**Disasters and educational infrastructure**

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Part - I

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The frequency and intensity of natural disasters has alarmingly increased in recent years, predominantly due to climate change. Both developed and developing countries have been impacted alike. However, research that I conducted in Malakand Division clearly illustrates that human and financial cost of natural hazards is significantly greater in poorer societies and countries due to lack of preparedness and non-existence of resilient infrastructure.

The question arises as to why disasters of the same intensity cause different scales of destruction in different countries. For example, the 2010 Haiti earthquake of 7.1 magnitude brought massive devastation, killing about 230,000 people, displacing over two million residents from their homes and causing financial damage of about $14 billion.

In contrast, the 2010 Canterbury earthquake in New Zealand, with the same intensity of 7.1 on the Richter Scale, claimed no lives although it damaged buildings and infrastructure. One of the main factors behind this mammoth difference of human and financial cost was that New Zealand is a better resourced economy having already developed substantial engineering capacity, strict implementation of building codes and emergency response while Haiti lacked these prerequisites. In other words, New Zealand had developed resilient infrastructure and was better prepared to mitigate the magnitude of such natural disasters.

The Department for International Development (DFID) of the UK defines disaster resilience as “the process of helping communities and countries to be better prepared to withstand and rapidly recover from a shock such as an earthquake, drought, flood or cyclone”. It implies that resilience is something that can be built and enhanced by means of strengthening capacities and reducing vulnerabilities through institutional and legislatives arrangements. Thus, resilience is the capability of a community, society or overall government system to absorb the initial shock and re-stand on its feet and restart its life after a particular natural or human-induced tragedy.

There is no doubt that Pakistan lacks resilience; our particularly educational institutes are vulnerable to hazards due to certain factors. For instance, over 10,000 schools collapsed during the 2005 Kashmir earthquake, killing about 18,095 students and 853 teachers and educational staff in the earthquake-affected districts and injuring another 50,000. The 2010 and the recent monsoon floods are clear illustrations of the country’s extreme vulnerability to natural hazards.

The 2020 floods affected over 20 million people across 78 districts of the country and submerged about one-fifth of Pakistan's total land area. The damage and destruction of property, livelihood and infrastructure was beyond imagination as the floods damaged 23, 831 KM roads, 485 health facilities, 1.6 million houses and rendered 7.3 million people homeless. Like the 2005 earthquake, the 2010 floods hit the education sector hard as 10,348 schools, 23 colleges, and 21 vocational training facilities were damaged. As a result, the study of about seven million students was disrupted and most of them were accommodated in temporary tent schools.

In the recent flooding, about 1,735 people lost their lives, including 646 children and over 33 million people were affected in 85 districts. In addition, over 13,115km roads and 439 bridges have been partially or fully damaged. The government declared a total of 94 districts as disaster-hit which are over half of all districts in the country. According to the detailed post-disaster needs assessment (PDNA) study conducted by the government in collaboration with various development partners, the floods inundated one-third of the country and displaced eight million people.

Like previous natural disasters, along with private property and critical public infrastructure including roads and bridges, the floods have damaged state-run educational institutes across all the affected districts. The report mentions that “the floods have impacted approximately 17,205 public schools (primary to higher secondary), colleges, special education centers/schools/institutions, technical and vocational education and training centers, and universities”. About 6,225 educational institutions were declared to be fully destroyed while another 10,980 were assessed to be partially damaged. Overall, the education sector has been hit hard as the floods affected some 94,478 teachers and 2.6 million registered students in the calamity-hit areas.

Floods have been the most recurring and devastating natural disasters in the country. To mitigate the impact and intensity of flooding, the government of Khyber Pakhtunkhwa amended the Khyber Pakhtunkhwa Ordinance No III of 2002, known as the Khyber Pakhtunkhwa River Protection Act 2014. The law specifically prohibits the construction of commercial or non-commercial buildings at the banks of rivers to ensure smooth flow of water. For example, regarding the general prohibitions, the act states that no person shall be allowed to: “Construct, or undertake any related physical works of any commercial building or non-commercial building, or undertake any other developmental work, within two hundred feet to be measured along the slope (lay off land) beyond high water limit on either side of the rivers or their tributaries or on a space within the limits between the banks of a river”.

Regarding ‘Land Use and Zoning Plans’, the law clearly stipulates that: “The area up to fifteen hundred feet starting from two hundred feet to be measured along the slope (lay off land) beyond the high water limits on either side of the rivers or their tributaries shall be known as Provincial control Area, wherein construction or other developmental activities shall be undertaken in accordance with the land use and zoning plans prepared under sub-section”.

The said Act further warns that “any organization or individual, who intends to construct bridge, culverts, crossing structure and flood protection works on rivers, streams, nullahs, drains and water channels shall obtain an NOC, before the commencement of works”.

In the recent floods, most of the damage has been done by River Swat and River Panjkora in Malakand where private and public buildings and property have been washed away by overflowing, or to be precise, choked rivers and their tributaries. Besides damaging over 3,297 houses, about 550 schools and 43 health facilities have been damaged in the area.

Several officials interviewed in various public and private sector organizations stated that lack of implementation of relevant laws resulted in more casualties and damage to infrastructure. An official in the Department of Irrigation in District Malakand said that, given unchecked encroachments on the banks of rivers in Malakand, it appears the law is only in papers as no government authorities have been able to curb these illegal constructions.

While travelling from Mingora to scenic Kalam Valley, the most famous tourist destination in Malakand region, one can see hundreds of buildings right at the bank of River Swat. Unplanned construction and encroachments obstructing the natural flow of water is one of the main reasons that the floods caused so much destruction.

To be continued

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