

Disaster Preparedness in Pakistan

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Introduction

The CEPESA program's research on disaster preparedness in South Asia focuses on understanding the current status of preparedness initiatives and the political economic incentives underlying these outcomes. This research uses case studies and quantitative analyses to investigate why national and sub-national governments invest—or do not invest—in efforts to reduce the risk of, and prepare for, natural hazards.

This research brief summarizes the findings of a detailed case analysis on Pakistan, where natural hazards present a substantial threat to the population. In this study, we consider three main topics: the history and character of natural hazards in Pakistan; the current status of preparedness initiatives, with particular attention to progress on the priorities laid out by the Hyogo Framework for Actions; and evaluation of potential explanations for these outcomes. We conclude with a set of policy recommendations for the Pakistani government, based on the findings of the study.

Pakistan's Experience with Natural Hazards

Pakistan has endured numerous natural hazards in the last decade, beginning with a massive earthquake in 2005 in the Kashmir region that killed over 75,000 people and is remembered as one of the worst natural disasters in South Asia.¹ 2010 saw some of the worst floods in Pakistan's history, killing 1,800 and affecting 21 million.² In 2013, flooding killed 178 people and affected 1.5 million. 367 people died due to widespread flooding in 2014, which was the “fourth consecutive year of high-impact monsoon rains in Pakistan. In 2015, people in Karachi, Pakistan's largest city, experienced a heat wave that killed over 1200 people.³

Different natural hazards affect different parts of Pakistan. A number of geological fault lines pass through the northern region, producing regular earthquakes of varying intensity. For instance, the boundary between the Indian and Eurasian tectonic

plates runs through Kashmir where there was a magnitude 7.6 earthquake in 2005.⁴ Earthquakes have also occurred in Balochistan, the western province, where the topography is mostly mountainous. In contrast, the middle of the country, comprised of the plains of Punjab and some parts of Sindh, experiences floods as the rivers swell in the summer. A significant portion of Sindh is also vulnerable to drought and heat waves. Every year, people die from the heat in the Thar Desert, but in 2015, the effect of rising temperatures extended to the coastal metropolitan city of Karachi, killing many people. Since 2005, over 40 million people have been affected by natural hazards causing an economic loss of over USD 20 billion. Table 1 summarizes the major recent natural hazards affecting the country.

Disaster Preparedness in Pakistan

In many ways, Pakistan's capacity to deal with disasters has significantly improved in recent years. The West Pakistan National Calamities (Prevention and Relief) Act and the Civil Defense Act were passed in 1958. From 1958 till the Kashmir earthquake in 2005, the disaster management function was not formally housed in one location; the Emergency Relief Cell in the Federal Cabinet Secretariat led coordination efforts but districts independently sourced disaster relief equipment and responded to disasters. The earthquake in 2005 was the catalyst that resulted in the creation of the Earthquake Reconstruction and Rehabilitation Authority (ERRA) and initiated a conversation on setting up a formal disaster management authority. However, it was only in 2010, when a large part of the country was flooded, that the government took the next major step and passed the National Disaster Management Act. In the same year, the landmark 18th Amendment to the Constitution was also passed that devolved the disaster management function to district governments.

These and related activities can be evaluated with respect to the goals set out by the Hyogo Framework for Action, which was intended to inform national disaster preparedness efforts over the period 2005-2015.

Table 1: Recent History of Major Natural Disasters in Pakistan^{5,6,7,8,9}

Year	Type	Location	Dead/Injured/Affected
1998-2002	Drought	Sindh	2.2 million affected
1999	Cyclone	Coast of Sindh	0.6 million affected
2005	Earthquake	Kashmir	Loss of USD 5.2 billion
2008	Earthquake	Balochistan	164 died
2010	Floods	Widespread	20 million affected; loss of USD 10 billion
2011	Floods	Widespread	9.5 million affected; loss of USD 2.47 billion
2013	Earthquake	Balochistan	300,000 affected; 800 died
2015	Heat wave	Karachi	1200 died

Priority 1: Ensure that disaster risk reduction is a national and local priority with a strong basis for implementation

In principle, Pakistan now has a strong institutional structure to prepare for and respond to natural disasters. The National Disaster Management Authority (NDMA) is the lead agency at the federal level to deal with disaster management activities. According to their website, “in the event of a disaster all stakeholders, including Government Ministries / Departments / Organizations, Armed Forces, INGOs, NGOs, UN Agencies work through and form part of the NDMA to conduct one window operation”.¹⁰ The NDMA is a huge improvement on the National Calamities (Prevention and Relief) Act of 1958 that previously governed disaster-related activities. It is also aimed to strengthen disaster preparedness and focus on risk reduction.

