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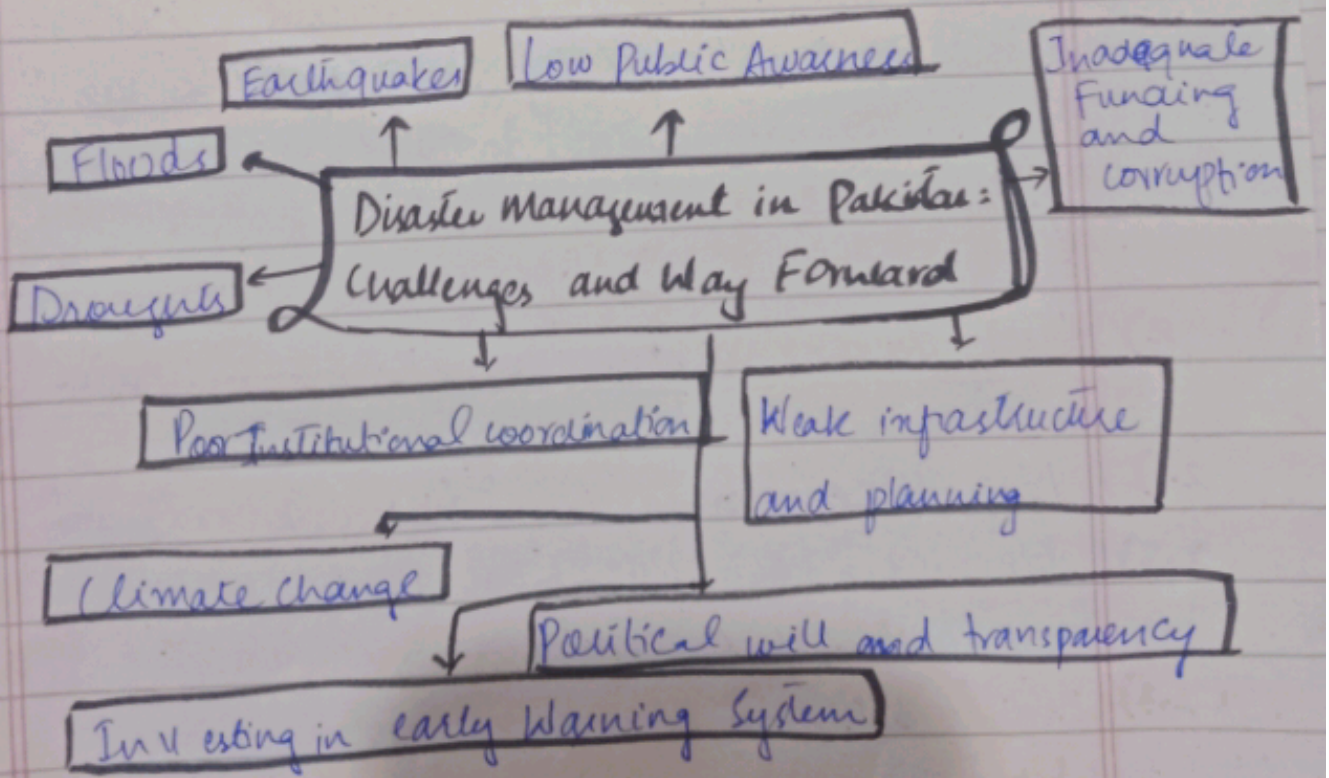
Disaster Management In Pakistan: Challenges & Way Forward

BRAINSTORMING



Outlines :

1) Introduction

1.1) Hook
1.2) Background Information
1.3) Thesis Statement : Despite significant institutional frameworks, Pakistan continues to face major challenges in disaster management due to weak governance, poor preparedness, climate vulnerability limited financial capacity, poor infrastructure and lack of community Awareness- To effectively mitigate future disasters, Pakistan must strengthen institutional governance, invest in modern technology and resilient infrastructure. Foster community participation along with using early warning systems to build a culture of preparedness and long term resilience

2) Understanding disaster management in Pakistan

2.1) Define disaster management (UNISDR def)
2.2) Explaining the shift from reactive relief to proactive risk reduction
(2.3) Explaining Disaster Management System in Pakistan

3) Historical Overview and major disasters in Pakistan

3.1) 2005 Earthquake
3.2) 2010 Floods
3.3) 2022 Floods
3.4) Other minor recurring disasters

4) Challenges in Disaster Management

4.1 Institutional Weakness
4.1.1 Poor coordination between federal, provincial and local levels
4.1.2 Overlapping responsibilities; NDMA and PDMAs lack autonomy

4.2 Weak Early Warnings
4.2.1 Limited use of Technology
4.2.2 Delay alerts specially in rural areas

4.3 Financial constraints
4.3.1 Inadequate budget allocation for disaster preparedness
4.3.2 Over reliance on foreign aid for disaster management.

4.4 Infrastructure and Urbanization

4.4.1 Encroachment of Plains (unsafe housing)
4.4.2 (Poor drainage system worsening Floods.

4.5 Climate change and Environmental Degradation

4.5.1 Increasing The Frequency and intensity of floods
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4.6.1 People remain unaware of safety measures
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5.2) Technology and Early Warning system
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for early

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The Essay

Disasters, whether natural or man-made, have become unavoidable reality of the modern world, disrupting lives, economies and ecosystems with increasing frequency. From devastating earthquakes to catastrophic floods, the scale and intensity of disasters reveal not only the power of nature but also the vulnerabilities embedded within human systems. In Pakistan, this fact reality is deeply evident. The country's geographical location, diverse climate zones, rapid urbanization and fragile infrastructure makes it one of the most dangerous and disaster-prone nations in South Asia. Over the past few decades, Pakistan has witnessed multiple large scale disasters that have left lasting impacts on its people and economy. The 2010 and 2022 floods displaced millions, destroyed crops and inflicted economic losses. Despite institutional frameworks, Pakistan continues to face major challenges in disaster management due to weak institutions, poor preparedness

climate vulnerability, limited financial capacity, poor infrastructure and lack of community Awareness. To effectively mitigate future disasters, Pakistan must strengthen institutional governance, invest in modern technology and resilient infrastructure, Foster community participation along with using early warning systems for long term resilience.

