

6th Global summit on Climate Change

November 19-20, 2018 Paris, France



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Livelihood vulnerability due to climate change: a case study of Sirdibas and Samagaun of Manaslu conservation area, Gorkha district Nepal

The climate change affects almost all the sectors of livelihood and is inevitable. At the context, this study was to access the livelihood vulnerability in the context of local climatic parameters and experience of locals at VDC level in two different VDCs of Manaslu conservation area. A composite index approach was chosen to combine survey data into single index. Method of calculating LVI is based on the Intergovernmental Panel on Climate Change framework of vulnerability. Climatic data acquired from DHM were assessed using statistical tools and focal group discussion, key informant interviews; questionnaire surveys were carried out to collect information about impact of climate change on livelihood. After calculations, results showed that Samagaun (-0.063) was relatively more vulnerable than Sirdibas (LVI: -0.073). The trend analysis of annual average precipitation showed that precipitation was increasing at the rate of 2.84 mm/year at Jagat station and was decreasing at the rate of 2.02 mm/year at Larke station. Analysis of temperature data showed that annual maximum temperature was increasing at the rate of 0.103°C/year and 0.08°C/year similarly annual minimum temperature was found increasing at the rate of 0.06°C/year and 0.03°C/year at Chame and Gorkha Station respectively. Local agricultural productions supported the denizens of Samagaun for 3-4 months and Sirdibas for eight months. Apple and Mayal was reported flowering one month earlier, Karu was replaced by Wheat 15 years ago due to high decrease in production. Production of potato was decreasing, and heavy infestation of pest was also reported. In order to overcome the situation, autonomous and planned adaptation practices are recommended to be adopted. Improved variety of food crops and plantation orientation should be conducted in the area. Drought and pest resistant varieties should be promoted, and delineation of landslide and flood prone area is necessary. Slope protection measures should be adopted in high risk zones and resettlement to safer areas should be done at Sirdibas. Further study should be done to develop and weather forecasting system, early warning system and agriculture technologies to cope with the negative impacts of emerging climate change.

Biography

Lokendra Bhatta has completed his Master's degree in Environment Science from Tribhuvan University, Kathmandu, Nepal. He is the Far Western Nepal Regional Representative of GeoHazards International, a social development organization. He has worked in Disaster Risk Reduction and Climate Change Sector for eight years in Nepal.

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