Despite these institutional improvements, competing interests remain a problem at every level, especially when it comes to the political economy of disaster relief. Mission overlap between policy-making institutions also results in coordination issues and communication gaps. ERRA continues to exist despite NDMA being the federally backed body designated to lead. Recently, a Ministry of Climate Change was formed, but the issue of climate change has many overlaps with disasters

and, hence, the relations between these bodies remain contentious. In short, given the frequency and intensity of recent events and the government’s institutionalized response, disaster management can certainly be considered a national and local priority. However, when it comes to disaster risk reduction, there remains a strong need for a coherent plan that would delineate the division of functions between the national and local level.

Priority 2: Identify, assess and monitor disaster risks and enhance early warning

Almost all the interviewees were in unanimous agreement that the government institutions’ ability to assess and monitor the risk of floods has considerably improved. NDMA plays the coordination role while provincial disaster management authorities (PDMAs) are effective in tracking water inflows and mobilizing resources accordingly. Technical support to these institutions is provided by other government and donor agencies. SUPARCO and its Space Application Center for Response in Emergency and Disaster (SACRED), affiliated with UN SPIDER, provides flood warnings. The disaster-related institutions are also helped by the military who are called by the government to serve as an aid to civil defense. Early warning systems also exist for different disasters.

Thus, the government's ability to identify, assess and monitor risks associated with floods has certainly improved considerably over the last decade. However, the understanding and ability to act on other disasters like heat waves that can potentially affect a much larger segment of the population is still primitive. Moreover, it is often lack of coordination and friction in information flow among different organizations that causes delays in government response.

Priority 3: Use knowledge, innovation and education to build a culture of safety and resilience at all levels

The government regularly uses mainstream media to raise awareness about disasters like floods and heatwaves and steps that citizens can take to mitigate risks. However, most of those awareness campaigns are reactive in their timing and limited in content. There is also very limited content about disaster preparedness and risk reduction in educational material taught in public and private schools.

NGOs operate both in conjunction with the government and independently. In some cases, the government engages them to implement projects and run awareness campaigns at the community level. Yet, despite the active presence of NGOs, there is a clear lack of coordination or consistency of messaging. Outside the government, the media plays a huge role in educating people and making them aware, for instance, of how to protect themselves when there is a heat wave.

Together, the government, NGOs, and media are attempting to educate citizens about safety and resilience at all levels but there is need for a comprehensive plan, especially targeted at the smaller cities and villages that are most vulnerable.

Priority 4: Reduce the underlying risk factors

Financial resources remain the primary bone of contention with regard to reducing the risks posed by natural hazards. Multiple relief funds previously existed at the federal level but they are now being consolidated under National Disaster Management Fund managed by the National Disaster Management


Authority. Provincial disaster management bodies are allocated large sums of funds every year by their respective governments, an indication of the government's commitment. In addition, the National Disaster Management Plan has been formulated and it broadly outlines how the government, donors, and NGOs should work together for disaster management and risk reduction. However, in order to reduce the underlying risk factors, existing funds need to be diverted towards risk reduction and more funds need to be raised.

Priority 5: Strengthen disaster preparedness for response at all levels

Capacity for disaster preparedness and response at the national and, after the 18th Amendment to the constitution, at the provincial level, has been consistently improving. In principle, there is also agreement that in addition to the national and provincial level, capacity for disaster preparedness and response needs to be built at the local level. Elected or appointed representatives of the government at the local level are best placed to identify, assess and manage risks as well as respond to disasters. However, despite the explicit devolution of disaster management to the local level, de facto control is still centralized at the provincial level. In order to have effective disaster preparedness for response at all levels, capacity for disaster management has to be built at the local level so that the function and its accountability can be effectively devolved.

