

Impact of Climate Change on Rice Production in Tanahun, Nepal

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Climate change refers to the variation in the earth's global climate or in regional climates over time. It is change of climate which attributed directly or indirectly to human activity that alters the composition of the global atmosphere (UNFCCC, 2001). According to the measurement taken by thousands of weather stations all over the world, global temperature has been increased by 0.7°C on an average since 1960s (Friis-Christensen E, 1991). In case of Nepal, the temperature has been increased by 1.8°C during last 32 years and the average temperature increase was recorded as 0.06°C per year (Malla, 2008).

South Asia, home of about 1.5 billion people is one of the poorest regions of the world. Most of South Asians including Nepalese are still engaged with agriculture and allied sectors.

Here, farming in hills and mountains is subsistence type. My research on "Impact of Climate Change on Rice Production of Tanahun, Nepal" intends to assess the impact of climate change in agriculture and livelihood of the local people. Focal Group Discussion (FGD) was done with the "Mother's Group" of the place and Key Informant Information (KII) was done personally with officer of DADO and a lead farmer. Also, field observation methods were used for information collection, cross validation and verification with the secondary source of information. Household survey was done with pre-structured questionnaire. The research is perception based verified by data. Perception was sorted out age wise so as to know age wise knowledge in climate and agriculture. This study reveals mean temperature, mean minimum temperature and mean maximum temperature is increasing at the rate of 0.0367°C/year, 0.0356°C/year and 0.0379°C/year respectively. The average maximum temperature was found to be 28.64°C which doesn't cross the threshold temperature i.e. 29.9°C there is no remarkable impact seen due to rise in temperature in rice production. But the annual temperature trend is increasing, and it will take no time to cross the threshold value.

Also, mean annual rainfall is decreasing at rate of 0.528mm/year where pre-monsoon, post-monsoon and winter is decreasing at rate of 0.27, 0.23 and 0.14mm/year respectively while monsoon is increasing at rate of 7.21mm/yr. Also, change in cropping season is altered in the district and the harvesting period has decreased in rice. 17-years crop production data of Tanahun district shows yield of rice has increased at overall trend but at last few years, this productivity have decreased. This decreased productivity may be because of untimely rainfall in unnecessary amount. Untimely rainfall during pollination, flowering and increased temperature during grain filling with decreased rainfall causing dry spell may have negative effects in crops yield. Climatic hazards like water logging are caused in the district due to intense rainfall during monsoon season affecting rice. Also, increase in new pest and diseases has been recorded which directly impacts the productivity. People with lesser hope in subsistence farming have changed their livelihood from alternate source like going abroad for earning.

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