

Landslide Disaster Impacts on Residents in Mokokchung District: Nagaland.

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Abstract

Natural disaster has become a major concern in the state of Nagaland and because of this the state government and many individuals faces huge loss of life and property worth lakhs of rupees. The Nagaland state, which is situated in North-Eastern part of India, is prone to all kind of natural disasters like earthquake, flashfloods, forest fire, land slide etc. because of its geographical location. Considering this, the present paper objective is to look into identifying the resident's major impact by landslide disaster and their adopting mechanism in order to cope with the situation. Total samples sizes of 60 household that are directly affected by landslide disaster were collected representing the Mokokchung district, only the town area. The results show that the people use indigenou and traditional knowledge in reducing disaster risk and adapted various ways to sustain their livelihood.

Key words- Landslide, Adaptation, livelihood, preventative measures, impact, Mokokchung.

Introduction

The landslide occurrence is increasing day by day in the state of Nagaland, faster than the monsoon variations. According to the view and experience of the people, the trend of landslide is increased due to heavy rainfall, poor drainage system, unplanned constructions, weak soils, increase of population, deforestation, encroachment of land in the name of development and many other factors. Disaster has hindrance the human development, as the state is prone to all kind of natural disaster, specially landslide disaster as it occur every year in many parts of the state. Every year there is losing of properties in the state because of the disaster and every time it is the communities who are at the receiving end.

Nagaland state becomes the victim of landslide disaster every year. Almost all the part of the state is prone to landslide and earthquake disaster and come under very high hazard zone. Nagaland along with rest of the north-eastern states falls under earthquake zone-V, making it a very high risk state to natural disaster. With all young, weak rocks and the rugged topography, the most part of Nagaland is prone to landslide, rock falls and mud flows are very frequent in the state every year. Fire is also one of the major disaster whether urban or rural fire. Cloudburst, flood, high speed winds are also some of the disaster in Nagaland.

Highlands and hillsides are one of the natural resources of the state of Nagaland. People living near the hills are always exposed to the exploration of hills and mountains. This phenomenon becomes more complex when there are more and more greedy and irresponsible people barging in the hilly areas. Their greed not only invites disasters to the resident, property and the environment but also causes serve loose to the government and individuals. Disaster has become a major concern in the state.

Methodology

Research methodology helps to understand the content and the study in a particular way and it clearly depicts the blueprint of any study and provides an insight into the statement of the problem, aims and objectives of the current study, research design, sample, sampling methods, rating scale, tools adopted, administration and designing of the questionnaire, method of data collection, data analysis and limitations of the study in an orderly manner. The fundamental

objective of any research is to uncover results and draw a meaningful conclusion.

The present study adopts a '*descriptive*' research design which includes an in-depth interview schedule for the affected communities residing in the disaster prone area. It is in alignment with the research objectives and appropriate study will be drawn based on the results.

The Mokokchung district town area has been chosen as the location of the study because in the history of landslide disaster in Nagaland, most causality happened in this Mokokchung town. The universe is narrowed down only to the town area of the district.

A total samples size of 60 household that are directly affected by landslide disaster were collected representing district the Mokokchung town area.

The sampling design of the current study focuses on the people who have experience the landslide disaster have been purposively selected and interviewed thereby taking their consent and time. The task was to select the sample area for the research. The Mokokchung town had been selected purposively on account of their fulfilling the study requirement.

Keeping in mind the objectives of the study, many colonies were visited to identify the landslide prone area as there were no much data records available with the government officials.

To encourage the respondents to share their experiences, both open and close ended questions have been used as a part of the study. Although close ended questions assist in quantifying data, the open – ended questions generate awareness about their understanding to disaster issues, their source of livelihood, their preventive measures taken to reduce or prevent disaster etc. The questions sets divided into different parts. First set talk about the demographic profile of the respondents, the second sets talk about impact of landslide disaster on their livelihood and the last set talk about what preventive measure they are doing in order to minimize the impact of landslide disaster.

The interview schedule comprised of both open and close-ended questions. The responses from the close-ended questions obtained were then systematically entered in Statistical Analysis for Social Sciences (SPSS) to quantify the data. The open-ended responses for each respondent, wherever possible, have been quantified with the help of the Microsoft excel. On the basis of the objectives and the results, relevant tools have been used.

Findings

It is very certain that whenever any kind of disaster happened in the habitant area, it is obvious that destruction of property, houses, land and loss of live will happen. From the research it was found that there has been direct and indirect impact on the livelihood of the people those residing in the landslide disaster prone area.

Whenever any kind of disaster happened in the habitant area, it is obvious that destruction of property and loss of live will happen. In both the districts, people have lost their love ones, house, land, and animal etc at individual level. Destruction and washing away of roads is also another major concern in the whole state and the government is spending lots of money mending it. So the losses because of landslide disaster are very common for both individuals as well as for the government.

The respondents age were between 24 to 74 years and most of the respondent were male with 65% and female were 35%. It was make sure all the respondents were head of the family (parents). Majority of the respondents belong to Ao tribe and 97% of the respondents were Christian.

Major Losses

Many people had lost their house and cattle during landslide with 78.8%. Most of the respondents who lose their house and cattle were residing near the drainage area or on a slope. 9.2% has lost their kitchen garden, reduction of land etc. And 7.4% has loss their dear ones and

many more in the disaster. The remaining respondent has lost their farm, portion of their house, their kitchen garden, reduction of their land etc.

In Nagaland people having extra land do kitchen garden in their surrounding house as additional source of income where they cultivate different seasonal vegetables and this help them in their day to day life. Another sources of their income is rearing animals specially pig. Many non working women invest their time on rearing the big cause it gives a good return whenever they sell it, as majority of the population in the state consume pork.

