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Importance of Community Role in Landslide Disaster Management in Chittagong Hill Tracts Area, Bangladesh

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Abstract: According to the damage records of the 2017 Bangladesh landslide, landslides are one of the most damaging natural disasters for hill district communities in Bangladesh. Every year, most of these communities are highly susceptible to high-risk landslide occurrences. We review the past and current situation of landslide management. The underdeveloped population in the affected region is mostly led by their representatives and leaders. To make an aggregated move to adopt mitigation measures for risk management, the roles of these leaders and representatives are unique and unparalleled.

This research was conducted in landslide-affected areas, and government officers, affected people, and community leaders were the main contributors to this research. Their knowledge about geography and their disaster mitigation practices for the region pointed out the importance of the community representatives for landslide disaster risk management. Moreover, this study also focused on the role of local community representatives in community-based disaster management as they could influence decision-making in local disaster mitigation measures.

This study provides a constructive mitigation solution for landslide risk management and attempts to determine solutions and mitigation measurements to provide a safe living for the rising population.

Keywords: Landslide, community participation, disaster awareness and preparedness, mitigation

BACKGROUND:

Climate change is a global phenomenon. Bangladesh is one of the most vulnerable countries to tropical and monsoonal climate due to its geography, with more high-intensive rainfall in recent years. Most of the intensive rainfall occurs due to weak tropical depression, brought from the Bay of Bengal that triggers landslides. From 1990 to 2020, landslides caused a huge loss of life and property. Hence, landslide awareness and preparedness with community representatives for landslide disaster management are important.

Bangladesh is one of the least developed countries in the world, and the Chittagong Hill Tracts (CHT) area is one of the least developed regions of Bangladesh, receiving minimum support from the government. Given the scarcity of disaster mitigation education, the community has less disaster knowledge and a low preparedness. This research is unique as previous studies did not manage to reduce the communication gap between the government and the affected communities, and most researchers could not address this vital issue or come up with a solution to this problem.

AIM:

To minimize the loss of lives and damage to properties by improving community involvement and engagement in disaster management.

OBJECTIVE:

1. To review the current practices of landslide management at the community level.
2. To find out the community engagement capacity for disaster response.
3. To ensure the efficiency of community leaders and representatives in raising disaster awareness and preparedness.

VISION:

The paper aims to reduce the risk of vulnerability of informal settlements in high-risk landslide-prone areas in CHT by proposing appropriate mitigation measures after assessing the risk factors, environment, contractibility, community engagement, social impact, and costs. The study mainly examines the reasons behind frequent landslides in CHT and facilitates landslide awareness and community representatives' preparedness and leadership.

STUDY AREA:

In the recent years, landslides have become frequent and occur almost annually in the CHT areas in Bangladesh. The area mainly consists of three districts—Rangamati, Khagrachori, and Bandarban—in southeastern regions of Bangladesh. Therefore, Rangamati district was selected for data collection and field survey using the disaster risk reduction (DRR) management situation in the region. The study also targeted the two vulnerable communities (Bangalees and ethnic minority groups) for the landslide vulnerability assessment. The total area of this district is 6116.13 square km. The total population is divided into Bangalees and 7 tribes (ethnic-minority); 25,100 of which tribal (ethnic-minority community) 2,88,077 & non-tribal (bangali community) 2,37,023 (Census 2001).

CASE STUDY:

For this research, one of the authors visited some landslide-affected areas where a detailed survey of the affected communities was conducted. During the research, residents from the affected areas, including community leaders, and designated government officials from the district administrative body were interviewed.

One of the interviewees, Susmita Chakma, a 22-year-old married woman from Uluchora village and a survivor of the massive landslide at Rangamati in 2017, said that they had not faced such a disastrous landslide before that, and she had no knowledge about landslide disasters. She lost her three-year-old son in the landslide. When the disaster hit, they had to quickly evacuate their house to a primary school building. She hurriedly carried her younger son to safety and assumed that her other son was with her father-in-law. During that disaster, her husband, who was a daily worker, was out for work. After the havoc ended, she found that her elder son was missing, and they could not even find his body. After the disaster, she was compensated with little money, which was not enough even for a livelihood or to build a new home. She and her husband are struggling to recover from the losses.

