

DISASTER MANAGEMENT AND GOOD GOVERNANCE: A REVIEW ON CHATTOGRAM LANDSLIDES

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Abstract

Introduced by the development organizations, in the early nineties of the twentieth century, the concept of good governance emerged as a powerful tool of government management. The term Disaster Management has also been introduced in Bangladesh in the contemporary period. However, Bangladesh is observing the lack of good governance being an obstacle to disaster management. Without ensuring good governance the rise of the death toll due to natural as well as human-induced disasters such as floods, cyclones, river erosion, drought, fire incidents, launch accidents, or building collapse could not be prevented. This study has particularly focused on revealing the relation of landslides to the eight significant characteristics of good governance. The researchers have collected both the primary and the secondary data and have adopted a qualitative method for analysing the data retrieved from Chattogram metropolitan area (previously known as Chittagong) during the research. This study has tried to establish the argument that, lack of the characteristics of good governance including transparency, accountability, rules of law, participation, responsiveness, consensus, inclusiveness, efficiency, and effectiveness is responsible for occurring disasters like landslides. Thus, this study is expected to open a new edge in academic and development research. This will also help the policymakers cope with the guidelines to create necessary policies.

Keywords: Disaster Management, Good Governance, Landslide disaster

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Introduction

The environment, nature, and natural resources are inextricably linked with the country and its people. The world's first conference on the environment known as United Nations Conference on the Human Environment (1972) organized by the United Nations, called for preventing any damage to the environment, and proclaimed to recognize the fundamental need of the individual for a satisfactory environment and this also ensures that the states will be responsible to protect this human right (Handl, 2012). Subsequently, the issue has been discussed in various ways in global protocols on environment, development, disaster management, and climate change.

The state's driver is the government, and its first and foremost duty is to protect and manage the state's natural resources and ensure the safety of the people. Bangladesh is blessed with enormous natural resources incorporating hundreds of rivers, wetlands, forests, hills, seas, and geological resources. The government is responsible for protecting all these resources by ensuring proper and systematic governance. The word 'governance' has existed since the inception of civilization. At present, the concept of good governance is widely accepted by academics, governments, and donor organizations, because people around the world started to raise their voices for good governance. Good governance creates and maintains such conditions that play a helpful role in improving living conditions (Khan, 2013).

According to Islam and Akhter, the lack of good governance is evident in a developing country like Bangladesh. Recently, Bangladesh has achieved enviable socio-economic success through promising leadership, but its position in the global good governance index is still not impressive. To make Bangladesh's ongoing development activities dynamic and sustainable, we must take effective steps to implement the standards of good governance (Islam & Akhter, 2017).

Considering the geological location and climate situation, Bangladesh faces various natural disasters almost every year which mostly include floods, cyclones, river erosion, droughts, salinity as well as landslides. The death toll has continuously been rising owing to landslides in the last three decades (Muhibbulah, 2015; Akhter, 2017; Chakma, 2018). The unplanned consumption of natural resources like forests and mountains is largely responsible for this. Mahmud (2017) mentioned a joint study by the Center for Environmental and Geographic Information Services (CEGIS) and Water Aid on the nature of changes in forest and water sources in the country's three hill districts including Khagrachari, Bandarban, and Rangamati

focuses that in between 2003 and 2015, 26.52 percent of natural forests were destroyed, and 61 percent of the mountain springs have dried up. As a result, the soil texture of the hills in this region is deteriorating. At the same time, agricultural land has increased by 26.05 percent. The deforestation process is the root cause that propagates natural disasters like landslides and hill areas becoming riskier.

Development organizations such as the UNDP, the World Bank, the Asian Development Bank, and the African Development Bank have been discussing the issue of good governance since the end of the last century. Good governance is the characteristics of governance that are expressed through accountability, transparency, efficiency, empowerment, participation, sustainability, equity, and justice (Rahman, 2014). The World Bank has promoted the concept of good governance to strengthen the possibility of effective policy implementation since 1992 by its reputed report entitled “Governance and Development” (Dam, 2001).

Occurring natural disasters are quite inevitable, but the loss of human life, property, infrastructure, heritage, environment, and economy could be resisted through proper management. For this reason, it is often claimed that the negative impacts of the disaster are never natural but rather always man-made; it is nothing but a lack of human capacity or management capacity.

This paper examines the relationship of good governance with a particular disaster in Bangladesh named landslide that commonly prevails in the hilly areas of Chattogram (Chittagong). This discussion revolves around the term good governance, an essential element of disaster management. The study has emphasized ensuring disaster management through the establishment of good governance by the government. We believe, this write-up will open a frontier to new ideas in the field of research on disaster management as there is a considerable lack of sufficient literature on this field in the context of Bangladesh.

