

English Essay

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Disaster Management In Pakistan: Challenges And Way Forward

Brainstorming

③ livelihood of millions

② Agriculture based economy

① geographical location

Why is Pak more vulnerable to disasters?

Disaster Management

Challenges

① Poor environmental governance

② lack of efficient early warning systems

③ lack of awareness and training

④ Lack of disaster resilient infrastructure

⑤ Construction at disaster prone areas (illegal)

⑥ Social Inequality plays a

major role in shaping disaster outcome

 ↳ gender mobile seg → male → 86%
 ↳ female → 52%

⑦ Inefficient drainage system

Way Forward:

① Improve environmental gov

② Develop efficient early warning system (Japan)

③ raise awareness + train

brals, tehsil officers → Japan curricula added

④ Build disaster-resilient infrastructure

↳ strict enforcement of build's codes

⑤ Strict regulation + NOC

requirement before starting project

⑥ Reduce marginalization of minorities,

reduce disparity between parallel Sindh

⑦ Build/Replace worn out drainage system → urban flooding

Outline

1. Introduction

1.1. Hook

1.2. Background

1.3. Thesis: It is true that Mother Nature's Wrath can be unpredictable and inevitable, but past few years have shown that because of her poor disaster management, Pakistan is much more vulnerable to it than most of the world. The major challenges Pakistan has to face are poor environmental governance, lack of efficient warning systems, lack of awareness, construction at disaster prone areas and social inequality. These issues could be addressed by improving policies, strict NOCs, raising awareness and reducing social disparity.

