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Risk of Anthropogenic hazards in Kashmir and their management

Sarfaraz Hussain
Lecturer in the subject of Geography at GDC Thanna Mandi Rajouri
Geetu Sharma, Asst lecture at GDC Mendhar Poonch

Abstract
Jammu and Kashmir is one of the most politically difficult areas in NW Himalaya, and possibly also one of the most unlucky parts of the planet Earth where political and natural catastrophes have severely destroyed the progressive development of the region. The geological history of this area indicates that it was created when Indian tectonic plate collided with the Eurasian plate, and this also produced several intermontane basins, which house most of the people of the region. As the tectonics is still actively changing the topography, geology, geomorphology, and climate of the region, the occurrence of earthquakes and floods in the area is possibly unavoidable. Our understanding of the causes of earthquakes informs us that it is time to place more focus on preparation rather than on the forecast, which is partially true of flood risks as well.

Key words: Risk, Anthropogenic, Hazards, Management etc.

Introduction

Landslides are another geological danger prevalent in J&K and Ladakh area. The area is home to young mountain ranges, which have a weak rock foundation that may unleash a flow of debris, mud, and rocks when the stability of the slope becomes disrupted. Heavy rains, cloudbursts, and earthquakes may cause landslides. Anthropogenic activities such as deforestation, road building, and other unsustainable development activities have further exacerbated the vulnerability of the region . Most of the regions in J&K are prone to landslides, with the districts of Bandipora, Kargil, Anantnag, Kishtwar, Pulwama, and Shopian being particularly vulnerable. The ecologically sensitive area of Ladakh has also been severely impacted by human activities such as encroachment of hill slopes, forest fires, terrace farming, and vibrations via intensive vehicle traffic, making it a particularly susceptible zone for landslides and mudslides. Floods can occur very often in Kashmir. An tremendous quantity of water pours into the valley and the only exit for the water from the valley is the small gorge at Baramulla. Floods usually occur in the summer when heavy rain is followed by a strong sun, which melts the snows. If an embankment is broken or topped, a region which is dry a few hours back becomes a lake after a few hours. The Jhelum is primarily responsible for floods in Kashmir valley. In regular times, it runs softly between its banks, but in times of flood, it exceeds its natural banks. Floods occur sometimes in the Jammu Province. As and when they take occur, they are triggered by severe and persistent rains and inflict significant damage to property.

Earthquake and Flood Hazards in Jammu and Kashmir

Jammu & Kashmir area rides on active fault systems, and Himalayan frontal fault system is one of the main fault systems that may inflict enormous devastation since the preparations to cope with future earthquake catastrophes have not begun at the ground level. This becomes even murkier since the >12 million people of Jammu and Kashmir primarily lives atop the

unconsolidated sediments that have filled the two major intermountain basins, the Kashmir and the Leh basins, during the time of India-Asia collision (. These basins primarily retain sediments that are deposited in fluvial, glacial, and lacustrine settings. Jammu and Kashmir lies on the tectonically active structural ramp of MHT, which may cause to large-scale destruction as a medium to huge magnitude earthquake is anticipated in the area. This is significantly more devastating for the intermontane basins that are often filled with unconsolidated and water-saturated sediments because medium to large magnitude earthquake can cause intense ground shaking which can lead to the severe problem of liquefaction, and past evidence of earthquakes associated with liquefaction do exist in Kashmir. New Zealand is a developed country that has grown in the womb of active tectonic plate interactions, which are typically linked with medium to high magnitude earthquakes. Despite all of the previous the efforts to enhance the infrastructure for safety and security of people the country experienced one of the deadliest earthquakes in history when on February 21, 2011 a medium magnitude earthquake destroyed Christchurch and killed 181 fatalities. The damage to the structures was mainly due to the widespread incidence of liquefaction, which significantly exacerbated the issue and caused considerable loss. This may offer us a potential picture of the situation in Jammu and Kashmir, which has not established any clear plan to protect people and property.

Our field experience in sections of Leh, and Kashmir basin plainly indicate that on ground the preparations are practically zero, and this is substantially worrisome because of the fact that probability of any future medium to large magnitude earthquake-related damage in this area is extremely high. Our field contact with local people shows that majority of the people are primarily concerned with the flood risks, and we believe this has origins in human psychological attitude toward catastrophes. When it strikes hard, we are worried, otherwise there appears to be no issue. Since the repetition interval of a medium to large magnitude earthquake is typically longer than a flood recurrence period, however, the memory of a destruction event to act often favours flood risks. Frequent dangers serve as a constant reminder, and frequently such reminders are required. Our mindset and experience support this since regularly time a catastrophic earthquake or flood happens, we start to study, prepare, and execute a strong strategy to fight future possible catastrophes. We all recognise the terrible occurrence of 2004 that led to the reinvention of tsunami study across the globe, and in especially within the Asian areas. Similarly, when Pakistan was badly affected in the 2005 earthquake the relevant authorities began to work, but on the ground, it needs to go a long, long way. Although the “Republican Day” earthquake of January 2001 that destroyed Bhuj (Gujarat) with more than 19000 fatalities did rouse the sleeping Indian authorities to act, however, work on the ground is still miles away. And our activity in Jammu and Kashmir confirms such claims.

Anthropogenic processes

Anthropogenic effects, processes, objects, or materials are those that are generated from human actions, as opposed to those happening in natural settings without human impacts. The word is frequently used in the context of environmental externalities in the form of chemical or biological wastes that are generated as by-products of otherwise intended human activity. For

instance, it is generally accepted that the generation of carbon dioxide is the main component driving human climate change.

Anthropogenic processes and natural hazards

Having established a categorization system for anthropogenic processes and examined anthropogenic process anthropogenic process interactions, we now continue to investigate how these anthropogenic processes may affect natural hazards as backdrop to Here we especially concentrate on interactions where manmade processes cause natural disasters and catalyse/impede natural hazard interactions. An anthropogenic activity may cause a (primary) natural hazard, which may or may not activate secondary natural hazards to create a network of interactions (cascade) (cascade).

Risk assessment and disaster management plan

"Emergency prevention outside services to achieve the following:- through good design, operation, maintenance and inspection are essential to reduce the probability of occurrence and consequential effect of such eventualities. The overall objective of the Emergency Response Plan ERP is to make use of the combined resources at the site and

- Localize the emergency
- Minimize effects on property and people
- Effective rescue and medical treatment
- Evacuation"

Conclusion

India has traditionally been a disaster-prone nation, with various states affected by different kinds of catastrophes. The effect of these catastrophes is increased when a region is prone to several kinds of disasters. This study attempts to understand the impact of natural and man-made disasters on the people of Jammu and Kashmir (J&K) and Ladakh region in India as well as it also examines the resilience mechanisms adopted by the people, and identifies measures taken by the government in response to these disasters. To understand these disasters' dynamics, we performed both offline and online desk reviews for this research. The study indicates that J&K and Ladakh area is plagued not only by numerous natural catastrophes like as floods, earthquakes, avalanches, and landslides but also by the terrorism and violence, which has caused unprecedented death and damage. These natural and man-made catastrophes have negatively impacted most areas of life and development in the region. To minimise the hazards, effective disaster risk reduction and management systems, early warning systems and infrastructure need to be improved. In addition, community involvement has to be increased with the aim of resolving the complaints of the people and involving them in the design and execution of sustainable development initiatives.

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