Literature Review

Landslide Vulnerability of Chattogram

United States Geological Survey (USGS) stated that every year landslides kill an average of thousands of people worldwide. According to Hyndman & Hyndman (2011), “A driving force pulls materials downslope, while a resisting force holds them in place. When the driving force is greater than the resisting force, a landslide occurs, bringing the two forces back into equilibrium.” Landslides damage the angle of repose which means that it is important to maintain a particular angle

of slope for the survival of the hills. This angle can range from 20 degrees to 30 degrees (Abbott, 2000). According to Bryant (2005), landslides tend to happen in two different types of material, consisting of either bedrock or unconsolidated sediment, usually clay.

Landslides occur in three hilly districts of Bangladesh, namely the Chittagong Hill Tracts (CHT), Rangamati, Khagrachari, and Bandarban, and hills in Sylhet and Mymensingh districts as well. Analysing the causes of landslides in Bangladesh, several issues including the rock stratification of the hills caused by the movement and collision of the Indian and Burmese plates, changes in shale, silt, and sandstone or inter-level coordination, numerous small and large cracks in the rocks, infrastructure built on inclined slopes, heavy traffic, massive deforestation, unplanned sewerage, and water management can be considered as responsible for the landslides. The mixture of mud and sand caused by rainfall and landslides can flow up to 5-6 kilometres on the ground (Akhter, 2017).

Three factors are important when describing the causes of landslides in Chittagong city, the internal components of the soil, the geomorphic setting, and external regulators. In Chittagong hilly area, 52-74% of the land is sandstone, 26-45% is fine to rock and 2-4% is silt. Due to the presence of abundant porous and permeable materials on the surface, rainwater easily penetrates, increases the weight of the rock, and creates pressure. Therefore, heavy rainfall is one of the external regulators in the case of landslides in Chittagong. Ninety percent of the annual rainfall is between June and October and the average annual rainfall is 2794 mm. The maximum average temperature is 78.76 degrees to 90.44 degrees Fahrenheit and the minimum monthly average temperature is 55.44 degrees to 77.34 degrees Fahrenheit. The lowest monthly average rainfall is in January (0.66 mm) and the highest average rainfall is in July (74.70 mm). It can be said that excessive rainfall within a short period is one of the main causes of landslides. Regarding the angle of the slope, it is found that in the landslide-prone areas of Chittagong, the angle ranges between 34 degrees and 84 degrees; most of them are more than 40 degrees. Several man-made factors such as cutting down the hills and changing the shape of the hills, deforestation, and inadequate drainage system are significantly responsible for this situation (Ali et al., 2018).

Landslide Prone Areas in Chattogram City

Fatema (2019) has listed all the areas that are prone to the risk of landslides in Chattogram City based on their severity. According to her, the High-Risk Area

includes the Motijharna area under the Lalbazar area near Tiger pass, the Bayezid Bostami area near Armed Police Battalion-2, and the Lebugagan area near Chittagong cantonment, Kusumbag residential area near Chittagong Metropolitan Police line area, and Batali Hill area. The Moderate Risk Areas are the North and South Khulsi Hill area and Foy's Lake area. Again, the Low-Risk Area covers Golpara slum near Tiger Pass and Chittagong stadium and the Nasirabad area.

Ahmed (2017) argued that the migrated population can hardly cope with the hilly environment because of their lack the knowledge of hill culture. The indigenous peoples living in the original hill districts consider the hill to be a sacred place and consider it a part of their cultural identity. They have inherently acquired the knowledge of sustainable use of hills and of coping with natural disasters in hills. For example, they build houses without damaging the slopes which protects the slopes from falling. As a result, the impact of landslides in the original hill districts is less than in the urbanized hill districts.

Human-induced Causes of Landslides in Chattogram

Apart from the physiological and geological causes Mohibullah (2015) blames unplanned hill cutting as the main cause of landslides in Chittagong city and identifies the reasons behind hill cutting. According to him, homeless and landless floating people from the disaster-prone districts near Chittagong migrate to the city for work and shelter. According to his data, an average of 50,000 floating people are added to this city every year. 65 percent of the population in hilly areas comes from other districts and 35 percent from rural and remote areas of their districts and are convenient as low-cost accommodation in the hilly areas. He also mentioned ownership conflict, political power, housing business, road construction, administrative inefficiency, and lack of planning as the root causes of hill cutting. If environmentalists' advice on landslide protection were implemented, thousands of people would not have died in a decade from 2007 to the present. Moreover, Mia, Sultana, and Paul (2015) identified indiscriminate deforestation as one of the reasons for landslides.

