

## **An Assessment of Organizational Preparedness for Natural Disasters in Balochistan**

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### **Abstract**

*Natural disasters have a tendency to disturb the livelihood of individuals and groups significantly. If not managed properly, they even possess a serious threat to the lives of the people. In the ongoing decade from 2010 until now, more than 50,000 people in the world have died due to natural disasters. The main purpose of this paper is to focus on the assessment of institutional preparedness for natural disasters in Balochistan particular and Pakistan in journal. Results of the paper were made on the basis of key informant's interviews. Results revealed that, the risk management and contingency planning of PDMA and NDMA are not satisfactory if they are compared with other country's' disaster management authorities. Lack of proper implementation of strategies and Lack of coordination among institutions attracts the overall province towards vulnerability in the context of disaster. Strong coordination among academia and other stockholders can minimize the overall risk. The study also recommends PDMA to implement DM authorities at the district and local community levels.*

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## 1. Introduction

Natural disasters have a tendency to disturb the livelihood of individuals and groups significantly (Petrucci, 2012). If not managed properly, they even possess a serious threat to the lives of the people. In the ongoing decade from 2010 until now, more than 50,000 people in the world have died due to natural disasters (Ritchie and Roser, 2019). Although the number has reduced as compared to the past decades, however, still the figure is way too high. Human life is worth more than anything. Not just lives, natural disasters disrupt the livelihood of individuals. They destroy the sources on which people are dependent for their food and other basic necessities such as shelter. Pakistan has been among one of those countries that has been facing various issues and concerns with regards to its economic, social and political conditions. Problems in such areas have led the country towards high instability, making it difficult for the government to run adequately and efficiently. In this regard, natural disasters could be considered as events which could lead to disturb the country on various grounds (Ahmed, 2013).

Natural disaster has always been the major threat for the country of Pakistan, and recognized as the most affected region by different natural disastrous events (Ainuddin, and Routray, 2012). As per the report of Maqbool, and Hussain (2014), since Pakistan came into existence to 2014 the country has experienced 172 natural disaster events in different parts of the regions, which resulted in deaths of around 1100,000 humans, caused economic of around \$2.6 billion, and around 9.5 million people were left homeless.

While it is true that natural disasters cannot be completely prevented, it is imperative to make sure that adequate measures and techniques are adopted to be prepared for such events and to be able to manage them effectively. If such disasters are not managed in the right manner, they may lead to adversely impact the country along with possessing serious threats to the life of individuals. A huge number of people in the recent past have lost their lives due to natural disasters and so it is extremely important to

make sure that the government and other related institutes are fully prepared for such events (Pelling, 2012).

Pakistan has faced several deadly disasters since its inception and still, there seems to be no formal readiness system within the society to mitigate the impact of natural disasters. No serious measures are taken by the relevant authorities to ensure that the affected regions are informed so that actions can be taken accordingly in case they face a disaster.

NDMA serves as an executive body of the National Disaster Management Commission (NDMC) and has been formed under the National Disaster Act of 2010. In case of a disaster, the different stakeholders like the government, armed forces and NGOs become a part of NDMA to carry out operations uniformly (NDMA, 2019). The authority has not been fully active in developing a formal and successful disaster management plan which is indicated by the number of deaths and displacements that have occurred in the country due to natural disasters in the past decade. More than 82,000 people have lost their lives from 2006 to 2016 due to earthquakes, floods and droughts in the country (NDMA, 2019). Balochistan is one of the most deprived provinces of the country in terms of facilities provided (Ahmed and Baloch, 2015). Therefore, there is a need to assess the present disaster risk management plan to suggest recommendations for an improved preparedness for natural disasters in the province. The importance of this study is also associated with how it provides the sound recommendations, which can help the government of Pakistan, institutions, and other concerned authorities to carry out the right practices in order to mitigate the negative affect of natural disasters in the context of Baluchistan. Lastly, this study is also carries out huge significance for the future researcher as it can be useful prospect to carry out the similar study to come up with more findings.

## ***2. Review of Literature***

Economy wise, Pakistan is going through a transformational yet a delicate phase. The country's external debts are increasing along with the prices of commodities, there is a political instability within the country and the country is at the peak of economic instability. The new government is

making valiant efforts to stabilize the country's economy, and, in such situation, it cannot afford a natural disaster to strike any part of the country particularly Balochistan which is a major part of the China-Pakistan Economic Corridor (CPEC). CPEC is considered to be very important for Pakistan's stability within the region (Mustafa and Zafar, 2017). The impact of a natural disaster can be massive as it influences the social, environmental as well as economic systems of a country (Mata-Lima et al., 2013). All provinces of Pakistan have suffered several major natural disasters in the past. The deadliest was the 2005 earthquake which took lives of more than 70,000 people and millions were affected as a result and the 2007 Cyclone Yemyin that also killed hundreds of people in Sindh and Balochistan (Dawn, 2011). The 2013 earthquake in Balochistan that led to the deaths of more than 500 people and destroyed hundreds of villages and thousands of homes (Fazl-e-Haider, 2013).

