

**A Project Proposal for small study on
Climate Change, Its Impacts on Rural
Livelihood and Local
Adaptation Measures in Churia Region of Nepal**

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A case study of Shaktikhor VDC, Chitwan

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Introduction

- Climate change refers to any change in climate over time, whether due to natural variability or as a result of human activity (IPCC, 2007).
- It is a long-term change in the statistical distribution of weather pattern, including average temperature and rainfall over periods of time. Climate change is a phenomenon due to emissions of greenhouse gases from fuel combustion, deforestation, urbanization and industrialization resulting variations in solar energy, temperature and precipitation.(Upreti,1999)
- 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 et.al.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).

Introduction.....

- The rainfall pattern is also experienced as inconsistent with higher intensities of rain and less number of rainy days (Malla) creating long drought for some time and heavy rain in some other periods. Changes in hydrological cycles and the depletion of water resources are the top challenges facing Nepal in context of climate change. Nepal is considered to be very sensitive to climate change due to the high variation in altitudes and global warming phenomena.
- Climate change impacts such as loss of biodiversity, water scarcity, decreased food productivity, and increased intensity and frequency of landslides and flooding are already observed in Nepal which has threaten people's livelihoods.
- There are two types of responses to address climate change impacts: mitigation and adaptation. Mitigation involves reducing emissions of greenhouse gases to slow or stop the process of climate change. Adaptation in other hand is adjusting to the natural or human system by learning to cope with temperature increases, floods, and other climatic risks and hazards associated with climate change (Reid and Huq, 2007).

Nepal in climate change

- Nepal's contributions to global greenhouse gas emissions (0.025%) is relatively insignificant (SDAN, 2003), adaptation is more relevant.
- A majority of the population is exposed to multiple stresses such as poverty and low adaptive capacity to climate change impacts. Therefore, adaptation options at the local level should be identified and prioritized to ensure livelihoods security.
- Nepal is highly vulnerable to the adverse impacts of climate change, adaptation to climate change must be the priority for the country to help poor communities to cope with, and adapt the impacts of climate change (Practical Action Nepal 2009).
- The Government of Nepal introduced Local Adaptation Plan of Action (LAPA) framework to act for climate change adaptation yet the implementation mechanism is still at infancy.
- Shaktikhor Village Development Committee (VDC), situated in churia range of Chitwan district where the severity of hazards and climate change is high, immediate climate change studies and adaptation needs has become necessary.

Rationale of the project

- Churia region is more vulnerable to climate change. Past studies on climate change in churia has suggested significant warming in this region with increased frequency of extreme events like landslides and droughts. Even an insignificant change in climatic variables can cause amplified and devastating impacts in these ecologically fragile churia regions. (UNFCCC 2004).
- Study on impact or effects of climate change and local /indigenous adaptation measure are still limited in this region. This study will be carried out in Shaktikhor VDC of Chitwan, Nepal, which lack the study and research related to climate.
- The present research seeks to investigate impacts of climate change and adaptation activities carried out by the local people in churia region. Based on the case of the local peoples of Shaktikhor VDC of Chitwan, this report will intends to capture the extent of local peoples'awareness and perceptions of climate variability and change and the types of adjustments they have made in their practices in response to these change.

Objectives of study

General objectives

❖ to identify and document local communities perception, knowledge about climate change; its impacts on their livelihood and community level adaptive strategies against climate change and analyze the trend of climatic variables in the study area.

Specific Objectives

❖ To identify and document the people's perception on about climate change and its impact on livelihood.

❖ To document how local people are adapting to changing climate to maintain their livelihoods.

❖ To analyse the 30 years meteorological data of temperature and precipitation

Methodology

Main approach used for the data collection for this study is exploratory, where the gathering data is through observing people, action and the situation and the exploring the individual attitude, preference or behaviours in informational issues of this research.

Both Primary and secondary data will be collected from different sources.

Qualitative as well as quantitative data will be collected and analyzed. Predominant base of study area will be as follow:

- Household level vulnerable from different climate and weather related disaster
- Frequency of climate change and weather related disaster since last 30 year in the study area
- Adaptation practices at Household level and community level

Study area and site

The study area will be Shaktikhor VDC of Chitwan district situated in churia region of Nepal. Shaktikhor is a Village development committee in Chitwan District in the Narayani zone of southern Nepal. At the time of the 1991 Nepal census, it had a population of 4925 people living in 944 individual households

Site selection

Site will be selected with the consultation of different stakeholders and vulnerable areas.

Data collection and analysis

Residents here a person inhabiting within the political boundary of VDC for more than 10 years . Purposive sampling with 10% of sampling intensity will be used for primary data collection. Detail check list, questionnaire and data sheet will be used. Respondent will be selected from all ethnic communities and economic classes. Respondents' gender, education and location of settlement will be considered to make representative sampling.

Primary data

Reconnaissance survey for primary data collection

- i. Key informant survey
- ii. Focus group discussion
- iii. Direct observation

Secondary data

- i. Meteorological stations, VDC
- ii. concerned literature, different journals, report of various workshop, previous relevant research reports
- iii. 30 yrs meteorological data (rainfall, temperature) will be collected nearby station to analyze trend of Climate variability in this area.

Expected outcomes

- The research will assess the local perception, impacts of climate change of churia region of Nepal.
 - After the completion of research we will know that the measure strategies adopted by local people against the climate change.
- Final report will be submitted to WWF Nepal.

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