2. Why Is Pakistan more vulnerable to Disaster Outcomes?

1.1. Geographical location

1.1.1. Climate change induced sea level rise

1.1.2. Glaciers in Himalaya

1.2. Agriculture-based economy:

1.2.1. Agriculture contributes 23% to GDP

1.2.2. livelihood to 37% population

1.2.3. Contribution to export ~ 60%

3. Challenges to Disaster Management:

3.1. Poor Environmental Governance

3.1.1. Implementation Gap

3.1.2. Weak policy making

3.1.3. Financial constraints

3.2. Lack of Efficient Early Warning Systems

3.2.1. Power line disruption - a hurdle in timely disaster updates

3.3. Illegal construction and lack of disaster resilient infrastructure

3.3.1. Construction in flood prone areas - intensifies disaster outcomes

3.3.2. Reconstruction - a burden on economy

3.4. Lack of awareness and Disregard towards Environmental Issues.

3.4.1. 2023 study - Sindh and South Punjab

3.4.2. High illiteracy rate in rural areas

3.5. Social Inequality - Shapes Disaster Outcomes

3.5.1. Marginalization of Poor, ethnic minorities -

3.5.2. forced to settle in disaster prone areas

3.5.2. "Parallel Societies" - rural, urban divide

3.5.3. Gender mobile gap - inability to access alert notifications timely.

3.6. Inefficient and Worn-out Drainage System and Power supply lines

3.6.1. Urban flooding in Karachi

3.6.2. Loss of power transmission - hurdle in timely disaster update

4. Way Forwards to Ensure Efficient Disaster Management:

4.1. Improvement in Environmental Governance

4.1.1. Reduce implementation gap

4.1.2. Efficient policies

4.1.3. Environmental budget allocation

4.2. Efficient early Warning Systems

4.2.1. SMS, Social media, Television: updates

4.3. Strict NOCs and Disaster Resilient

Infrastructure

4.3.1. Strict enforcement of Building codes

4.4. Raise awareness and Ensure Training

of locals, Tehsil officers

4.4.1. Awareness about disaster management

should be included in school curriculum

4.4.2. Drills and trainings

4.5. Reduce disparity between Parallel societies

4.5.1. Resource allocation to marginalized

fraction of society

4.6. Replace worn-out Drainage system

and Supply Lines

4.6.1. Reduce risks associated with urban

flooding

4.6.2. Efficient power supply lines - timely

updates to citizens

5. Conclusion.

The Essay

Pakistan witnessed the devastating consequences of Nature's Wrath when in 2022, unprecedented floods claimed 1700 lives, displaced 33 million out of their homes and caused economic losses equivalent to 6% of GDP. Had there been an efficient disaster management system and policies, Pakistan could have avoided such consequences. Natural hazards are inevitable and unpredictable but it is the negligence on the part of environmental governance, which converts such hazards into disasters with disastrous outcomes. Pakistan has witnessed many disasters in the past few decades, the most devastating of which were the earthquakes of 2005, which claimed huge number of lives and destruction of infrastructure. Other disasters include floods of 2010, 2022, 2025, extreme drought, Glafs and unprecedented rainfall which results in urban flooding. In the aftermath of death and destruction of 2010 floods, Pakistan established National Disaster Management Authority (NDMA, 2010) and Provincial Disaster Management Authorities (PPMA) for each province. But despite these efforts, Pakistan has repeatedly had to witness loopholes in her

disaster management, and failure to address these shortcomings make each new disaster a more devastating event than before, claiming even more lives, loss of crops, damage to infrastructure and a burden to economy. It is true that Mother Nature's wrath can be unpredictable and inevitable, but past few years have shown that because of her poor disaster management, Pakistan is much more vulnerable to disasters than most of the World. The major challenges Pakistan has to face are poor environmental governance, lack of efficient warning system, lack of awareness, construction at disaster prone areas and social inequality. These issues could be addressed by improving policies and environmental governance, enforcement of building codes and strict NOC, raising awareness about timely disaster management and by reducing social inequality. Until these issues are addressed, Pakistan will continue to be vulnerable to disasters and will eventually have to face huge hurdles in its path towards peace and prosperity.

To begin with, there are several issues which make Pakistan even more vulnerable to disaster and its outcomes. The most important of which is geographical location of Pakistan. Pakistan, at its south is linked directly to Arabian Sea. The sudden changes in climate which the World has had to witness, have also raised the level of sea.

This sea-level rise, induced by climate change, is a threat to many countries including Pakistan. This makes Pakistan even more vulnerable to floods and damage to infrastructure. Moreover, due to rise in temperature, the glaciers of Himalayan are also melting at a devastating pace, resulting in glacial lake outburst flooding (GLOFs). GLOFs were a major contributor in floods of 2025. Lack of efficient disaster management coupled with climate change associated risks Pakistan has to witness incurs a huge burden on Pakistan's already crippled economy.

Another vulnerability of Pakistan and why it feels the need of a proper disaster management more than ever is the dependency of Pakistan on agricultural sector. Agricultural sector contributes approximately 23% to GDP. Moreover, it is also a source of income for 37% of Pakistan's population, helping them earn livelihood. Pakistani crops i.e wheat, corn, maize, mangoes and several other fruits and vegetables contribute a major portion in Pakistan's total exports, which equals to approximately 60%. Hence, not only natural disasters reduce exports and cause economic burden, they also bring 37% of population dependent on agriculture for livelihood, below the line of poverty.

Hence, until disasters are managed properly by Pakistan, these vulnerabilities will continue to become a hurdle in the path towards Pakistan's prosperity.

The first most significant challenge Pakistan's Disaster management has to face is poor environmental governance. Disregard towards environmental issues results in policy-making full of voids and loop holes. Not only are the environmental policies of Pakistan inefficient to address disasters of Pakistan, but they also fail to answer many questions about who is to be held accountable for all the deaths and destruction in the aftermath of a disaster, has Pakistan come up with a time frame within which to implement such policies, and if so, how can the issue of social inequality, which shapes the outcomes of disasters will be addressed. Even if efficient policies are designed, there exists a huge implementation gap in them. National Disaster Management Authority (NDMA) has been established since 2010 but has repeatedly shown signs of failures to tackle with monsoon induced floods Pakistan witnesses every few years. Furthermore, being economically crippled Pakistan faces a lot of financial constraints which are ~~required~~ acting as a hurdle in path towards an efficient disaster management. According to a report published by UN, Pakistan needs \$40 - \$50 billion annually to address climate induced natural disaster issues. Hence, poor

environmental governance hinders the disaster management process in Pakistan.