**Table 1.1 Major Natural Disasters in Pakistan (Loss in terms of human lives)**

Disaster	Date	Died	Affected	Damage \$ (000)
Earthquake	May 31, 1935	35,000	—	—
Earthquake (Tsunami)	Nov. 27, 1945	4,000	—	—
Earthquake	Dec. 28, 1974	4,700	—	3,255
Earthquake	Jan. 31, 1991	—	—	—
Earthquake	Oct. 8, 2005	73,338	2,869, 142	5,000,000
Total		117,038		
Flood	1950	2,900		
Flood	August 1976		5,556,000	505,000
Flood	July 1978		2,246,000	
Flood	July 1992	1334	12,324,024	1,000,000
Flood	1994			92,000
Flood	August 1996		1,300,000	
Flood	June 1997	848	—	—
Flood	March 1998	1,000	—	—
Flood	February 2005		7,000,450	—
Flood	July 2001			246,000
Flood	July 2003		1,266,223	
Total		6082		
Drought	2000-02		2,200,000	247,000
Windstorm	15 Dec 1965	10,000		
Windstorm	14 Nov 1993	609		
Grand Total		133,728		

(Source; Khan and Khan, 2008).

As per the above-given table, the natural disaster in the nation can be categorized as flood, earthquake, windstorm, Tsunami, and Drought. These natural disasters can cause significant damages. Statistically, 133,728 people have lost their lives in these natural disasters (Khan and Khan, 2008). The literature presented by Wex et al, (2014) argued that in the case of Pakistan, the conditions of natural disasters are no different as the country has faced several deadly disasters since its inception. It can be presumed that still there seems to be no formal readiness system within the society to mitigate the impact of natural disasters on human beings and businesses. The arguments of Cozzolino (2012) noted that with regards to the case of Pakistan, it has been observed that no adequate measures have been taken by the authorities as well as the institutes so as to make sure that the poor effects could be lowered. To be specific, the authorities lack concerns and do not take suitable measures to minimize its effects. On the contrary, Haworth and Bruce (2015) suggested that it is evidently important and essential for countries, specifically the government to ensure and maintain a keen check and observation regarding these disasters taking place. In this manner, the company can guarantee that the citizens could be informed and intimated about it on time. The on-time awareness can facilitate people in managing uncertain conditions within a particular time. The work completed by Cozzolino (2012) reported that with proper and effective communication taking place, the individuals, as well as the concerned authority figures, can acquire the opportunity to take preventive measures and save themselves to the maximum extent.

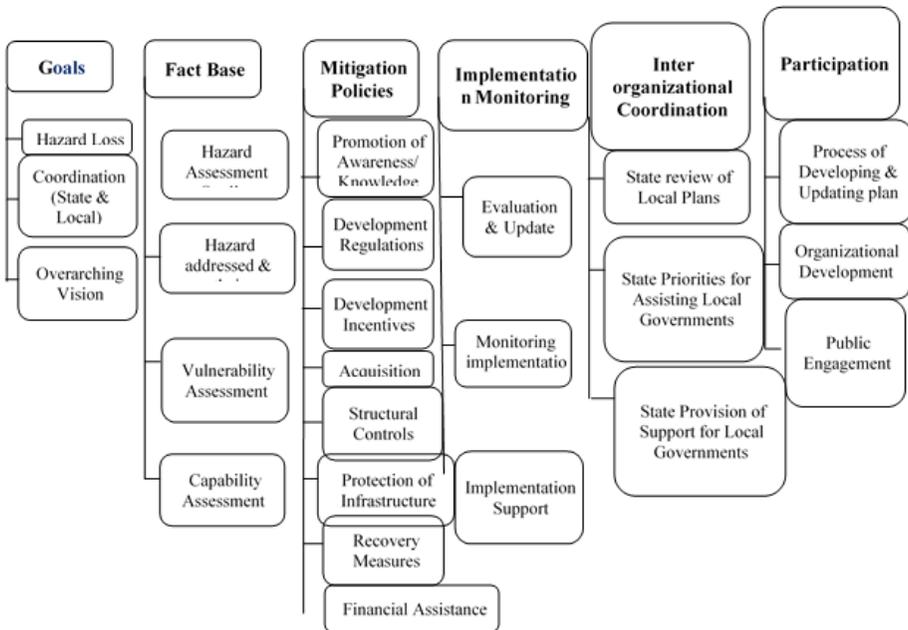
The central authority which is not present for incorporated disaster management, as well as inadequate coordination between and within disaster associated authorities, is responsible for the effective disaster management program in the region. Mitigation measures and disaster preparedness at the provincial level are highly inclined to the structural features and challenge the non-structural elements like the information, capacities, and knowledge of people, as well as the protection issues of associated livelihood. Every sectorial line department and agencies should take their duty of establishing recovery plans and contingency programs