Picture of field area and meeting with community people



Photo by author: Landslide affected area in Uluchara village of Rangamati District. The 2017 landslide survivors and community leader at the para center. (February, 2020)

Ripa Chakma, another survivor of the landslide of June 2017, said that she came under a crater while evacuating her house. Fortunately, her family members pulled her out before she was buried deep in the mud. However, the bones in her left arm and elbow joint were broken into several pieces. As the treatment was expensive, she could not afford it and had to use a simple plaster instead. Consequently, her hand remained deformed which hampered her daily activities. She did not receive any help from the government. Some kind-hearted donors helped her sustain. As time progressed, her broken hand could not regain function. She is struggling with a feeling of inferiority and various psychological complications as she cannot earn, even though she is now of age to become an earning member of her poor family.

A community leader (Karbari) from Uluchara village witnessed the landslide in 2017. The position of leader is hereditary in the Chakma (ethnic) community, and he has held it for the last 10 years after his father. Just before the landslide hit, he was ordered by the government to evacuate his people to the nearest primary school building. Although he tried his best to do it as early as possible, he failed to evacuate all of them. He faced several problems during the process. The temporary evacuation center marked by the government did not have space for the entire community. Consequently, many were refused shelter. After the disaster, he worked

with the emergency response team to help the affected community. He mentioned that before the disaster, he did not know about safety precautions and disaster management.

He also stated that the population of the area had quadrupled in the last 10 years. With this increase, people are losing their respect towards nature, and he thinks the disturbance in this human-nature relationship is resulting in the disasters. He pointed out that the living style of people has improved. The houses of most people are made of bricks rather than traditional houses made of bamboo and wood. These brick houses require cutting of hill slopes to build them. He suggested that the government should take steps to train community people about preparedness and emergency disaster management.

A para worker, working with an NGO under the integrated community development project which is implemented jointly by UNICEF and the CHT development board, said that she has been part of this project since the beginning of 2018. She has been working for and training marginalized people regarding various social issues and perspectives. One of the training targets is to provide knowledge and educate people about natural and human-made disasters. Another is to set a common platform in the para center for people, irrespective of age, community, and gender, for sharing their motives and visions through group discussions.

The deputy commissioner of Rangamati District stated two main reasons for the landslide. First, soil erosion due to various reasons. Second, aggressive behavior of people towards the hills. He said that people have been deforesting hills in search of immediate benefits. For example, people used to plant deep-rooted trees for wood. However, these plants would take several years to become fruitful. Hence, people are planting easy-growing plants such as pineapple shrubs and bananas. Planting these or short-rooted plants are highly profitable in a short time. These can be grown twice or more annually. As a result, the upper layer of the soil weakens and affects soil integrity during the rainy season, resulting in severe landslides. He also said that there was another landslide in 2018 after 2017. However, there was less damage because the people were evacuated before the risky rainy season to safe shelters for the period. Although proper steps were taken, there were 11 deaths in the Naniachor Upazilla area. He also pointed out that people are building houses on hill slopes without proper risk assessment and building codes. He highlighted three major function of Hill District Council regarding landslide management that are as follows:

1. The CHT area is surrounded only by an extensive hill area in Bangladesh. Many ethnic communities have resided in these hilly areas since a long time. People have to live in harmony with the nature. Therefore, the district council committee tries to sensitize people about landslide disasters.
2. The hill district council also prohibits people from building houses in the risky areas vulnerable hill slopes marked with red flags.
3. Moreover, temporary disaster shelters should be set up to help people evacuate during the rainy season.

Furthermore, he also stated that the role of community leaders and representatives was not visible or prominent in the past, but nowadays, they play a significant role in this disaster situation. The headman, chairman, Karbari, and other leading persons are spreading awareness about landslides. He also said that to combat the disasters, emergency response teams and volunteer groups were formed in every Upazilla, including the Union level, by the government authority.

However, during the rainy season, it becomes difficult to convince people to leave their houses and move them to disaster evacuation centers.

Interviews with the affected community revealed some important facts regarding the devastating consequences of the landslides. They were completely unaware and unprepared for this disaster. Women, children, and the elderly were the most affected. As societies in the area are mostly patriarchic, it was difficult for the women to make emergency decisions during the disasters such as whether to immediately evacuate the house, especially when the males were out for work. Moreover, it is obvious that most places in these hilly areas are too remote or too far from the main administrative body to receive early warning notices or evacuation orders by the local administration. They also complained that the emergency evacuation shelters were temporary.