Landslides and Governance Issues in National Policies

According to National Disaster Management Policy (2015), the response agencies should increase their manpower, create volunteers, and provide modern equipment for rescuing. People living in landslide-prone areas need to be made aware through signals and warnings. Temporary shelters should be arranged with proper

emergency drinking water, food, and security (Government of Bangladesh, 2015). National Plan for Disaster Management (2016-2020) states that 18% of the total land of Bangladesh is landslide-prone hill tracts. An online-based early warning system has been set up for Chattogram city under the project monitored by BUET-JIDPUS (Government of Bangladesh, 2017).

Hill-tracts' Landslide Disaster Management Guide-2019 mentions that after the landslide of 2007 in Chattogram, it has been necessary to implement the 28 clauses and 36 recommendations. To remain absent in setting up various installations on the fragile soil of hills, research on the scope of various hill-friendly systems; the obligation of CIA / URA for any work in the hills; cancelling previously established shelters, cluster village projects, and settlements in the hills; stopping illegal hill cutting immediately; building disaster volunteers; regular mobile course arrangement by the magistrate, etc. are vital among those suggestions (Government of Bangladesh, 2019a).

According to Standing Orders on Disaster (2019), the Ministry of Chittagong Hill Tracts Affairs and the Chittagong Hill Tracts Development Board is responsible to prepare a risk map of landslide-prone areas and action plan, accordingly, implement policies on capacity building programs, conducting awareness-raising programs to reduce the risk of landslides, and finally, ensuring the budget for the implementation of relevant tasks. Moreover, undertaking the arrangement of warning signals, communication systems, response time transfer, rescue operations preparation for medical services, and humanitarian activities is also ensured by them (Government of Bangladesh, 2019b).

From the literature review, it is evident that several studies have already been conducted to identify the landslide-prone areas and their causes of it in Bangladesh. The issue has been considered also from a social and economic point of view. The researchers have not found any study on the causes of the landslide and the preventive measures by determining the relationship of disaster management with administrative debilitation or governance misstep. This paper is expected to address this gap in particular.

Conceptual Framework of the Study

The United Nations Development Program (UNDP) mentions several elements of good governance. These are participation, rule of law, transparency, responsiveness, consensus-oriented, equality, effectiveness and efficiency, accountability, and strategic foresight (IFAD, 1999). The World Bank, Asian Development Bank,

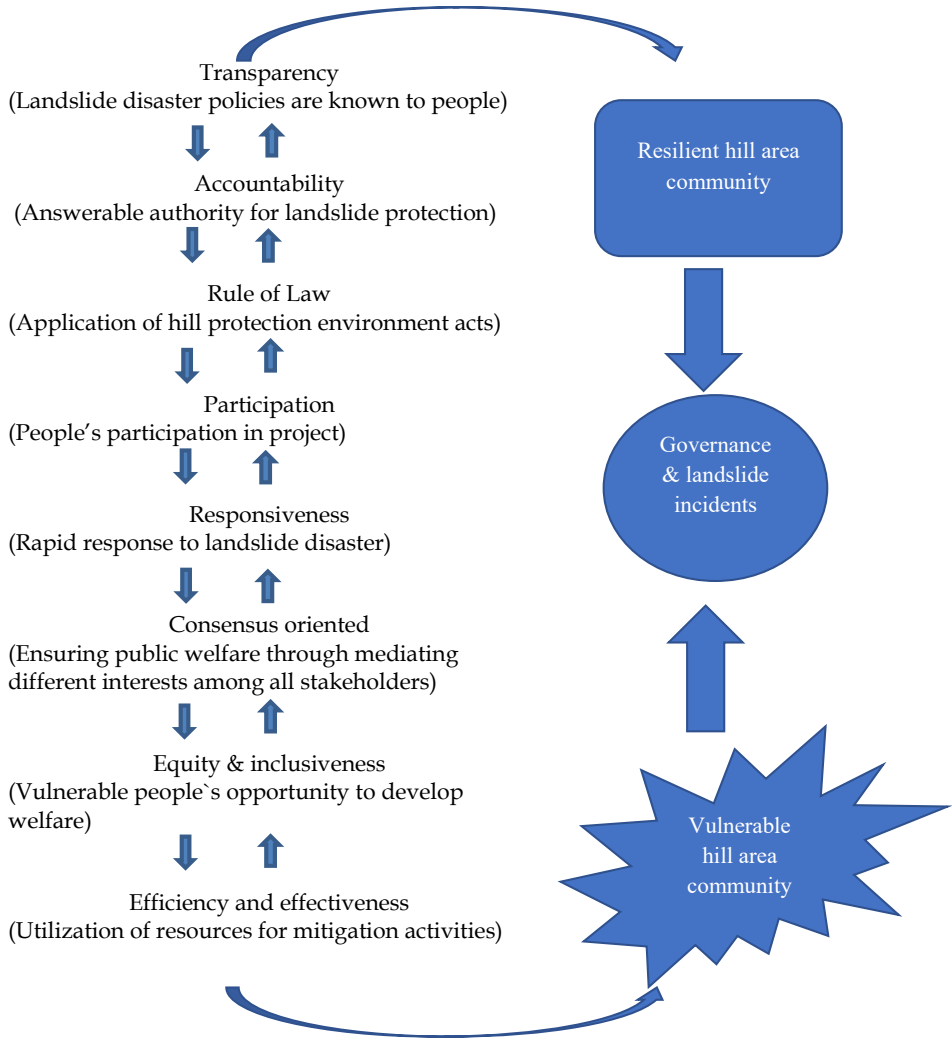
African Development Bank, etc. also given a similar notion. In this study, the researchers have considered eight main elements of good governance to discuss the relationship with landslide disaster management.

