

Disaster management in Pakistan: Challenges and Way Forward

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Since its inception, Pakistan has remained on the verge of disasters. The disasters of 1999, 2010, 2014 and 2022 are testimony to the fact that Pakistan always lack behind in disaster management. Disaster management is the systematic process of using administrative decisions, organisational powers, operational skills, and capacities to implement policies that lessen the impacts of hazards. It has faced the structural, economic, institutional, social and even climate challenges. These challenges are institutional fragmentation and absence of effective early warning systems exacerbates casualties. Poor implementation of disaster management policies and inadequate financial resources pave the way for delay and uncoordinated responses. It eventually leads to the failure of disaster management in Pakistan. Additionally, low public awareness and weak urban planning amplify the disaster in Pakistan and drag disaster management to the wall. However, in order to sustain, Pakistan needs to adopt proactive policy framework.

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Such framework helps Pakistan to boost up its disaster management. Integration of national and provincial management authorities to eliminate institutional overlaps and invest in modern technology for real time disaster management forecasting tackle growing challenges of disaster management in Pakistan. Moreover, promote community based disaster preparedness and increase budgetary allocation for disaster management authorities in order to sustain in disaster prediction. Therefore, this essay will shed light on challenges and ways forward to disaster management in Pakistan.

The tacit omission of effective disaster management from National Disaster Management Policy reflects the Pakistan's neglect to early warning system. It leads to severe disasters in Pakistan. Some of them are Punjab floods of 2005, devastating floods of 2022 and erratic heatwave in Karachi. It has impacted Pakistan in all dynamics - socio-economic, political, and environmental. According to the National Disaster Management Authority (NDMA), Pakistan faced

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\$30 billion loss during 2022 flood. It eventually had far-reaching consequences for Pakistan. Thus, the onus of restoring effective disaster management in Pakistan rests upon innovation, technological advancement and structural reforms. There are numerous challenges in the way of disaster management in Pakistan but institutional fragmentation leads to delayed and uncoordinated response, is the foremost. Institutions are building blocks of a nation; its fragmentation leads to disastrous situation. Different disaster management institutions in Pakistan, such as National Disaster Management Authority, Provincial Disaster Management Authority (PDMA) and District Disaster Management Authority (DDMA), often work without proper coordination. This paves the way for duplication of work and delays in emergency response. As an illustration, as per World Bank, during the floods of 2022, confusion between provincial and federal disaster management authorities delayed rescue operations.

in Sindh and Baluchistan. Such poor coordination not only reduces the efficiency of disaster management but also exposes institutional fragmentation that aggravate public suffering. Thus, paucity of institutional coordination results in delayed response.

Equally alarming is the absence of effective early warning systems that exacerbates casualties and magnifies destruction caused by disasters in Pakistan.

An early warning system acts as the first line of defense, alerting communities before floods, earthquakes, or cyclones strike. Unfortunately, Pakistan's existing early warning system is outdated and limited in scope, relying on poor data collection and weak communication networks. During the 2022 monsoon floods, for instance, Pakistan Meteorological Department (PMD) forecasts about heavy rainfall were not adequately communicated to provincial disaster management authorities, resulting in 1700 casualties and displacement of 33 million people, according to

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NDMA post flood report. This underscores that lack of effectiveness transforms natural events into humanitarian crises. Hence, poor effective early warning systems paves the way for casualties and amplifies destruction within Pakistan.

Additionally, poor implementation of disaster management policies undermines national preparedness. Disaster management policies are formulated to enhance institutional coordination, risk assessment and create awareness among people. Consequently, in Pakistan, its execution is far away from satisfactory. The policy's intent to decentralize disaster management response through district disaster management authorities. But, it has largely failed to inadequate resources and bureaucratic inertia. For instance, National Disaster Management Policy (2013) of Pakistan has failed in its implementation. It shows that poor implementation of policy leads to disastrous situation during 2014 floods in Pakistan. Hence, poor implementation of disaster

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management policies weakens national preparedness to tackle disasters.