based on the areas of mandate and competence in association with the stakeholders.

### 3. *Proposed Methodology*

Research design is an important part of research as the entire approach from data collection to analysis is dependent on the type of research design adopted. There are two types of research designs; qualitative and quantitative research designs. Quantitative research design is associated with numeric and objective data whereas the qualitative research design is the opposite as it is based on non-numeric, subjective and opinion-based data. The following research is intended to adopt a qualitative research design. Key informants related to disaster management institutions were interviewed. In this particular study, the sample size chosen is 20 in which twenty respondents including the managers from various organizations dealing with the natural disasters at various national and provincial levels in Baluchistan and the authorities working in the National Disaster Management Authority (NDMA) have been interviewed.

***Framework for Evaluation of Institutional Plan***



**Figure 1: Framework for Evaluation of Plan Adopted from Philip Berke et al., 2012**

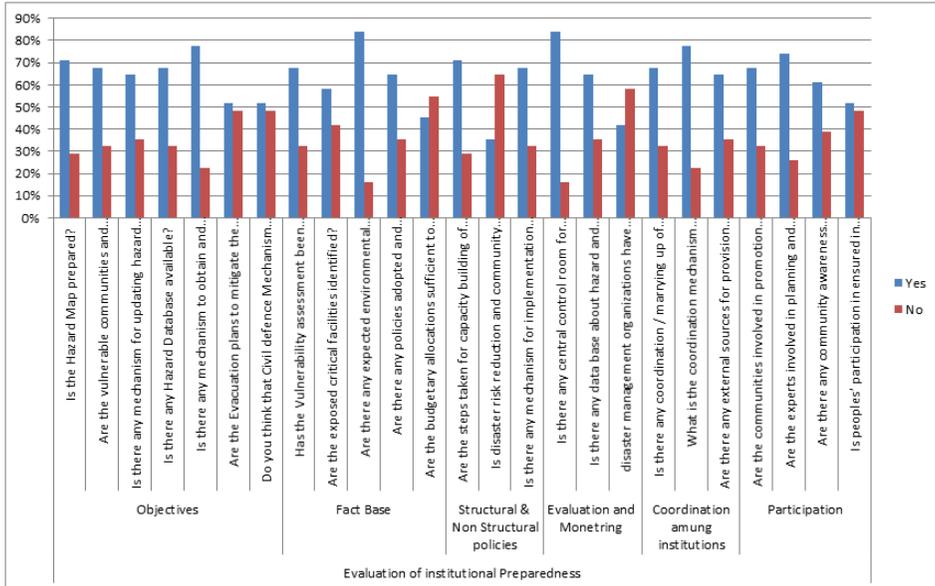
## **4. Results and discussion**

### **4.1 Institutional preparedness**

One major difference between the disaster management and planning of the developed and the developing regions is that in developing regions, the authorities react once the disaster has actually occurred whereas the developed regions forecast a disaster and act in a proactive manner. They are prepared formally for disasters and which happens to be a key to effective and successful disaster response as agreed by disaster experts but unfortunately, many of the organizations plan little to deal with disasters (Ulmer, 2012). This is because effective and formal preparation is very challenges and severe problems of preparation persist. Seeger (2006) state that preparedness for disasters is problematic to justify and accomplish because of the fact that disasters are difficult to predict and control. Jongejan et al. (2011) arguing against the point state that despite the unpredictability of the disasters, it is important that the organisations, public and the policymakers must make sufficient preparations. However, some extent of uncertainty and limitations are also to be faced during the preparation phase due to the nature of the risk that they are dealing with.

