

Research Article

Effect of climate change in paddy production and adaptation strategies in Tharu communities of Dang district, Nepal

¹Pradip Raj Poudel, ²Narayan Raj Joshi and ³Shanta Pokhrel

¹Agriculture Trainer, Council for Technical Education and Vocational Training, Rural Training Center, Simpani, Lamjung, Nepal

²Narayan Raj Joshi, Professor, Agriculture and Forestry University, Rampur, Chitwan, Nepal

³ Student, Prithu Technical College, Lamahi Dang, Nepal

*Correspondence: pdp.rajpoudel@gmail.com; ORCID: <https://orcid.org/0000-0002-4486-2302>

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ABSTRACT

A study on effects of climate change on rice (*Oryza sativa*) production in *Tharu* communities of Dang district of Nepal was conducted in 2018A.D to investigate the perception and major adaptation strategies followed by *Tharu* farmers. The study areas were selected purposively. Cross-sectional data was collected using a household survey of 120 households by applying simple random sampling technique with lottery method for sample selection. Primary data were collected using semi-structured and pretested interview schedule, focus group discussion and key informants interview whereas monthly and annual time series data on temperature and precipitation over 21years (1996-2016) were collected from Department of Hydrology and Meteorology, Kathmandu as secondary data. Descriptive statistics and trend analysis were used to analyze the data. The ratio of male and female was found to be equal with higher literacy rate at study area than district. Most of the farmers depended on agriculture only for their livelihood where there was large variation in land distribution. Farmers had better access to FM/radio for agricultural extension information sources. The study resulted that *Tharu* farmers of Dang perceived all parameters of climate. Temperature and rainfall were the most changing component of climate perceived by farmers. The trend analysis of temperature data of Dang over 21 years showed that maximum, minimum and average temperature were increasing at the rate of 0.031°C, 0.021°C and 0.072°C per year respectively which supports the farmers perception whereas trend of rainfall was decreased with 7.56mm per year. The yearly maximum rainfall amount was increased by 1.15mm. The production of local indigenous rice varieties were decreasing while hybrid and improved rice varieties were increasing. The district rice production trend was increasing which support the farmer's perception. The study revealed that there were climate change effects on paddy production and using various adaptation strategies to cope in Dang district.

Keywords: Climate change, paddy production, *Tharu* farmers, adaptation strategies

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