Transparency means making states' information available to their citizens. Every citizen has the right to be informed about the state policies, budget, and other relevant information through media so that they can properly observe and monitor the public administration process. Accountability is a situation where everyone will be held accountable for their actions. If they fail to perform this duty or do not perform the duty properly, it will be regarded as their negligence or lack of accountability in the duty (Keping, 2017).

The rule of law aims to protect the basic rights of the people such as freedom, equality, etc. (Keping, 2017). In general, the rule of law refers to a situation where the ruler and the ruled will be subjected to the same law. It protects human rights, especially for minorities (The National, 2013). Again, civil society should be allowed to participate in the formulation of development strategies and the people directly affected by the programs and projects. This important feature of participation or good governance plays a helpful role in the project implementation (Rahman, 2014).

Administrators and administrative institutions will timely and responsibly meet the needs of the people. In some cases, responsiveness is an extended part of accountability (Keping, 2017). People in society can have different interests with variations in historical, cultural, and social contexts. The interests must be consensus-oriented through mediation so that the welfare of everyone in the society is achieved. Everyone in society, especially the most vulnerable group, should be prioritized while provided with the opportunity to develop or maintain their welfare under the criteria of equitable and inclusiveness (UNESCAP, 1994).

When the various government agencies and activities meet the needs of the society through the maximum use of resources, it is called efficiency and effectiveness and in government, organization means effective public policy, effective decisions, rational use of resources, positive results of the organization's work, etc. (Saparniene & Valukonute, 2012). All the components are closely inter-connected and if one component is distorted landslide vulnerability will be increased. Derived from this discussion the conceptual framework has been placed below-



The Conceptual Framework of the Study

Research Methodology

The Chattogram City Corporation (CCC) area has been chosen to conduct this study as the city is surrounded by hills and at the same time, the process of forming slums by cutting down hills and forests is being continued to meet the pressure of numerous displaced populations. This research has been conducted between February and July 2020.

For this study, the data has been collected from both primary and secondary sources. The researchers have reviewed the secondary sources including published books, reports, and newspaper articles. The content analysis method has been adopted to analyse the secondary data. In general, the important news related to the landslide disaster published in the leading Bangla and English daily newspapers of Bangladesh between 2007 and 2018 has been analysed.

The primary data has been collected from the primary source adopting the qualitative method by applying five Key Informants' Interviews, including, the Head of Urban Planning, Chattogram City Corporation; Forest and Slum Development Officer, Chattogram City Corporation; Station Officer, Agrabad Fire Station Service, Chattogram; National Project Director, Comprehensive Disaster Management Programme- II, Ministry of Disaster Management and Relief, Government of Bangladesh; Professor of Institute of Disaster Management and Vulnerability Studies, University of Dhaka. Two Focus Group Discussion (FGD) has been made including 14 no Lalkhan Bazaar ward, Batali hill area, and Shershah Bangla Bazaar area, Bayazid Thana, Khulshi, Chattogram. At the field level, participant observations have been conducted in both summer and monsoon for understanding the current picture and socio-economic, environmental, and political features of the hilly areas of Chattogram city. Moreover, while collecting the primary data, interesting cases have been recorded. There has been an attempt to reveal the truth by mentioning the summarized versions of broad stories.

