

Findings of Thesis in Abstract

Name of the PhD Candidate : Stanzin Chostak

Name of the Supervisor : Prof. (Dr.) Manjula Batra.

Title of the Thesis : Impact of Climate Change on Mountain and Downstream
Communities: A Socio-Legal Study with Special Reference to Ladakh

Department : Law

The impacts of climate change are being felt throughout the world and the Himalayas are not an exception. The North and the South Poles seem, in fact, to be the only comparable places and for this reason the Himalaya is being called the 'Third Pole'. Average temperatures in some parts of the Himalaya over the last 30 years may have increased by as much as 1.5⁰ C, which is much higher a figure than predicted by the IPCC. Patterns of rainfall have also changed in many places. According to local people as well as substantiated scientific data there is less rain in non monsoon periods and bursts of excessive downpour during the monsoon with high level of erratic patterns.

For mountain environments as well as the people that depend on them the implications of Climate change are significant. Temperature increases in the region of Ladakh which is the area of present study are associated with changes in rainfall and snowfall patterns which had influenced the frequency of extreme events such as snow avalanches, landslides and floods resulting from cloud bursts and glacial lake outbursts to name a few. One of the most obvious impact of climate change in Ladakh is that snowmelt has started occurring earlier causing damages to canals and disturbing the agricultural activity.

Statistics compiled and maintained by the Indian Air Force at Leh show that temperature of Ladakh has increased by 1°C over the last thirty five years which is alarming for the region. For centuries snow has supported human survival in Ladakh. Now with the

changing climatic conditions snowfall has reduced significantly resulting in less moisture for growing crops. In the entire cold desert of Ladakh, farmers in village after village have either reduced the acreage or completely stopped farming where the only source of moisture was the snowmelt on the fields.

Vulnerability of a group or an individual to climate change and climate-related disasters is influenced by an array of complex economic, political, social and environmental factors which operates at a variety of levels that in combination affect vulnerability. As a result, there is an uneven distribution of vulnerability across society, and some individuals, households, or groups are likely to be affected disproportionately by climate change and its induced disasters.

Particularly, people living in the mountains and their livelihoods are vulnerable to the adverse impacts of climate change. Disproportionate rates of poverty, prevalence of high food insecurity, poor health, marginalisation, high dependency on natural resources and limited livelihood diversity are the underlying causes of vulnerability. The breakdown of livelihoods which are dependent upon ecosystem is likely to remain the primary driver of long-term migration during the next two to three decades. Climate change will act as a stressor and exacerbate the migration situation unless vulnerable populations, especially the poorest in the mountain communities are provided assistance in building livelihoods which are climate-resilient.