COMMENTS AND DISCUSSIONS:

As seen during disasters, there is a lack of timely warning and evacuation notices, resulting in irreplaceable, heavy damage. Further, the compensation received by the affected people from the government was insufficient. In some cases, the survivors did not receive any compensation from the government. They experienced different types of psychological trauma during and after the disaster and rarely received psychological support or counseling from the government. As there was no arrangement for permanent shelter and rehabilitation centers, the survivors have to take shelter in neighboring houses and sometimes remained homeless.

There are many disaster shelters in Bangladesh, but all of them are specifically designed for cyclones and are mostly located in coastal areas. As these are not in the hilly areas, schools and college buildings are mostly used as temporary evacuation centers. Thus, when a disaster hits these hilly areas, they are not well equipped or well-built to be used as disaster centers.

Although community representatives such as Karbaris and headmen are elected with people's votes, they do not receive proper assistance from the authorities for disaster management. They do not have a suitable meeting place for communication and discussion with the community to address different kinds of issues. The probability of village-level communities getting advanced facilities of the government is lesser, when compared to district-level communities. However, in some circumstances, they are facilitated by some NGOs' projects but for a limited period. The government must increase and accelerate community-level involvement in combating disasters. They should focus more on vulnerable people in risky and remote areas by planning and providing proper disaster training and drills.

The measurements taken during the disaster management process are not sustainable. For sustainable disaster preparedness, the government should directly involve community people and focus on the role and practice of community leaders in society.

In these areas, a spiritual connection with nature and its practices is important for land and forest management. Some researchers have stated that the community's management practices with land, water, and forest were interconnected with their daily practices. A community representative, Kasamong Prue Khyeng, spoke about the relationship between spirituality and management, "If there is no spirituality, then there is no community as it helps them take care of their daily life and environment." Datta (2015)

Community elders and leaders explained that the meaning of spirituality came from different kinds of cultural values and religious aspects. They also revealed that many community leaders are losing their spiritual practices for land and forest management. Therefore, in this modern era, it is necessary to practice spiritual knowledge and maintain a holy connection with nature to save them from any disaster.

As mentioned previously, there have not been many studies or publications addressing this issue. Although some have proposed mitigation strategies, the role of community leaders or representatives has not been explored yet. Continuous unplanned development and migration of non-ethnic populations in hill tracts have been causing socio-political instability, which has resulted in illegal land grabbing and leading to unplanned development habitation in the landslide risk-prone areas in Bangladesh rather than not taking some long-term mitigation measures. Community leaders and representatives might play a significant role in motivating and raising awareness among people toward safer and risk-free habitation.

HOW SHOULD COMMUNITY PEOPLE PREPARE FOR LANDSLIDE MANAGEMENT:

Natural disasters are unavoidable. Therefore, along with the reduction of risk factors, the main focus should be on reducing the consequences through investigation and further development of structural and organizational (early warning, emergency response planning, preparedness, and awareness creation) safety strategies. Among the latter, creating awareness among the population to be more cautious about the risk factors should be prioritized. Moreover, an effective early warning system, emergency evacuation drill, and trainings should be introduced along with well-equipped disaster shelters. More high-risk and low-risk disaster-prone areas should be well marked and mapped. However, a well-equipped emergency response team should be formed and prepared for a rapid response to reduce casualties and accelerate evacuation.

THE ROLE OF COMMUNITY LEADERS AND COMMUNITY REPRESENTATIVE REGARDING DISASTER PREPAREDNESS AND AWARENESS:

Community members play a vital role in reducing the impact of disasters. During a disaster, people at this level are often the most vulnerable and experience the greatest impact for various reasons. People's responsibilities are sometimes individual duties to the community, including cooperation, respect, compassion, and participation. In Bangladesh, at the district level, some community representatives play a crucial role during an emergency. Sometimes, community representatives directly or indirectly engage in disaster management. At the local level, there are three types of community representatives who represent the community and work to build resilience. The role of community leaders is described below.

Some community representatives in Chittagong Hill Districts are the main representatives of the ethnic minority group of the Rangamati district. They were selected mostly through inheritance. According to the Chittagong Hill Tract Regulation Act 1990, they are the main controllers of Jum Cultivation (shifting cultivation). They are also responsible for the preservation of natural resources or forest-land management under his jurisdiction and the judge to decide in some local and social disputes as per the Hill District Council Act in 1989. During the emergency response, they also play an important role in the community for disaster risk reduction.