Discussion

The purpose of this study is to highlight the relationship between landslides disaster and governance practiced by the Government of Bangladesh in the light of eight main features of good governance.

1. Transparency

According to the prerequisite of good governance, it is to be ensured that people are informed of the decisions made by the government. Nevertheless, after June 2007 massive landslide, the 27-member committee, headed by the present Prime Minister, has made recommendations on required actions to prevent landslides. The recommendations need to disseminate among the people, especially the people living in the hill tracts (Prothom Alo, 2018a).

While collecting primary data, it was found that people of the area are aware of the issues of cutting downhills, preventing landslides, and illegal settlements, they

replied that they were afraid because of having Ansar and Police camps nearby. Nevertheless, they had never been informed to leave the area in a systematic way like proper notification, arranging meetings, issuing government notices, or verbal communication. During KII, fire service officials mentioned that the emergency contact number of the fire service should hang in a visible place so that people can seek immediate help during landslides events. Nevertheless, on-site observation, the researchers could not find any notice posted in the hilly area or its vicinity.

2. Accountability

The first recommendation of the above-mentioned committee was to conduct a geological survey to determine the soil-holding capacity of the hills and to manage the hills based on the angle and strength of the slope. Ironically, several roads, legal-illegal said that no geological survey was carried out for the construction of the buildings. Moreover, the soil test has also not been conducted properly in all the cases. The recommendations also include banning brickfields within 10 kilometres of the hill, banning housing projects within 5 kilometres of the hill, preventing erosion of damaged feet of the hills, taking legal action against influential people involved in hill-cutting and hill demolition, and strictly controlling the delinquency of influential individuals, groups and organizations in a lawful manner. It was also an important recommendation to take criminal action against those who destroyed the hills by leasing or occupying the hills in the name of various associations (Karmakar, 2017).

On July 24, 2018, during heavy rain, at the foot of the inaccessible hill of a local owner, Bacha Mia Ghana in Cox's Bazar Municipality, four children of the same person were dead due to the hill collapse. The municipal authorities listed the house as risky and informed the residents to evacuate by miking in the area, but they did not evacuate and even after the incident the affected families started living in the same area again with the risk. Moreover, there is a lack of supervision of the district administration in this regard (Prothom Alo, 2018b & 2018c).

As part of the answer to the questions about whether the government-made decisions are implemented, the researchers have collected some answers from the participants of primary interviews during FGDs; for example, "has any embankment been built to prevent landslides? Is the tree plantation program visible in the landslide area? Has the illegal hill cutting stopped? Have the illegal settings near the hills been evicted?" Against every question, they gave negative responses but while asking, "Are people told to go to safe places due to heavy rains?", they gave assertive responses.

More than 200 residents occupy the Batali Hill in the Tiger Pass area in Chattogram, and they are mainly involved in day labouring, small business, and rickshaw pulling. The houses are pretty close to the hill and a landslide occurred even in 2019. The residents mentioned that there was no notice of eviction, rather a notice has been issued to disconnect illegal gas, water, and electricity connections. In case of heavy rains, the deputy commissioner's office uses a microphone to alert people, and they take shelter in the nearest primary school. Participants in a focus group discussion in the Shershah Bangla Bazar area shared the same information and they are instructed to move to a nearby high school shelter.

3. Rule of Law

Despite the deaths of hundreds of people in landslides in 2017, little has been done to save the lives of marginalized people living in the hills due to the absence of rule of law and the year-wise death toll list has appeared in the appendix. Illegal settlements have been built without the permission of the municipality. For example, there are 17,767 holdings (houses) in Rangamati municipality, out of which only 2,015 are approved and the remaining 15,752 holdings are illegal (Prothom Alo, 2018d). Many departments and agencies of the government do not seek the approval of the Ministry of Environment and Forests before starting their work in hilly areas (Karmakar, 2017). It is worth noticing that the High Court imposed a ban on hill cutting on the appeal of environmentalists. For lack of implementation of the judgment given by the court, the situation remains unchanged. It is assumed that the socially and politically influential people have a certain power of using the hills as private property ignoring the law and court (Moksud, 2017).

During the data collection, it has been revealed that people living at the foot of the hill by constructing illegal structures and those involved in cutting down the hill have not been brought under the law. The participants of the first Focus Group discussion of this concerned study said they settled here about 25 years ago. They build their own houses. Although there is no permanent facility in this place near the Chattogram City Corporation, a private NGO built roads and latrines. They collect water from the deep tube wells. More than 20 slums, shops, and small factories have been built on fellow state land. There is an electricity connection and all electrical appliances including TV, fridge, computers are running in these houses.