Barbour and Manly (2016) in their study state that disaster preparedness is a very important part of disaster management and can be a useful way to mitigate and reduce the negative consequences of natural disasters. It allows the related authorities to take timely actions to reduce the harms caused by disasters. Cannon (2006) have also emphasized the importance of disaster preparedness to increase people's capacity to reduce the impacts of disasters and reduce their vulnerability to losses. Government plays the most important role in creating this preparedness within the community. It can develop strategies and policies that rely on creating timely awareness and also making sure that immediate response. Unfortunately, the government, after every disaster transfers the blame to God by saying that it was the will of God (Fisher, 2012).

The 2<sup>nd</sup> major difference between the developed and the developing regions is that in developing regions, the system is still centralized. The institutions are not working properly at grass root level.



**Figure 4.1 Evaluation of Institutional Preparedness**

### Results

Institutions have a vital role to manage disaster management activities from national level to local level. Developed countries like Japan, USA, and China have strong institutions to manage disaster management activities before, during and after a disaster. Japan particularly investing more Budget in Disaster Risk Reduction (DRR) phase with proactive approach. If we invest 1\$ in pre disaster phase, we can save 100 \$ in the posterior phase of a disaster (Tobin, 199). Developing countries like Pakistan always investing their development budgets in emergency and response phase due to lack of policy implications, disaster management with centralized role, lack of coordination among institutions, and low level of awareness and preparedness at institutional as well as at community level. The current study mainly evaluated the role of institutions at provincial level. The first component in figure 4.1 is about the hazard preparation. The result shows that, in few areas of the province hazard map is prepared. Meanwhile there is no mechanism for disaster data base, updating of data, and evacuation plan for emergency response in the province. The 2<sup>nd</sup> component of the figure 4.1 based on fact based, that almost dealing the vulnerable situation

of the province. Again the result shows serious significant impacts in all sub-components. The third component of the figure deals the mitigation strategies for different kind of disasters in the province. Results show that the capacity building and policy implications are not properly implemented in the province. Last three components of the figure 4.1 identify the evaluation, coordination and participation of the institutions. The result shows that, there is no proper coordination, and participation among the institutions for managing disaster in the province. The result also shows that, those institutions that work for disaster management like PDMA DDMA's, there is no proper monitoring and check and balance on these institutions.

### **Conclusion**

The study was executed with the specific aim that was to shed light on the assessment of the institutional preparedness for natural disasters in Pakistan. The study has specifically investigated the case of Baluchistan where the focus of the research was towards exploring the performance of the provincial and as well federal institutions in order to investigate the preparedness for the natural disasters within the province of Baluchistan. On the basis of the qualitative findings of this study, it can be concluded that Baluchistan is certainly is one of the most effected provinces of Pakistan. It has also been found in the secondary findings that the province because of its numerous geographical and infrastructure challenges has been effected most from natural disasters and calamities. Based on the qualitative findings, it has also been revealed that the natural disasters, especially in the form of earth quake, floods, storms, have been continuously threatening the province. In addition, the devastation from these disasters are high because due to the negligence, improper infrastructure, ineffective disaster management mechanism and polices regulated for the province.

The study concludes that there are mainly three different disaster management agencies that are in function in the province. The findings based on secondary and primary evidence suggest that NDMA, PDMA and DDMA are the concerned authorities that are responsible to devise the

disaster management strategies for the province and to manage the resources require in disaster management. The study suggests that the main role of these agencies is to devise appropriate and effective disaster management strategies so that the capability of the province while managing different disastrous situations can be improved. It has been discussed in the study that the principal responsibility of these agencies is to minimize the losses especially in the form of peoples' lives and their property. Though the purpose behind strengthening and empowering these institutes was also to closely monitor the vulnerabilities and the risks that the province is exposed with nonetheless, the findings of this study reveals that the progress of these institutes and agencies has not been as satisfactory if the progress of these institutes are compared with other provinces.

On the basis of the findings, it can be stated that federal institute in light of NDMA is the one major stakeholder responsible to devise effective strategies and facilitate PDMA from all necessary information and guidelines to empower the provincial institutes. The findings of the study reveal that even though NDMA is committed to devise appropriate strategies however, there are considerable weaknesses in its strategies especially in the methods of its implementation. In this perspective, it is recommended to NDMA to strengthen its control and monitoring practices in order to assess whether the devised strategies are properly implemented.

Disaster management experts need to be hired at key positions to design and implements policies from provisional level to local level. Strong institutions can enhance the capacities at institutions as well as at community level respond to a particular hazard. Strong coordination among institutions is suggested for the resilience of institutional setup.