In continuation of systemic challenges, inadequate financial resources restrict rapid relief response. The paucity of funds stands as a major impediment to effective disaster management, particularly in the crucial stage of rescue and relief operations. In the same line, disaster management requires immediate mobilization of resources - food, shelter, medical care and logistics - all of which demand substantial funding. According to the United Nations Development Programme (UNDP), Pakistan allocates less than 0.02% of its GDP to disaster management and rapid relief response. This underscores that financial fragility exposes substantial threat to disaster management in Pakistan and relies heavily on international aid. Hence, low financial resources undermines rapid relief response which parallelly poses challenge in way to disaster management in Pakistan.

In the same pipeline,

low public awareness limits community resilience - another challenge to disaster management in Pakistan. Public awareness creates confidence building among people to curtail ever-increasing impediment to the disaster management in Pakistan. It is directly proportional to the community resilience and reduces the chance of major losses. As an illustration, recent floods in Punjab have sunk almost more than 4,000 villages and almost 3,100 people lost their lives. It underscores that most people lack public awareness to tackle disaster in Pakistan. Further, it puts light on the fact that most people even don't have emergency awareness to curtail the threat of disaster management in Pakistan. Thus, paucity of public awareness limits community resilience.

How Pakistan protects its people from disaster when its cities are built without proper planning? weak urban planning management

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amplifies disaster in Pakistan. A growing challenge for disaster management in Pakistan. Urban sprawl paves the way for weak urban planning management. It results in unintended consequences. Such as, the 2000 urban flooding in Karachi leads to disastrous situation. It exposes the systemic corruption which results in poor drainage system and underpasses filled with drainage water. Hence, poor urban planning management amplifies disaster and spring up challenge for disaster management in Pakistan.

In the vicious cycle of challenge, climate change also intensifies frequency of natural disaster in Pakistan.

It exposes Pakistan to another challenge of disaster management in Pakistan. Climate Change

is a natural phenomenon.

But, changing patterns of climate in Pakistan result in

natural disaster. It unintentionally lead to poor disaster management

in Pakistan. For example,

heat waves of 2000 in Karachi lead to the

death of more than 200 people. Along with this, it created drought condition in Sindh. It results Karachi into hostile encampment of disaster management. Hence, climate change - a natural phenomenon - intensifies frequency of natural disaster and poses a serious challenge to disaster management in Pakistan.

In the same vein, systemic corruption undermines disaster governance - poses another challenge in the way of disaster management in Pakistan. Systemic corruption makes any institution as skeleton without muscles. So, same is case with Pakistan. Systemic corruption in National and provincial disaster management authorities pave the way for delayed response, ineffective early warning system and inadequate financial resources for rapid relief funds. As an illustration, Dadu - a district of Sindh province - was severely affected by the floods of 2020.

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In spite of huge relief funds, mostly affected did not get any sort of aid from government. Hence, it exposes the systemic corruption which consequently undermines disaster governance - a serious challenge to disaster management in Pakistan.

The above mentioned are the challenges of disaster management in Pakistan; the below mentioned are ways forward to tackle growing challenges of disaster management in Pakistan.

The first and foremost way forward is integration of national and provincial management authorities to eliminate institutional overlaps. It indicates that centralization of national and provincial are done in order to reduce overlapping and work effectively. It eventually reduces workload and forest disasters in Pakistan as soon as possible. For instance, National Disaster Management Authority must be centralized with provincial authority in order to share real time data.

between both institutes. It results in better management of disaster in Pakistan. It marks upward trajectory of effective early warning system. Thus, centralization of national and provincial management institutes eliminate institutional overlaps.

Additionally, Pakistan invests in modern technology for real-time disaster management forecasting. Advancement in technology paves the way for better and secure future. In order to mitigate the challenges, the disaster management institutes equip with well-maintained and upto-date instruments. As an illustration, Pakistan meteorological department (PMD) provide advance technology for disaster management. It heralds for real-time forecasting of disasters in Pakistan. It directly builds community resilience and entails long-term policy commitments for properly disaster management in Pakistan. So sum up, equipping with modern technology

foster real-time disaster management forecasting.

In order to adopt modern technology in disaster management authorities, Pakistan increases budgetary allocation for disaster management authorities.

It fosters not only sense of advancement but also

rapid relief response. Burgeoning budgetary allocation for National and Provincial Disaster Management Authorities leads to integration

of authorities and reduces systemic corruption in disaster management of Pakistan. The

case study of Bangladesh disaster management authority is testimony to fact that adequate financial resources make authorities to work

better for nation and tackle ever-increasing disasters in Bangladesh. It depicts

that Pakistan increases its budgetary allocation of 0.2%

to 1% at least in order to fight rapid increasing disasters in Pakistan. Conclusively,

augmentation of budgetary allocation for disaster management in Pakistan is necessary.