Table 1 Traditional administrative structure for land and water management:

Community Representative (Administrative position name)	Selection Criteria for the position	Responsibilities
Karbari (Village manager)	<ul style="list-style-type: none"> ▪ Elected by the village communities ▪ Must have an indigenous identity ▪ In-depth knowledge of village communities ▪ Must be from the village ▪ Decision-making ability 	<ul style="list-style-type: none"> ▪ To be a spokesperson for the village community ▪ To distribute Jhum and plain land among the village members ▪ To distribute village forest resources among the village members, in coordination with the headman ▪ To make decisions for the village community ▪ To raise social awareness
Headman for each Mouza (village)	<ul style="list-style-type: none"> ▪ Selected mostly through inheritance ▪ Must have an indigenous identity ▪ Respected within the community ▪ In-depth knowledge of community's customary laws 	<ul style="list-style-type: none"> ▪ To deal with the Karbari's problems ▪ To collect taxes from villagers ▪ To work with another district's chief ▪ To assist the community in decision-making ▪ To work with state forest and indigenous administrations
Raja/ Circle chief (King of the Community)	<ul style="list-style-type: none"> ▪ Selected mostly through inheritance 	<ul style="list-style-type: none"> ▪ To distribute forest resources (land and water) within mouzas ▪ To deal with village headman's unsolved problems ▪ To collect taxes from mouzas ▪ To work with other two districts' chiefs ▪ To work with the government's forest, land, and indigenous administrations. ▪ To maintain good cooperation and connection with development agencies (e.g., NGOs, UNDP, and District Commissioner of Bangladesh) ▪ To create a fundraising committee for the emergency response

Some other community representatives in Bangladesh also play a vital role in the community. Their roles and responsibilities are as follows.

Table 2 Other administrative structure for land and water management:

Community Representatives (Designated position)	Selection Criteria	Responsibilities
Para workers (village /community workers)	<ul style="list-style-type: none"> Selected by the NGO development board Selected member under the Integrated Community Development Project (ICDP) for the Chittagong Hill Tracts 	<ul style="list-style-type: none"> To ensure equitable social services such as education, health, nutrition, protection, water, and sanitation To create a sustained community To raise awareness about natural and human-made disasters through education. To arrange weekly meetings with the community
Community volunteer (Disaster worker)	<ul style="list-style-type: none"> Selected through community-based disaster preparedness programs under BDRCS (Bangladesh Red Crescent Society) Eager to work with the disaster management team Ability to work during an emergency response 	<ul style="list-style-type: none"> To provide food rations and basic relief items to the affected people To develop disaster management connections within the BDRCS committee and with local, regional, and international agencies engaged in disaster preparedness and management To reduce the vulnerability of the selected communities by strengthening their preparedness and capacity to withstand the impact of natural and human disasters To ensure safe refuge in the evacuation shelters To ensure support to vulnerable people during disasters

Analysis of community representatives' work reveals that, although they are vested with different types of duties, including disaster management, they lack education and training for disaster management and preparedness. There is still a wide gap and a lack of coordination with the government, resulting in weak management and response during disasters. If they are properly trained and provided with disaster management courses along with emergency drills by the government at regular intervals, they will be able to use their skills effectively before, during, and post-disaster periods.

Furthermore, according to SOD-2019, a headman and a Karbari from an ethnic community should be included as members of the Union Disaster Management Committee in the union councils of the landslide-prone hilly area (SOD-2019).

CONCLUSION:

Bangladesh is a comparatively small country with a large population. Although natural disasters are not new to them, there has been severe economic damage and loss of lives in recent years due to disasters. Landslides have become a serious concern because of their devastating effects on life. Natural disasters cannot be stopped or prevented, but there are ways to mitigate them. During a field visit, their disaster knowledge and assumptions regarding preparedness were explored. Rather than being prepared, they plan to migrate beyond the hill tracts. Awareness could be raised to mitigate the losses before, during, and after the disaster. Local community leaders and experts must play a role in educating people about disasters. The government should draw and enforce laws against deforestation, non-engineered construction, unplanned development, hill cutting, and other factors responsible for landslides. Irregular and risky settlements should be moved away from the risk zones, and properly equipped safe evacuation centers should be established.

Finally, the concerned authorities should actively creating awareness among the local people in the hill tracts and educate them on the devastating effects of landslides to ensure a safer and risk-free livelihood for the people.

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