## References

- Ahmed, M. and Baloch, A., 2015. Political Economy of Balochistan, Pakistan: A Critical Review. *European Scientific Journal, ESJ*, 11(14).
- Almalki, S., 2016. Integrating Quantitative and Qualitative Data in Mixed Methods Research--Challenges and Benefits. *Journal of Education and Learning*, 5(3), pp.288-296.
- Barbour, J.B. and Manly, J.N., 2016. Redefining disaster preparedness: Institutional contradictions and praxis in volunteer responder organizing. *Management Communication Quarterly*, 30(3), pp.333-361.
- Cannon, T., 2006. Vulnerability analysis, livelihoods and disasters. In *RISK21-Coping with Risks due to Natural Hazards in the 21st Century* (pp. 51-60). CRC Press.
- Cozzolino, A., 2012. *Humanitarian logistics: cross-sector cooperation in disaster relief management*. Springer Science & Business Media.
- Dawn., 2011. *Ten worst disasters in Pakistan*. [online] Available at <https://www.dawn.com/news/661518> [Accessed on 12 Jun. 19]
- Dawn., 2018. *Over 500 children died in drought-hit Thar this year, Murad told*. [online] Available at <https://www.dawn.com/news/1440059> [Accessed on 12 Jun. 19]
- Fazl-e-Haider, S., 2013. *Calamity-hit Balochistan*. [online] Available at <https://www.dawn.com/news/1047021> [Accessed on 12 Jun. 19]
- Fisher, D., 2010. Legal implementation of human rights obligations to prevent displacement due to natural disasters. *Stud. Transnat'l Legal Pol'y*, 41, p.551.

- Harmeling, S., 2012. *Global Climate Risk Index 2012*. [online] Available at <https://germanwatch.org/sites/germanwatch.org/files/publication/7175.pdf> [Accessed on 12 Jun. 19]
- Haworth, B. and Bruce, E., 2015. A review of volunteered geographic information for disaster management. *Geography Compass*, 9(5), pp.237-250.
- Jongejan, R.B., Helsloot, I., Beerens, R.J. and Vrijling, J.K., 2011. How prepared is prepared enough? *Disasters*, 35(1), pp.130-142.
- Khan, H. and Khan, A. (2008). Natural hazards and disaster management in Pakistan
- Mengal, M.U.R. and Mahar, W.A., 2018, April. Disaster mitigation strategies for adobe houses: A case study of District Awaran, Baluchistan, Pakistan. In *1st International Conference on Advances in Engineering & Technology (ICAET 2018)* (p. 129). BUITEMS.
- Maguire, M. and Delahunt, B., 2017. Doing a thematic analysis: A practical, step-by-step guide for learning and teaching scholars. *AISHE-J: The All Ireland Journal of Teaching and Learning in Higher Education*, 9(3).
- Maqbool, M., Y., and Hussain, S., 2014. Institutionalization of Disaster Risk Management in Pakistan. *ISSRA Papers*.
- Mata-Lima, H., Alvino-Borba, A., Pinheiro, A., Mata-Lima, A. and Almeida, JA, 2013. Impacts of natural disasters on environmental and socio-economic systems: what makes the difference? *Environment & Society*, 16 (3), pp.45-64.
- Mustafa, S. and Zafar, A., 2017. China Pakistan economic corridor: importance and challenges for Pakistan and China. *International Journal of Social Science and Economic Research*, 2(11).

- NDMA., 2010. *About Us*. [online] Available at <http://www.ndma.gov.pk/aboutUs.php> [Accessed on 12 Jun. 19]
- Pelling, M., 2012. *The vulnerability of cities: natural disasters and social resilience*. Routledge.
- Petrucci, O., 2012. The impact of natural disasters: simplified procedures and open problems. In *Approaches to Managing Disaster-Assessing Hazards, Emergencies and Disaster Impacts*. Intech Open.
- Rahman, M.S., 2017. The Advantages and Disadvantages of Using Qualitative and Quantitative Approaches and Methods in Language" Testing and Assessment" Research: A Literature Review. *Journal of Education and Learning*, 6(1), pp.102-112.
- Ritchie, H. and Roser, M., 2019. *Natural Disasters*. [online] Available at <https://ourworldindata.org/natural-disasters> [Accessed on 12 Jun. 19]
- Seeger, M.W., 2006. Best practices in crisis communication: An expert panel process. *Journal of Applied Communication Research*, 34(3), pp.232-244.
- Ulmer, R.R., 2012. Increasing the impact of thought leadership in crisis communication. *Management Communication Quarterly*, 26(4), pp.523-542.
- Wex, F., Schryen, G., Feuerriegel, S. and Neumann, D., (2014). Emergency response in natural disaster management: Allocation and scheduling of rescue units. *European Journal of Operational Research*, 235(3), pp.697-708