Secondly, a lack of efficient early warning system and timely updates results in casualties which could have been easily avoided by a single alert SMS. Countries like Japan, show an excellent example of how timely disaster warning and early evacuation can reduce loss in terms of life and destruction. In Pakistan, the major in regard to timely early warning is that the power supply lines and internet access is immediately disrupted as soon as a weather deteriorates. This creates a hurdle in timely information and warning to citizens, which otherwise, could have been done using live television broadcast or SMS. An efficient, timely early warning gives vulnerable citizens time to evacuate or prepare themselves for any unpredictable outcomes. Therefore, weak power and internet supply lines create hinderance in timely deliverance of warning to citizens to prepare against any disastrous circumstances.

Thirdly, illegal construction at disaster prone areas and ~~disaster~~ lack of disaster resilient infrastructure results in destruction of infrastructure at a mass scale, blocking roads and creating huge hurdles in disaster management process. These illegally

constructed infrastructure results in both economic loss and blocking of access routes for disaster management teams. The time taken by disaster management teams to clear out blocked roads due to infrastructure debris could have otherwise been used to save life of those strangled in vulnerable areas. Furthermore, reconstruction of this infrastructure causes a huge load on Pakistan's economy, shifting the focus from developmental projects to reconstruction of damaged property.

Another major hurdle in the disaster management process is lack of cooperation by community since there exists a huge gap in awareness regarding disaster's cause and outcome among citizens.

The disregard towards environmental issues and lack of awareness makes it even more difficult for disaster management teams to reach out to those affected. A study conducted in 2023 by Pattan and Near Global in Sindh and South Punjab, in the aftermath of 2022 floods, showed that in these areas approximately 90% of rural population was unable to comprehend awareness alerts and even pictorial data due to lack of access to education. Moreover, 63% of Pakistan's population lives in rural areas, where there is a huge illiteracy rate, making them even more vulnerable to disasters. Even if timely disaster

management warning systems are introduced, a massive fraction of illiterate population will be unable to understand those warning alerts. Hence, illiteracy is a major obstacle in disaster management in Pakistan.

Social Inequality also plays a major role in shaping disaster outcomes. Poor and ethnic minorities are forced to settle in disaster prone areas and are extremely vulnerable to disasters. It becomes increasingly difficult for government and disaster management team to access all such vulnerable settlements. This results in creation of "parallel societies", widening the gap between rural urban divide and gets to decide who is more safe from disaster and who is more vulnerable to disaster and its devastating outcomes. Furthermore, gender inequality also plays a role in disaster management's hinderance. According to Pakistan's Gender mobile gap report, 86% of Pakistani males and 52% of Pakistani females have access to mobile phones. In the past few years, a alert SMS system is being used to timely warn citizens about any disaster. If access to mode of deliverance of alert is restricted, how can government ensure the safety of each and every citizen of Pakistan. Hence, even though social inequality is often sidelined when issues like disaster management

are being addressed, but in reality, they play a huge deciding role. Marginalization of a huge faction of population to areas difficult to access by disaster management teams, delays the process resulting in loss of lives which could have been otherwise avoided.

Lastly, the inefficient and worn out drainage system and power supply lines of Pakistan create obstacles in disaster management. Due to poor drainage system, Karachi has to face severe urban flooding even in cases of heavy rainfall. Moreover, weak and worn out power and internet supply lines adds to the struggles of citizens, resulting in no contact of citizens with concerned authorities, further delaying the disaster management process. Hence, not only urban flooding, and worn out supply lines frustrate the general public and delay the disaster management process, such flooding issues can also result in outburst of diseases like malaria, dengue, diarrhea; increasing the load on Pakistan's economy further. These problems delay the timely management of disaster outcome.

So far, all the major hurdles in the disaster management system of Pakistan have been discussed. Now, the essay will move towards how these

issues can be resolved, so that any further disasters in Pakistan don't become an obstacle in Pakistan's path towards prosperity.

To begin with, the need of the hour to ensure efficient disaster management is improvement in the environmental governance. To address this issue, Pakistan needs policies which have the potential to timely prevent disastrous outcomes of natural hazards, and if they happen, policies should be strong and efficient enough to tackle damage to property and assets without further increasing the burden on economy. There needs to be a system to ensure implementation of such policies to reduce implementation gaps and allow timely management of disasters.

