

## **Managing socio-economic and hydrological risks in northeast India**

**U. C. SHARMA<sup>1</sup> & VIKAS SHARMA<sup>2</sup>**

*1 Centre for Natural Resources Management, VPO Tarore, District Jammu 181133, Jammu and Kashmir, India*  
[ucsharma2@rediffmail.com](mailto:ucsharma2@rediffmail.com)

*2 SK University of Agricultural Sciences & Technology, Chatha, Jammu 180009, Jammu and Kashmir, India*

**Abstract** Northeast India is vulnerable to hydrological risks such as flood-drought-flood syndrome, eutrophication of water bodies, huge runoff from hill slopes resulting in soil erosion, settling of contaminants in different sinks, contamination of surface water and groundwater because of its fragile geo-environmental setting and economic underdevelopment. The region paradoxically suffers from both water excess as well as water shortage. Three factors control flood hazard and vulnerability in the region; changes in climate, terrestrial and socio-economic systems, whose relative order of importance is site specific. The socio-economic risks are shifting cultivation as major agriculture land use, unique land tenure system, free range grazing, inaccessible terrain, population growth, economic and financial risks, and proper infrastructure to deal with the risks. Climate change will increase existing risks of species extinction and biodiversity loss. A multidisciplinary study was undertaken to evolve eco-friendly and viable land-use systems to replace shifting cultivation, a major risk factor.

**Key words** socio-economic and hydrological risks; risk management; northeast India