Incentives for Disaster Preparedness

Review of Pakistan's history with natural hazards, and the evolution of its disaster preparedness initiatives to date, suggest that the country has a mixed record of effectively preparing for anticipated hazard events in the future. In this section, we review existing explanations for why governments may, or may not, invest in disaster preparedness and evaluate their relevance to the Pakistan case.



Moral Hazard: If governments anticipate that other actors will spend on preparedness or response, then they will spend less on preparedness.

Pakistan has been a recipient of substantial support from a range of multi- and bi-lateral aid agencies, in addition to smaller donors. Yet, despite this strong donor presence, none of the interviewees felt that the government was at risk of the moral hazard associated with donors spending on disaster response. The government continues to outspend all donors and international NGOs on disaster response and risk reduction programs.

In contrast with the lack of incentives related to moral hazard related to international actors, multiple sources noted potential moral hazard related to the overreliance of the government on the military for disaster response. This dependence has been observed across a number of disasters over the last decade. As a result, the government fails to shift its focus from celebrating the military's successes in responding to disasters to building the capacity of civil institutions to prevent and reduce the risk of disasters.

Perceived Risk: If governments perceive that the risk of a natural hazard is high, then they will invest more in preparedness.

Expectations about future hazards are thought to be a key determinant of why the government in Pakistan chooses to prepare only for certain disasters. In response to frequency of floods in the recent past, the damage caused and forecasts predicting more floods in the coming years, the government has spent considerable funds to prepare and mitigate future risk. In contrast, even though the 2005 earthquake in Kashmir caused considerable damage, the government did not respond in the same manner because of the unpredictable nature of earthquakes.

Electoral Incentives and Democracy: If a government perceives disaster preparedness to be electorally beneficial, then it will spend more on preparedness.

The general elections in 2013 were the first time

in Pakistan's history that a democratically elected government handed over control to another democratically elected government after having served its full term of five years. In addition, there are no democratically elected local or municipal governments. Provincially appointed bureaucrats perform local functions with oversight by provincial and federal legislators. Despite these indicators of relatively weak democratic institutions, electoral incentives play a central role in disaster management. Yet, this does not imply significant investments in preparedness.

Instead of spending on disaster preparedness because it could be electorally beneficial, representatives of the government appear to be drawing major political mileage from providing disaster relief. Thus, it can be observed that electoral incentives play a key role, but in perverse ways. The primary focus of the government remains on improving disaster response mechanisms that can be showcased to draw political mileage. If competitive elections continue to be held, the performance of one political government will eventually be compared to another and disaster preparedness efforts may begin to be rewarded.

Political Development: If a government is more developed in terms of the quality of its politicians and the quality and independence of bureaucrats, then it will prepare better for natural hazards.

Pakistan has a long tradition of strong politicians yet most current politicians lack significant governance experience because democracy is regularly derailed by the military. Often, this intervention involves local governance reforms, but these programs are not necessarily implemented in a consistent manner, nor do they typically align with broader political objectives of actors within the main political parties. As a result, there is a pattern of inconsistent democratically elected local government structures. This means that political actors at higher levels have often not had a chance to develop their governing skills as municipal councilors or mayors.

The experience of bureaucrats suggests that local-level experience with natural disasters and preparedness

activities can be highly beneficial as administrators advance through the ranks of the bureaucracy. Interviewees who had managed disasters as bureaucrats at the local level frequently reported that this helped immensely later on when they served at the provincial level. The lack of similar opportunities for elected officials may then hinder the government's overall ability to plan and prepare for natural hazards.

Another area of consideration is that technical government agencies that are largely insulated from politics do seem to be more likely to be working on preparedness, forecasting and early warning initiatives. However, being insulated from politics also means that these organizations are largely irrelevant when it comes to driving the overall conversation on disaster preparedness.

In general, Pakistan's experience suggests that a more experienced set of elected and appointed officials could, together, contribute to improved disaster preparedness outcomes.

Civil Society: Levels of disaster preparedness may be higher with a stronger civil society presence in general and, in particular, when there are more disaster-oriented NGOs on the ground.

