People's perception on Climate Change in Gorkha District

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Introduction

- Climate change is a global challenge and particularly the developing countries such as Nepal have been suffering from strong effect of climate change because the country have low adaptive capacity and it is economically dependent on agriculture which is basically dependent on climatic factors (Manandhar *et al.*, 2011).
- Change in climatic parameter affects human activities. The effects are visible to each environmental components including vegetation, animals , microorganism and overall environmental relationship.

Objectives.

- To understand climate change pattern and its impacts on Gorkha district.
- To understand local people's perception on climate change in Gorkha district

Study Area

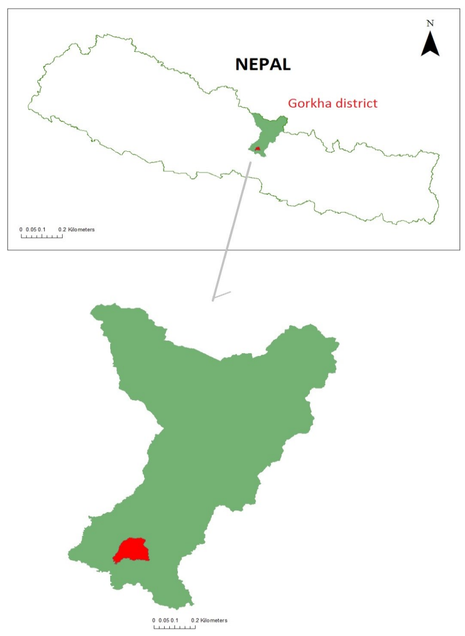


Fig. 1. Location map of Gorkha.

- Located at gandaki zone,western Nepal
- 27°58′17″ N to 84°35′44″
- altitude about 3400m from sea level.

Materials and Methods

- Field survey was carried out in Two villages within the Gorkha municipality i.e Swara ward no. 5 and Thiguraswara ward no. 8
- Households were sampled randomly and household heads were interviewed for getting information.
- The elderly people and local farmers were considered as key informants for documentation of peoples' perception on changing climate and its impacts.
- A set of questionnaire were prepared having both open and close ended questions.
- Focus Group Discussions (FGD) was conducted twice in each village.
- Both male and females (8-10 people) participated in the FGD.
- Data of rainfall and temperature from last 30 years ,recorded in four different stations (Jagat (Setibas), Larke Samdo, Gorkha, Chhekampar) of Gorkha district were obtained from DHM, Kathmandu
- The average annual rainfall for the 30 years were calculated.

Results

- Local people of Gorkha district have perceived change in climatic patterns since few decades comparing past climate. They have been perceiving an increasing trend of warm days and shortening winter season (Fig.2). Similarly, starting time of monsoon has been delayed (Fig.3), High fluctuation in rainfall, decrease in the duration of rainy days, and increase in non seasonal heavy rain is observed. The study shows decreasing trend of Hail, Snow, Frost and Dewfall (Fig.4).
- Decrease in amount of water in the source ,increase in rate and severity in plant disease and increase of weeds are the other major effect of climate change observed in Gorkha district.(Fig.5). Climate change also result change in water source. Change in phenology of flora, and change in agriculture practice is seen as a result of adaptation with climate change.(Fig.6).
- The analysis of recorded rainfall data in four different station of gorkha shows the fluctuating trend in the rainfall pattern.