Disaster management refers to the systematic process of preparing for, mitigating, responding to and recovering from the impacts of disasters. According to United Nations Office of Disaster Risk Reduction (UNDRR) Disaster management aims to reduce vulnerabilities and enhance resilience of communities through coordinated planning and sustainable measures. In Pakistan, disaster management has slowly evolved from reactive relief based system to a more proactive framework emphasizing prevention, preparedness and risk reduction. The institutional foundation of disaster management in Pakistan was laid after the 2005 Kashmir earthquake, which exposed severe gaps in emergency response and

coordination. This led to the development of National Disaster Management Authority (NDMA) in 2007, which was later formulized under the National Disaster Management Act (2010). The NDMA led as a lead federal agency responsible for policy formulation, coordination and implementation of disaster management strategies. At the subnational level, Provincial Disaster Management Authority (PDMAs) and District Disaster Management Authority (DDMAs) operate, ensuring decentralized approach aligning with the federal framework. However, despite the establishment of these institutions policy structures, the implementation remain inconsistent

Pakistan's history is marked by series of devastating natural and human-induced disasters that have exposed the country's structural vulnerabilities and limited preparedness. Among the most catastrophic was the 2005 Kashmir earthquake, which measured 7.6 on Richter scale resulting in death of 73,000 people with 3.5 million

left homeless. The tragedy revealed the absence of a national disaster management mechanism and highlighted the urgent need of institutional reform. The government formed with the support of UN and international donor's established Earthquake Reconstruction and Rehabilitation Authority (ERRA) and (NDMA). Another defining disaster was the 2010 super flood, one of the worst in Pakistan's history. Approximately 20 million people were affected and damage exceeded To US$ 10 billion according to world bank estimates. More recently, the 2022 monsoon floods reaffirmed Pakistan's growing vulnerability to climate-induced disasters. Unprecedented rainfall, nearly 3 times higher than the national average, submerged over one-third of the country. Collectively these disasters demonstrate that while natural hazards cannot be prevented, their devastating consequences can be mitigated through effective governance etc.

Challenges in Disaster management are evident in Pakistan. The

persistence of these crises highlights systematic weakness across governance, infrastructure, & public engagement. A major obstacle is the fragmented institutional structure and lack of coordination among federal, provincial and local levels. Although NDMA Act 2010 defines hierarchial system NDMA at top but the coordination between national and provincial institutions remains inconsistent. Overlapping responsibilities, bureaucratic delays, political influence hinder efficient response. For example, during the 2022 floods, delayed communication b/w NDMA and provincial departments caused confusions over planning leading to devastating consequences

Pakistan's early warning systems are still underdeveloped and lack real-time accuracy. Institutions like PMD often issue warnings, but the dissemination to vulnerable communities is slow and ineffective. Limited GIS, satellite imagery, AI-based forecasting weaken the ability to ~~protect~~ predict floods. In remote areas, particularly Balochistan and

Gilgit Baltistan communities are unaware of disasters due to poor communication. Disaster Management also suffer from chronic underfunding in Pakistan. Budget allocations for disaster risk reduction remains insufficient. Overreliance of international aid from UNDP, World Bank, Asian Development Bank further reflects weak domestic fiscal commitment.

Poor infrastructure and encroachments on the riverbanks, floodplains, ~~weak~~ weak drainage system and unsafe housing increase the exposure to hazards. Cities such as Karachi and Lahore face severe urban ~~planning~~ flooding each monsoon due to blocked waterways and unregulated construction. Disaster resilience needs long term investment in urban planning and infrastructure. Pakistan ranks among the top 10 most climate vulnerable countries. Climate vulnerability became the leading cause of floods adding on to the vulnerabilities of the country. Climate change act as a risk multiplier.

At community level, disaster Awarness and preparedness remain minimal. Most citizens are unaware of evacuation procedures. Public participation in disaster planning is rare and schools curricula rarely include disaster planning. Empowering local communities with training, awareness programs, and drills is essential for effective risk management.

Given the transboundary nature of many disasters and the global relevance of climate change, international and regional cooperation plays crucial role. Pakistan has historically relied on global partners for aid during disasters and has helped it. It needs much more to be helped. Institutional reform is central to effective disaster management. The NDMA and PDMA must be strengthed through enhanced financial autonomy, professional capacity building. Establishing an integrated National Disaster Information System would allow real time coordination

Disaster management should not be treated as an emergency function but as a core component of national development. The government must mainstream DRR into all sectors - including housing, agriculture, energy and transport. Urban planning laws should strictly enforce building codes land-use regulation and floodplain zoning to minimize exposure to hazards - The modernization of early warning system is vital. Pakistan should expand the use of satellite data, GIS mapping, AI-based modeling. Resilience begin at the community level. Establishing community Based Disaster Risk management programs can empower local population for disaster management

Disaster management in Pakistan stands at critical crossroads. Despite institutional advancements and policy frameworks, the country continues to face recurring devastation due to weak governance, fragile infrastructure, limited funds, climate vulnerability move forward Pakistan

must strengthen institutions, Early Warning Systems, community based resilience. With sustained political will and international cooperation Pakistan can turn its challenges into opportunities for a safer and more resilient future