In FY 2025-26, Pakistan has allocated 87% of its climate budget for mitigation and 10% of its climate budget for adaptation. Strict measures should be taken to responsibly allocate these funds to projects that offer a promising solution to disaster's management hurdles and loopholes.

Secondly, there needs to be an efficient early warning system to ensure timely disaster alerts and updates reach each and every citizen of Pakistan, so that Article 9 of constitution which promises "right to life" to all its citizens, could actually

be made sure. This can be done by providing continuous and timely alerts on live broadcasts on television, through SMS, social media and other internet platforms. Furthermore, apps can also be launched by government to help citizens get an understanding about disaster prone areas, to avoid travelling there and ensure timely evacuation and preparedness. Hence, early warning system is the first step to ensure the protection of lives and assets of citizens in case of disasters.

To prevent infrastructural debris from becoming a hurdle in smooth disaster management process, so that lives of those entrapped could be saved timely, there needs to be strict regulations. NOCs should only be given to developmental projects which first ensure that their site of construction is not in the path of disaster prone areas. And all building being constructed in disaster prone areas should be made to follow strict building codes. For example by using advanced measures Japan has made its buildings resistant to damages due to earthquakes. Hence, same model of building could be adopted by Pakistan to ensure these infrastructure don't end up blocking roads and delaying the process of disaster management.

Fourthly, raising awareness among population especially 63% rural population, most of which is illiterate, is extremely important. Awareness about Pakistan's vulnerability to climate change, disasters and how to deal with such situation should be added in school curricula. Japan has also included disaster management as a subject in its school curriculum. Furthermore, trainings should be provided to locals and tehsil officers of flood prone areas or other disaster prone areas. Regular drills should be conducted to ensure self-sufficiency of citizens of an area in disaster situations. This would reduce the number of casualties drastically. Hence, by reducing illiteracy and ensuring training of locals gaps in disaster management could be efficiently dealt with.

In order to reduce disparity between parallel societies and to reduce the gap between rural, urban population, equitable distribution of resource among all factions of society should be ensured. Every citizen has equal right to be protected by government and concerned authorities in case of disastrous outcomes. Socially marginalized factions should be transferred from vulnerable areas to disaster-safe areas, so that lives of many could be saved before occurrence of any disaster.

Not only should they be settled in areas safe from disasters but their infrastructure should be designed in a way to ensure its resilience against earthquakes, floods. This will eventually, reduce the burden on disaster management and ultimately, Pakistan's economy.

Lastly, the worn out drainage system of cities and damaged power and internet supply lines should be repaired to ensure disasters like flood could be managed timely, before they turn into massive urban flooding incidents. Access of citizens to concerned authorities should not be compromised especially in emergency disaster situation hence worn out structures should be immediately replaced with updated and disaster resilient structures.

This would ensure the efficiency of disaster management system of Pakistan and help it restore and reverse damages within less time frame without incurring huge economic losses. Town planning experts should be hired to help improve urban and rural infrastructure to make it more resilient to disasters and required funds should be allocated, to ensure the quality of project is not compromised merely due to financial constraints.

In conclusion, Mother Nature's wrath, though unpredictable and inevitable, can be effectively managed if timely disaster management loopholes are addressed. Pakistan has faced numerous serious disasters in the past but by identifying the loopholes and finding sustainable approaches to address those vulnerabilities, Pakistan can ensure that disasters no more become a hurdle in the path towards Pakistan's prosperity. Human activities play a major role in shaping the outcome of disasters. This is more of a hope than despair because by taking concrete steps, and by ensuring collective efforts, Pakistan will be able to withstand such difficult disasters as outcomes. Pakistan has shown resilience many times in the past and it still has the capability to address these challenges and prove itself as an example of how climate vulnerable country can help ensure the protection of its citizens and their assets by effectively carrying out disaster management. Therefore, a joint community effort and responsible attitude of citizens and concerned authorities will prove that no disaster can be strong and devastating enough to impact the resilience of Pakistan.