The participants in the second focus group discussion are the residents of the Shershah Bangla Bazar area. It is known that a lady named Lalita Roy had 1155

decimal land in this area before 1947, the India-Pakistan partition. The participants were informed that there are 325 houses in this central place of Chattogram. This location is recorded as *Monju Miar Khamar Bastu Hara Colony* (Monju Mia's Farm, a colony for displaced population) in the file of Chattogram City Corporation. Many years ago, some flood-affected people came here for shelter. These people were from Noakhali, Chandpur districts nearby Chattogram. Because of the wider road project of the Government of Bangladesh in 1996, the houses adjacent to the colony for the displaced fell into danger and the inhabitants resorted to Ledu Haji, their respectable leader in that area. Ledu Haji has been mentioned as the caretaker of the Bangladesh Bank by the local people. He resolved that for the time being, the displaced people can build houses in the vicinal hilly area which is a part of the estates of Bangladesh Bank, under one condition that they will have to leave the area as per the notice of the bank. They agreed to this condition and signed the stamp; based on this agreement, Ledu Haji distributed the land among them and did not demand any cost in return. The displaced residents of the slums of the colony started building houses and living in the hills. Interestingly they took the connection of gas-electricity-water lines which should be illegal and regularly paying bills. They collected contributions from everyone and built the road with stones from the bottom to the top. However, surprisingly, many of them do not live there at present; rather they collect monthly rent from these houses. This situation represents the trend of the illegal settlement situation in the hilly areas. The following case study shows how the illegal supply of utility services pursuing.

Story of Pani (Water) Jasim

About 2,000 people in 325 houses in Shershah Bazar hilly area are in dire need of water. It was difficult to collect water for the people of this area since the area is located high above the ground. Then one of the disciples of the political leaders in that area named Jasim installed deep tube wells and started distributing water among the people of the Shershah locality. However, everybody complains against this person known as '*Pani Jasim*' because of his oppression in the name of water supply. Each house needs to pay the price of water supply ranging from 800 to 1000 BDT per month. There are also several allegations against this person because he is involved in other illegal activities including extortion in the market. Local people are hostages to him as he is not permanently punished.

The following case study will prove the existence of hill cutting.

Unprecedented methods of cutting downhill by land-grabbers

The names of several land grabbers in the vast hilly areas of the Shershah Bangla Bazar area of Chittagong are commonly heard from the residents of that area. This area belongs to the Bayazid police station. It is said, "On the right side, this is Jonab Ali's hill and on the left side, it is Kayes Chowdhury's, they cut the hill down anytime as per their convenience." When they were asked whether the police or the administration would take any action, the people replied with disdain that, the police of Bayezid police station were once sold to Kayes Chowdhury for worth BDT 3 and later to Jonab Ali for worth BDT 5. There are several cases against them filed by the Ministry of Environment, but the residents have never seen them getting punished; for this reason, the locality has no trust in the law and order of the administration. Once a pregnant lady magistrate was beaten publicly with a stick by the perpetrator; a case has been filed on this issue and is continuing, but these people are so influential that they have never been punished for cutting down the hills. In response to how these influential people managed to cut the hills in front of everyone, they explained in detail. The hills are cut down mostly during the rainy season. Generally, in the evening dark time, they engage laborers to loosen up the soil with spuds. Due to the rain at night and in the morning, the soil collapses easily. In the morning, their partner, Siraj Contractor hires 80-100 people as day laborers for taking away the soil. Day by day in this process, the place is being vacated by cutting down the hill and illegal installations are increasing overnight. About 200 houses have been built in this way. The sources must be paid BDT 2,000 and the police have to be paid BDT 10,000 for this. So, in total BDT 12000 per day is allocated to the police.

4. Participation

Primary data shows that community people are not at all informed about landslides or hill slides or deforestation, and also, they are not involved with any of the activities related to the preservation of these such as meetings or rallies. Residents of the Shershah Bazar area said that the city corporation was about to run a tree-planting project though it was known as '*the project of Shafiqul*' but they are not sure how the people of the area would be involved. However, the focus group discussants said that the Ward Disaster Management Committee (WDMC) of the city has never called any meeting with the residents to discuss the issue of landslides and necessary activities for them.

