

Biocultural diversity, climate change and livelihood security of the *Adi* community: Grassroots conservators of eastern Himalaya Arunachal Pradesh

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Abstract

The role of Indigenous and tribal peoples and their traditional environmental knowledge (TEK) is now greatly appreciated and recognized in developing location specific strategies and mitigation plans for coping with climate change. The goal of this research, based on six years of collaborative work with *Adi* tribal peoples from 14 villages of East and Upper Siang districts of Arunachal Pradesh, was to record *Adi* knowledge and experiences relating to biocultural resources and their interactions with climate change and livelihood sustainability. Data were collected using conventional interviews and village workshops. A total of 700 *Adi* people participated in these workshops, while two elderly *Adi* women were observed and interviewed over the course of 7 days, to document their deep knowledge on the subject. Results indicated that *Adi* people are rich in knowledge relating to biocultural resources that play a pivotal role in coping with weather anomalies and any abrupt climatic changes in order to sustain their livelihoods. People are aware about climate change and its potential to threaten their biocultural resources and livelihoods. To combat future climate change and ensure sustainable lifeways, they are interested in establishing 'community reserve forests' (CRF) within undisturbed community forest landscapes. These could be either at an individual or community level or even at both levels, provided that environmental agencies are able to link these 'CRFs' with REDD programs and that rewards and incentives are given to *Adi* tribe. The future of the *Adi* tribe's biocultural resources and livelihood sustainability depends very much on their TEK and their active role in research, planning and policy implementation for climate change mitigation and adaptation.

Keywords: *Adi* tribe, Traditional environmental knowledge, Climate change, Biocultural resources, Livelihood sustainability, Arunachal Pradesh

Adapting to climate change: Traditional coping mechanism followed by the *Brokpa* pastoral nomads of Arunachal Pradesh, India

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Abstract

Transhumance system of livelihood of the *Brokpa* pastoral nomads inhabiting in the yak tracts of Arunachal Pradesh with special emphasis on climate change adaptation was assessed in the present study. A representative sample of the 240 *Brokpa* pastoral nomads from all the yak rearing tracts of Arunachal Pradesh was selected randomly. The *Brokpa* pastoral nomads mainly depend upon livestock, like yak, yak-cattle hybrid etc, rearing for their livelihood. They perceived that season cycle has been changed in lower and mid altitude. They also perceived that onset of summer is getting started 1-2 month(s) earlier than before and also extended by 2-3 months. Therefore, *Brokpa* pastoral nomads of Arunachal Pradesh have expanded their migration duration by 2-3 months in searching of congenial environment for their livestock specially yak and yak-cattle hybrid. They adopted 10 coping mechanisms to cope up with negative impact of climate change. Among the coping mechanisms, 'duration of migration has expanded by 2-3 months' and 'change in pasture utilization practice' were found to be mostly adopted.

Keywords: Adaptation, Coping mechanism, Climate Change, Pastoral nomads

Assessing the Potential of Indigenous Technological Knowledge (ITK) for Adaptation to Climate Change in the Himalayan and Arid ecosystems

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Abstract

The present study was conducted with the objective of documenting and assessing the potential of indigenous knowledge towards adaptation to climate change covering a sample of 200 farmers, hundred each from Himachal Pradesh and Rajasthan representing Himalayan and Arid ecosystems respectively. Documentation of ITK was done using both primary and secondary source of information. In-depth study was designed by combining survey and anthropological approach of participant study. The major documented indigenous knowledge was '*mind*' cultivation, '*chal*' to harvest water, 'apple paste' to control diseases and '*siddu*' to protect from extreme cold in Himachal Pradesh. Similarly, the major documented indigenous knowledge of Rajasthan were '*Khadin*' farming system to manage drought, '*kanabandi*' to manage soil and wind storm, '*tanka*' to harvest water, '*jupka*' and '*kothi*' for storing the grain and feed, etc. Beside these, the people of both the ecosystems observed the movement of insects and animals (butterfly, ant, and termite) to forecast the rainfall and other climatic parameter. As the indigenous practices hold high potential to address the issue of climate change, these may be promoted after establishing their scientific validity and rationality.

Keywords: Climate change, Indigenous Knowledge, Adaptation