In Pakistan, the civil society is perhaps not strong enough to play an effective role in promoting disaster preparedness more generally, especially when it comes to disaster-oriented NGOs on the ground. A large number of NGOs are active in the disaster management space, but most of them only work on providing relief. A small number of NGOs engage with local communities on building capacity for resilience, but the efforts are not coordinated and amplified. In fact, most respondents felt that Pakistan's civil society had no real ability to develop local capacity or to advocate for a major shift in policy. This is surprising since the civil society, especially in conjunction with the media, seems to have a strong voice in other issues like human rights and corruption. In the absence of strong civil society actors, there have been some attempts by locals to invest in resilience initiatives themselves but they have not had any major impact. Thus, a lack of

concerted preparedness efforts by civil society actors is associated with mixed preparedness outcomes overall, as would be expected by existing arguments.

Economic Strength: If a country has greater economic resources overall, then it will spend more on disaster preparedness.


The lack of economic resources is thought by many observers to be the primary reason for Pakistan's limited investment in disaster preparedness. Despite a decent growth rate, Pakistan's GDP is still quite low, especially given its large, rapidly growing population. Even with large aid inflows every year for development projects have had no significant impact on disaster preparedness spending. There is a general understanding that other, more basic issues like improving healthcare and education service delivery and reducing the electricity shortfall have to be addressed before the country can afford to invest in prevention and preparedness activities. In conclusion, the hypothesis that governments with low GDPs will spend less on disaster preparedness holds true in the case of Pakistan.

Policy Recommendations

In conclusion, we offer four policy recommendations, aimed at the Government of Pakistan, and informed by the analyses reported here and the broader research project. We suggest that the government needs to:

1. Urgently need to revisit disaster management structures, both in principle and in practice, and evaluate whether they serve their intended purposes.

In order to provide effective disaster preparedness, there is need for a drastic improvement of local level capacity as well incorporation of local level knowledge in larger plans. By building local capacity and empowering local officials and communities, people should be better prepared to withstand flooding and other natural disasters. Decentralization of expertise and administration of emergency response will enable quicker, more efficient aid and decision-making. The centralization of power and budgeting around



disaster management creates ineffective and inefficient processes, which can delay aid and exacerbate challenges during disasters. More importantly, centralization impedes the political development of politicians and training of bureaucrats who require the hands-on experience of governance at the grassroots level before they can effectively perform in a policy making or management function at the provincial level.

2. Give more attention to other disasters with lower perceived risk, including earthquakes and heat waves.

The government in Pakistan has virtually not spent any effort in enforcing building codes or even pushing the conversation on earthquake-proof buildings in earthquake prone zones. The earthquake in 2015 exposed the wide gaps in capacity but could not catalyze a change in narrative. Similarly, there is realization that the intensity of other disasters like heat waves is only going to increase over time but there is still no work being done on fundamentally changing the conversation so that people realize the severity of the situation. In addition to these disasters, many parts of Sindh province experience drought every year whereas many parts of Balochistan are vulnerable to cyclones.

3. Partner with the private sector and external actors in creative ways to overcome the challenge of poor economic conditions.

The government has the opportunity to use innovative partnering strategies, such as the NDMA's efforts to push insurance companies to setup a risk insurance fund that would help mitigate the risk of disasters, in order to alleviate existing economic barriers. Similarly, other operational functions like logistics can be outsourced to the private sector with results-based contracts that could be jointly funded and monitored by external actors. Private enterprises can also develop and run early warning systems, sourcing data from public sector technical agencies as well as public data streams, to generate alerts that are broadcasted to mobile phones in the affected region. Telecom companies already have the capacity to facilitate such messages.

4. Give more importance, in both letter and spirit, to the disaster preparedness function itself, and its associated institutions.

This could be done by redrafting the mission of the NDMA to highlight disaster preparedness and risk reduction as opposed to the current focus on disaster management. This notion also has to spill over into other domains such as construction of hospitals in earthquake prone areas or climate compatible construction of schools in areas with high temperatures. It is important that the incentives of focusing on such initiatives be recognized and acknowledged so that progressive politicians and policy makers feel that they stand to benefit electorally. The media can play an important role in enabling this transition and celebrating the progressive champions.

Endnotes

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