5. Responsiveness

Delaying in solving the problem is not acceptable in good governance (Keping,2017). For example, in 2017, 11 months after the landslide, the roads and structures damaged in the landslide were not completely repaired (Prothom Alo, 2018c). The fire service and police are usually notified after a landslide. However, it is seen that they are not always able to reach the accident site immediately because of its location in a remote area. As a result, local people are seen being engaged in rescue operations (Prothom Alo, 2018e).

For the past 2-3 years when it rained, they have been notified by announcing to move to the shelters or safe places. For example, the residents of Batali Hill Area in Tiger Pass were directed to move to Shaheed Nagar Primary School and inhabitants of Shershah Banglabazar were directed to move to Shershah High School. They received some packets of rice, potatoes, and lentils as a relief. When asked about the rescue after the landslide, the Agrabad Fire Service and Civil Defence Station officer said now they are capable to start working within 30 seconds of receiving a phone call from their station. First and second-class stations, main and regional stations are divided in the whole city. A first-class station employs at least 35 people, and a second-class station employs at least 27 people, but based on the severity of the incident, the necessary manpower and vehicles of any station are sent in due time. He mentioned some necessary measures they follow in case of responsiveness to the landslide disaster as follows:

- Training program is organized.
- Rescue exercises are carried out in the hills with modern equipment.
- Magistrates and Upazila Nirbahi Officer (UNO) decide of announcing at the foot of the hill during downpours.
- The eviction is carried out in the presence of AC Land, police, and magistrates.
- In last July 2019, two women were crushed at Bayezidmor in Arefin Nagar, and they were rescued.
- Free ambulance service is provided, and patients are sent to Chattogram Medical College.
- The contact number is hung in the visible places.
- Risk mapping for all areas has been prepared.
- In Chattogram city 11 slums are listed for service.

6. Consensus Oriented

One of the conditions for good governance is to reach a consensus among all stakeholders for making any good decision. The following case study will give us an idea about this.

The future housing project for low-income families initiated by Chittagong City Corporation

Poor people have been living in the land of Chittagong Nagar Bhaban e.g., on the hill slopes in the Tiger pass area for ages. About 7-8 years ago, AKM Rezaul Karim, the chief urban planner of the City Corporation, decided to provide them with an improved housing project. He held regular meetings with the destitute and underprivileged homeless slum dwellers to improve their lives and suggested that each family get a small apartment of 250 square feet and repay the loan in long-term instalments. The building was constructed as per the plan and a total of 262 small apartments were constructed. But the plan entirely failed during the last phase of allotment. There raised an argument about whether it would be right to distribute such expensive land among the distressed people. This incident eventually led them to forceful deprivation of the benefits of the project. At present, the government is focusing on the 'Urban Resilience Project' and adopting urban slum development projects (following the style of that project) in different cities including Dhaka. Various NGOs are also working in this regard.

7. Equity and Inclusiveness

After any landslide, the poor people rebuild their houses and live in the same place because they can't arrange alternative accommodation due to poverty (Prothom Alo, 2018c). During the preliminary data collection, it is seen that the responsibility of the administrative officials is to ensure the inclusion of every concerned person and to manage it equitably. As seen from the two focus groups, the poor and the helpless are being deprived in various ways and the powerful are being benefited. The poor did not get the 250 square feet flat under the city corporation. Surprisingly, in some projects, people's participation was ensured. For example, the Slum and Renewal Project Officer mentioned, that to employ the slum dwellers, a leader is selected through the Community Development Cluster (CDC), and men and women were made to work under his supervision.

8. Efficiency and Effectiveness

The government of Bangladesh has not been able to ensure maximum use of its resources in dealing with landslides. We all know that temporary repair work is very expensive. It is to be mentioned that after the 2017 landslides, BDT 14 crore has been spent on Rangamati-Chattogram road, Mahalchhari road, and other roads. But without focusing on a permanent solution, the higher authorities seem to be keen to spend money on repairing the damaged roads repeatedly (Prothom Alo, 2018c).

