2

CLIMATE CHANGE SCENARIOS for

the Indus Basin

by

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WP-2

Climate Projections

Lead institute: Pakistan Meteorological Department (PMD)

Other collaborating Institutes: TERI, India; WAPDA, Pakistan; Afghanistan (TBD), BCC, China,

Challenges & Opportunities: UIB is a complex terrain hosting cryosphere and monsoonal incursions. Poor observation network does not reflect the true representation of its sub basins. Performance of climate models to reproduce the past climatology and project future characteristics is a big test. However, this activity will enhance the understanding of climatic features and will help to develop common data base and to address the consequent water cycle variability.

Budget for WP 2.1: USD 2,561,500

Budget for WP 2.2: USD 1,061,380

WP 2.1: Future high resolution climate change projections

Methodology:

- All the in-situ observation data sets will be put together including physical and demographic**
- Re-analysis data sets will be merged with in-situ data to generate parametric surfaces**
- Selection of models will be done under strict criteria from CMIP6 models (some of the trials have been carried out already)**
- Most of the fields will be generated using RCP 4.5 and 8.5 at <5km resolution**

WP 2.2

Glacier hydrology modelling under climate change

Methodology:

- **Collection and compilation of data from pilot studies conducted/published by scientists on different parameters of cryosphere**
- **Previous knowledge on melting process in different basins and climatic zones and performance of different methods**
- **Selection of glacio-hydrological models and their performance to capture changing climate**
- **Quantification of impacts of climate change and streamflows**

THANKS