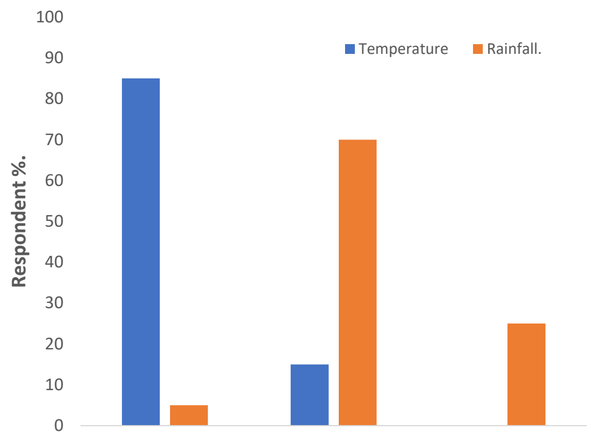


Fig. 2. Temperature and Rainfall Trend

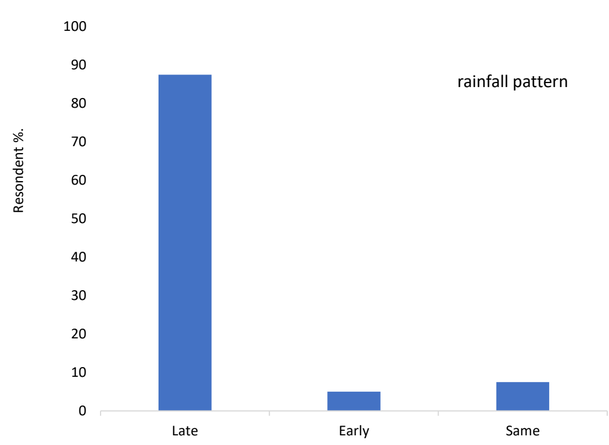
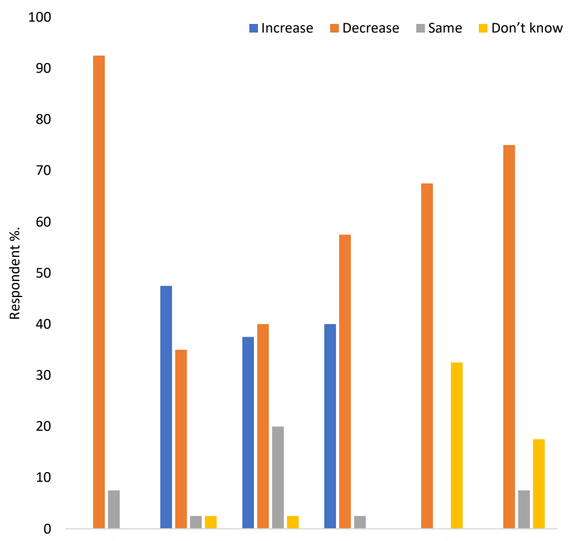


Fig. 3.Rainfall Pattern



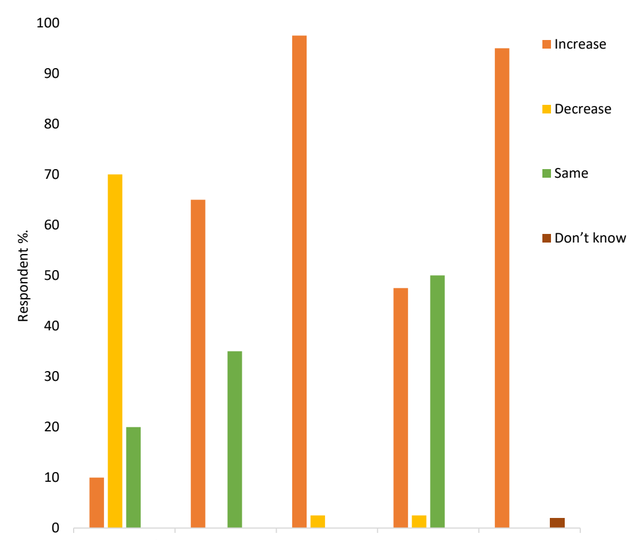
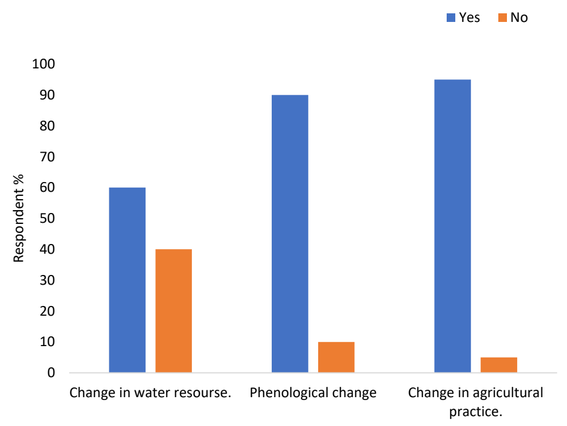


Fig 4. Effect on Different form of Precipitation.

Fig 5. Effect on Water and Plant.



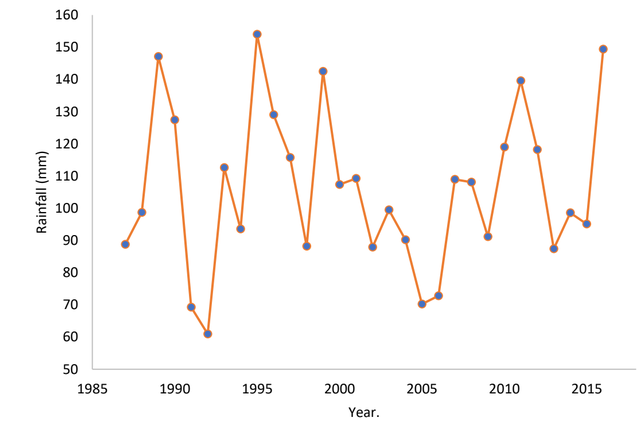


Fig 6. Effect on Water resource, Phenological change and Change in Agricultural practice.

Fig 7. average Annual Rainfall.

Conclusions

The results leads to the conclusion that Gorkha district is affected by the climate change. The recorded climatic data in the district add a justification to the local people's perception over changing climatic scenario .

RECOMMENDATION

- wide range of comparative study of climate change with more respondents is essential for the conformity of further necessity in this sector.
- study about the people's adaptation to the present climatic situation is necessary along with the enrichment with the new adaptive methods and techniques.
- Need of interlinkage of climate change with different sectors like Health, Agriculture, livelihood, Development etc.

REFERENCE

Manandhar S, Vogt DS, Perret SR. and Kazama F. (2011). Adapting cropping systems to climate change in Nepal: a cross-regional study of farmers' perception and practices. *Regional Environmental Change*, *11*(2), 335-348.