While considering the research, we came to know that the plantation programs of fruit trees and forest trees are being carried out regularly by the City Corporation, whereas it is scientific to plant shrubs on the hillsides. When asked if there was any program to plant *Binna-ghash* (Vetiver grass), the City Corporation said, officially it was not their work, but it was heard that an international organization Japan International Cooperation Agency called JICA was working on the issue and provided fund for the research. They are providing scholarships to students for pursuing MPhil/ Ph.D. But City Corporation has not adopted any such initiative. He also mentioned that the project of planting fruit trees and forest trees is conducted regularly under the afforestation project. Sufficient skill is required to undertake any project to prevent landslides since it is a different strategic matter. The City Corporation has a separate department called 'Forest and Slum Development' and the concerned officials are also appointed for it. According to the Head of the department, afforestation and slum development activities are being carried out in Chattogram city with the funding of government, private, development agencies, and UN development agencies. There is a list of about 2000 slums with a population of about 1.4 million, among which mostly are floating people coming from distant and distressed villages. The embankment construction project in the hilly area has been done in two ways: concrete casting and brick masonry. The slum development project focuses on the development of the quality of life. This project emphasizes socio-economic development including water and sanitation, road development, electricity, etc., for which this project encourages micro business, building livelihood, and education and health under social development projects through micro-credits and training. According to the Chief Urban Planner, there are activities to prevent landslides, but it is not always possible to prevent landslides, and landslides are rare unless the hills and forests are cut down in an unplanned way. He cited the fact that landslides are less common in tribal societies in original hill areas. The water comes down and it flows down through the scaffolding, and this is normal. Because there the natural activities are neither interrupted nor

tortured, consequently, the nature remains as it is. The hills collapse in the urban areas because they are cut down indiscriminately. Lack of skill and management is the main cause of this landslide.

Conclusion and Recommendation

It is evident from the collected data that there is a strong correlation between the components of good governance and landslide disaster management. A lack of transparency and accountability is depicted in every phase of hill area management. The absence of rule of law has been portrayed vividly. Nominal practices of participation, equitability, and inclusiveness are seen at the community level. Nevertheless, in some cases, responsiveness efforts and consensus-oriented programs are observed. From the discussion with key informants' interviews and local communities participating in the study, a few significant suggestions have been extracted such as, the local government is supposed to take effective measures to prevent landslides which are not evident in Bangladesh. Lack of management in local power structures, non- participation of indigenous groups, and lack of honesty, moreover, displaced settlers, and development activities- all of these are responsible for the landslides. Floating people who regularly enter the city are arranged to stay in risky places on the hills as they play an important role as a 'vote bank' for the local leaders. As a result, they are not evicted.

The recommendations that came from the Divisional Commissioner's Office after the 2007-landslide became file-captive in office. It failed to reach the media, the people, and the concerned stakeholders properly which indirectly results in further landslide incidents which have been clearly stated in this study. To establish rule of law in hilly areas it is necessary to identify what obstacles hold back implementation of the law and to judge whether any amendment, change, or modification of that law is required.

It is important to appoint a skilled and competent person to survey the land structure and give responsibility to the suitable and skilled person as well and indigenous knowledge should be incorporated. Without any prior research, under projects trees are planted. For example, to prevent landslides in hills, we need to plant shrubs in the lowlands undoubtedly; Moreover, concerned persons are not culturally aware of how to use the surrounding hills and forests sustainably. These issues have put them at risk of landslides socio-economically and culturally.

With the participation of all departments, GO, NGO, community, and all stakeholders, consensus-oriented decisions and actions are effective in preventing

landslides. The role of women is crucial from an inclusive perspective. India's non-violent Eco-feminism movement called the 'Chipko Movement' was forced to stop arbitrary deforestation in Uttar Pradesh where the women were protecting each tree by embracing them and the administration was forced to withdraw the order to cut down the trees. It is important to develop such leadership among women or other groups in our country. The role of policymakers and planners is crucial too. In our neighbouring countries, Sri Lanka and Nepal, excellent mountain protection models are evident, which we can emulate.

The present academics and development researchers can play a significant role in this as well because it is the responsibility of the researchers to present the ground reality in front of the country and the nation through research.

To conclude, good governance must be established to prevent disasters, there is no substitute for it, and it is an essential part of disaster management. Protecting the hills as well as protecting the lives and property of the people in landslide disasters is the sacred responsibility of the government. We should remember the theme of International Day for Disaster Risk Reduction 2020, for managing disaster risk efficiently strengthening disaster risk governance is a must.

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Appendices

Appendix 1: Deaths caused by landslides in Chattogram in different years

Year	No. of death cases
1990	14
1997	11
1999	16
2000	38
2007 (June 5)	06
2007 (June 11)	135
2008	21
2011	11
2012	130
2014	No data found
2015 (March 08, June 25-26, July 19-31, August 22, September 1-21)	32
2016	0
2017 (June 12, July 03-26)	176
2018 (April 23, May 07, June 12,14, October 14)	20
2019 (May 11, June 02, July 10,11,14, September 10, November 5)	15

Source: Muhibullah, 2015, Rahman (n.d.a), Prothom Alo, Dhaka Tribune and NIRAPAD Monthly Hazard Report 2015 to 2019 (compiled and cross-checked by author)