Some of the major impacts by landslide disaster:

Impact on financial status

All the respondents agreed that the landslide disaster has a huge impact on their financial status. They said in monsoon time, chances become higher that they will be spending more money on unwanted calls like repairing their fencing walls, repairing the drainage or the house destruction caused by the landslide disaster. For those people who are dependent on daily wages become more difficult and complicated during the landslide disaster as they have to repair the destruction caused by the landslide instead of going to work. We all know that the daily wagers cannot take leave from work like those people who are working in a government or private firm. They don't have this luxury of flexibility in their work field. They are not only spending money on repairing their house but also missed going to work.

Damages of house

Risk become higher in residential area and the impact also become huge. The data is collected from the town area and the destruction of houses was very common for people residing in the prone area. Most of the respondents agreed that in the past disaster their house has been affected.

From the data collected it came out that 78.8% of the respondent said that there house got damaged partially of whole house because of the past landslide disaster and the remaining respondents said there was no impact on their house but has destroyed their kitchen garden, washed away their cattle or their garage and vehicles has been destroyed in the past disaster.

Impact on Health

After disaster many people ignore their health as they are more concern on their losses caused by the disaster. Many respondents agreed that after the disaster they faced health problem because they don't get clean drinking supply from their connection and there is also sanitation problem. Many respondents said that after the disaster, it's the younger children who are the worst affected after the disaster on their health as compared to the grown up people.

Source of income before disaster

As the data was collected from the town area, most of the respondents were government service and some people in the private firm and majority of them were only dependent on their salaries. The remaining daily wagers and few of them are doing small scale business like owning a taxi,

selling vegetables in the market, doing kitchen garden, rearing of animals etc. majority of the respondent were migrated from their villages because of the job profile and few of them migrated to town area in search of job as they do not have much scope in their villages. Here the women who are not working in any office don't prefer to sit ideal at home but search for opportunity to contribute some source of income in their families by doing small business like, selling vegetables cultivated from their garden, making different types of pickle, making biscuit. Many women do the business of selling second hand clothes in the state and it is very common everywhere. They are not fully dependent on the male partner and they are free to travel so it gives them more opportunity to them.

Source of income after disaster

From the finding it was clear that those respondents working in government service and did not have major impact on their livelihood as compared to those people working in the private firm or doing small business. Those respondents whose livelihood and source of income were dependent on rearing animals or by selling vegetables from the kitchen garden has a huge impact by landslide disaster. Their income has minimized and their expenditure has increased due to disaster. For these people their life has become very difficult. One of the respondent said that they wanted to leave the town and go back to their village after the disaster because their land was fully destroyed and their only source of income was selling vegetables grown in their land. Many people are directly or indirectly have a huge impact on their livelihood like it has decreased in their source of income or people spending more money repairing the damages in their house caused by landslide disaster. For people working in the government offices has somehow got a stable and a permanent job but for those people who are working in the private firm find more difficult to deal with the situation because their salaries are limited and they can't even take leave every now in then. But for government employees it is more flexible as compared to people working in the private firm.

Preventive Measures taken by the community people

It was pretty clear that most of the residents were aware about the landslide disaster and its impact on their life. Slowly the people have started taking initiative to prevent its occurrence to some extent and also to minimize its impact on them and stay safe from the landslide disaster. Some of the respondent built wall near the drainage as well as on the slope to protect themselves from heavy flow and they also clean the drainage from time to time voluntarily because they have realize that if they don't clean it on time, it will be of their own loss and they cannot rely on the municipal council to clean them. They said the municipal people never come to clean the drainage and whenever there is any disaster, they started pointing fingers on each other and ultimately they will blame the residents for whatever has happened. The respondents said that in any ways they are always at the receiving end. Those respondents who could not effort to built wall has put tarpaulin to cover the land in order to save from the rain because when the soil become weak there is more chances of mud flow. Few of the respondents agreed that they have started planting trees in their colony to keep the soil intact. In one locality all the residents were ordered to plant more than 2 trees from each family by the chairman of the locality and every year from time to time they organize community social work to clean the locality and the drainage since a massive disaster in 2005 and also they impose fine to any residents who throw

garbage in the drain specially plastic bags. Many of the respondents are doing their best ability to minimize the landslide disaster or its impact on their life.

Conclusion

From the above findings and observation, the present study can summarize that most of the respondents has huge direct impact on their livelihood and also in their source of income. It was observe that many respondents are residing in the disaster prone area because of financial compulsion as they could not effort to buy a new house or land in a safer place and some of them can't even effort rent in safer place. Landslide disaster is very frequent in the state during the monsoon time every year and people are trying to cope with the losses caused by landslide disaster.

The people who are residing in the prone area are well aware about landslide hazard and its associated risk. Still they continue living in the same house for decades. It seems they have already compromise with the associated risk and its consequences.

As people know and aware about the consequences of the landslide disaster and how it has become a major hindrance in their life, many respondents has started reciprocating to it by trying to minimize its impact on their house or their life by building concrete wall near their surrounding house and also planting more trees as much as they can.

The finding suggest that till now many people are facing huge losses of individual property because of the disaster and people continue to live with it as part of their life. In this situation it will be good if the whole community come together as a whole and approach the state government for some sort of help or search for alternative option. It will be better for the communities if the government relocate them to safer place or provide assistance to them in times of disaster.

Another major concern is that more and more people are migrating to town area from nearby villages and search of job and more opportunities for the betterment of their life. But most of this people end up in residing in disaster prone area and because of this the vulnerability and risk increase. In this situation, the government can have a check on number of migrants and also on norms of construction house.

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