



Contextual and interdependent causes of climate change adaptation barriers for water management: responses from regional and local institutions in Himachal Pradesh, India

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Research on adaptation barriers is gaining increasing prominence as the need for climate change adaptation becomes evident. This research seeks to identify and understand the reasons for key barriers preventing water institutions in the mountainous Himalayan state of Himachal Pradesh in northern India from adapting to climate change.

Semi-structured interviews were carried out in January & February 2015 with representatives from twenty-seven key governmental, academic, NGO and commercial institutions in the State, with responsibilities spanning from municipal water supply to irrigation and hydropower generation in addition to environmental conservation. Empirical analysis of the transcripts found that inadequate knowledge capacity, poor implementation of policies, inadequate resources, normative work culture, weak governance, unavailability and inaccessibility of data & information and limited inter-institutional networks are key barriers for adaptation. Although these generic barriers are similar to those reported elsewhere in literature, they are identified as having locally-contextual root causes. For example, the inadequate resources are identified to be occurring as a consequence of the fragmentation of resources allocation among others. This is due to competing developmental priorities and the desire of the political leadership to please the maximum number of electors rather than the more-usual inadequate budgetary allocation and climate scepticism.

The identified individual barriers are found to be highly inter-dependent and closely intertwined which enables the identification of leverage points of interventions that can maximise removal of barriers. For example, breaking down key barriers for data and information accessibility will have to involve normative attitudinal change, through sensitisation of the larger picture of the role of accurate and accessible data; changes in working style involving moving from paper-based data management to digital; and institutional and structural changes through legislation or formal inter-institutional agreements for increasing data accessibility and sharing. This presentation will demonstrate how adaptation barriers in Himachal Pradesh are contextually interconnected by a range of cultural, systemic, geographical and political underlying causes and how this understanding can be used to increase the adaptive capacity of this climatically sensitive region.