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Furthermore, promoting community-based disaster preparedness is vital for building disaster management resilience in Pakistan. Local communities are first responders during disasters, yet they remain least trained and least equipped. During disasters, the local communities are first line of defense against any disaster. For instance, during the 2022 floods, many lives were saved by local volunteers rather than formal authorities, showing the power of community action in Pakistan. By training local residents in first aid, evacuation and emergency response, Pakistan reduces dependency on delayed external relief. Hence, empowering communities with disaster knowledge and resources transform them from victims into protectors of their own safety and prepare Pakistan to counter disasters.

In parallel, ensuring sustainable ^{environmental} practices through media is important for disaster management in

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Pakistan. Media plays a crucial role in educating people about how their daily life affects the environment. Consequently, it spreads environmental sustainable practices to make effective disaster management in Pakistan. Such practices are tree plantation, reduce plastic utilisation, pollution control and importance of clean water. For instance, national television channels and social media platforms run awareness campaigns on reduction of plastic use and reforestation after 2022 floods. It underscores the paramount factors that pave the way for disaster management in Pakistan. And, such television campaigns foster sense of responsibility and promote sustainable practices for environmental protection.

In a nutshell, using media to promote sustainable environmental practices build public awareness and help Pakistan to build effective disaster management.

In the same pace, enforcing climate - resilient policies is essential to reduce the challenges of

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disaster management in Pakistan. These policies help the government and people to prepare for floods, heatwaves and droughts caused by climate change. It eventually fosters sense of climate-resilient nation in progress. As an illustration, the National Climate Change Policy 2021 focuses on building flood protection walls, promoting tree plantation and water management in Pakistan. When such policies are properly implemented, they strengthen the country's ability to resist and recover from disasters and improve the disaster management in Pakistan. Therefore, strong enforcement of climate-resilient policies makes Pakistan safer, resilient and better preparation of disaster management.

Moreover, building ground water reservoirs is critical for disaster management in Pakistan.

These reservoirs store excess rain and floodwater, which could later be used during drought conditions. It paves the way for effective management in Pakistan. For instance

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during the 2022 floods, a large amount of water went to waste because Pakistan lag behind in water storage systems. If small and large reservoirs were built, that water could have reduced water scarcity later on. By storing water underground, Pakistan could prevent both floods and droughts at the same time. It parallelly helps in improving agriculture, ensure water availability, and reduce pressure on existing dams. It improves the disaster management in Pakistan and reduces water wastage. Hence, constructing ground water reservoirs is a sustainable way to strengthen disaster management in Pakistan.

In order to build groundwater reservoirs, capacity building of disaster management employees is essential for effective disaster management in Pakistan. It equips employees with technical as well as emergency response skills. In disastrous situation, trained staff make quick and informed decision during

emergencies, which helps in reducing loss of life and property. As an evidence, during the 2022 floods, the paucity of trained disaster management workers delayed rescue operations and relief distribution in many areas. Time to time and regular training programs could have improved the situation. Such trainings equip employees with rescue techniques, risk assessment and coordination skill. Resultantly, employees handle disaster more efficiently and professionally. This also builds public trust in disaster management institutions. Therefore, continuous training and capacity building of disaster management employees are key to improving Pakistan's disaster management.

Taken together, the facts indicate that disaster management is facing enormous bottlenecks in Pakistan and to harness its fullest potential several ways forward are proposed. The challenges in disaster management of Pakistan are institutional fragmentation, weak implementation of disaster management policies,

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paucity of financial resources and low public consciousness. In the same vein, urban sprawls and weak urban management, unpredictable climate change and systemic corruptions amplify the impediments in disaster management in Pakistan. However, in order to curtail challenges, several ways forward are proposed. Some of them are integration of national and provincial authorities, investing in modern technology, promoting community based disaster preparedness and enforcing climate-resilient policies to enhance effectiveness of disaster management in Pakistan. Lastly, in order to reduce burgeoning disasters in Pakistan, disaster management have to be proactive rather than reactive.

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