

**Hazard and Vulnerability analysis of Bhimkhori
VDC
2014**

Tourism Development Endeavors

Background

The world is nearly five times as dangerous and disaster prone as it was in 1970's because of the increasing risks brought by climate change as per the World Meteorological Organization. Climate change poses great challenges for the rural poor in developing countries who tend to rely on natural resources for their livelihoods and have limited capacity to adapt to climate change (Smit and Piliphosova 2001; UNFCCC 2007).

Due to geographical and other climatic conditions, rugged and steep topography, extreme weather events and fragile geological conditions Nepal is considered as a disaster hotspot. As per the Nepal Disaster report 2013, the major disaster types in Nepal are landslide, flood, fire, avalanches etc. It has become increasingly clear that even serious efforts to mitigate climate change will be inadequate to prevent devastating climate change impacts that threaten to reverse many of the economic gains made in the developing world in recent decades. Therefore, individuals, communities, and policymakers must adapt to a new climate reality to increase resilience against future climate change, much of which remains highly uncertain.

The trend analysis was conducted in Bhimkhori VDC of Kavre District. It has altogether 9 wards. It is rain-shed area. Most of the people of the Bhimkhori are engaged in agriculture.

Result and Discussion

Climatic hazard trend analysis of Bhimkhori VDC

Landslide and flood has become a major headache for the people of Bhimkhori VDC. They have bitter experience of devastating landslide and flood in 2060, 2063 and 2070. Being rain-shed area it experience less rainfall. But during 2065/66/67 drought hit the area which caused the high reduction of crop production. Meanwhile the problem of forest fire is very frequent during summer season; generally human induced.

However, people have constructed walls/dams to cope with the effect of flood and landslide at their individual level.

Climate Hazard Ranking:

Bhimkhori experiences more threat from flood than soil erosion, ranking them the most and the least threatening hazard respectively. Meanwhile landslide and forest fire are considered to be second and third most threatening hazard.

The reason behind flood being ranked as the most threatening hazard is due to dependency upon agriculture; productive land is swept away by flood in many incidences. Moreover people also face decrease in agriculture production, drinking water scarcity.

Lying in the rain-shed area Bhimkhori obviously receives low rainfall but in year 2067, 2068 and 2069 there was no rainfall at all. In year 2065 and 2068 landslide occurred in this area causing loss of human life as well as property. However rather than climate change, unplanned road

construction and deforestation has been identified as major reasons for both landslide and flood by the local.

Due to haphazard road construction and deforestation the source of drinking water is decreasing bringing water scarcity as a major problem of VDC. With the rise in water scarcity and deforestation conflicts have arise among the villagers. "Frequent incidents of conflict and quarrelling takes place among the villagers from ward 3 and ward 6 for the same," said the locals.

Climatic Hazard Impact Assessment

The greatest impact of forest fire was seen on livestock as fodder for the livestock drastically reduced with each forest fire incident.

Livelihood Resource Assessment

People of Bhimkhori are dependent upon agriculture, livestock and forest for their livelihood. Other assets like irrigation channel, road, women groups, dalit groups, finance, water management group and forest user group are also playing important role in their livelihood.

Livelihood Resource Vulnerability Assessment

The impact of less rainfall, increased temperature, and flood landslide and forest fire has caused very high and similar impacts on forest like loss of trees along with the loss of agricultural productivity. The problem of insects and pest is increasing, different crops diseases i.e. discoloration of leaves. *Daduwa Rog* has emerged while there is no more production of maize during month of Chaitra unlike before. Moreover shifting in rice plantation time has been a major concern in livelihood of people.

The vulnerability has been aggregated with the loss of crops production causing substantial economic loss as agriculture is their main economic source. It has brought water scarcity making it difficult for agriculture production along with drinking water problem.

Flood and landslide swept away the roads during every monsoon and create obstruction, making it difficult for the local people for transportation.

Assessing climatic hazard impacts on Livelihood

Hazards like flood, landslide, soil erosion etc cause the annual loss of 60-70 lakh in agricultural sector

People have not got any help from government as well as other organizations. Local people generally construct wall to prevent from flood and landslide.

Coping and adaptation strategies

As per the people to cope with flood the construction of wall, wood and bamboo fencing, gabbin wall and reconstruct the damaged property are the main ways and to cope with

landslide. Afforestation is effective and sustainable way. The most effective way of coping and adaptation strategy for forest fire is extinguishing fire, afforestation and replacement of highly flammable trees like salla (scientific name) to less flammable trees like chilaune (scientific name)

caste: Tamang, magar and newar.

Problems:

Less rainfall

Change in adaptation in crops due to less rainfall (From maize, wheat to kodo, tori, fapar, simi)

Drinking water: dry sources (even during rainy system due to no storage system) – hence no filtration of drinking water.

Forest fire (yearly)

Deforestation

Increase in temperature

No air flow

Conclusion:

People in Bhimkhori are less concerned about climate change, as the hazards ranked by the people are more induced by deforestation and other construction work rather than climate change. Bhimkhori already lying in the rain shed area receives less rainfall, the only incident **of no rainfall** since people have been receiving regular rainfall reinstating the need of further research to establish a concrete relation between climate change and hazard so occurred.

- Impacts on forest death of plants like *uttis* is very high
- Deforestation, road construction and crusher are the main cause of all the hazards.
- The level of water on Roshi khola has decreased from past coz in past it used to be really difficult to cross it.
- Water scarcity is very high.
- Sustainability point of view gabbin wall is good
- The impact of landslide is very high on loss houses, life