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Q9 Disaster Management in Pakistan:
Challenges and Way Forward.

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OUTLINE

1 Introduction

- Hook
- Thesis Statement

2 Background

- Pakistan's Geographical and climatic exposures to multiple Natural Hazards.
- Recurring Major Disasters: 2005 earth quake, 2010 and 2022 Floods.
- Existing Framework: NDMA, PDMA's, DDMA's,
- Despite laws, implementation and Preparedness remains poor.

3 Challenges In Disasters Management

3.1 Weak Institutional Capacity

- NDMA and PDMA's lack coordination and Resources.
- DDMA's Mostly inactive.
- Overlapping mandates and Political

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interference.

3.2 Poor Preparedness and Planning

- Absence of contingency plans at district level.
- Limited drills, training and risk mapping.
- Focus on post disaster relief instead of pre-disasters efforts.

3.3 Technological and Data Deficiency

- Outdated early warning systems.
- Lack of centralized data and GIS (Geographical information system) based risk management.
- Weak inter-agency communication.

3.4 Environmental Management:

- Deforestation, river encroachments and poor drainage increase flood risks.
- Climate change intensify frequency and severity of disaster.

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3.5 Financial Limitation

- Insufficient budget allocation for disaster Prevention.
- Heavy reliance on foreign aid
- Lack of insurance mechanism for victims.

4 The Way Forward

4.1 Institutional Reforms

- Strengthen NDMA, PDMA and ODMA with authority, funding and trained staff.
- Clear coordination mechanism among all tiers of government.
- Accountability in relief and reconstruction Process

4.2 Improved Preparedness and Planning.

- Formulate district and provincial contingency Plans.

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- Regular Mock drills, risk mapping and evacuation routes.
- Integrate disaster risk reduction (DRR) into national development Policy.

4.3 Adoption Of Technology and Data System

- Modernize early warning systems with satellite and digital tools.
- Establish national disaster data system.
- Promote Collaboration with scientific and research institutions.

4.4 Environmental and Urban Reforms

- Enforce land-use laws and building codes.
- Launch afforestation and water management Projects.
- Control urban encroachments and improve drainage systems.

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4.5 Financial and Insurance Mechanism

- Allocate dedicated funds for DDR.
- Introduce disaster insurance for citizens and farmers
- Develop Public-Private Partnerships for financing resilience projects.

5 Conclusion:

ESSAY

"Disasters test the strength of governance more than the power of nature." This statement actually accurately reflects Pakistan's repeated failure in handling natural calamities. Each flood, earthquake or drought exposes not just the might of nature but the fragility of the states institutions. Despite numerous policies and authorities, Pakistan's disaster management remains reactive and fragment. Relief often arrives late, coordination falters and preventive planning is neglected. Pakistan geographical location makes it inherently prone to natural hazards, but the persistent human and

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Economic losses stem from weak governance, poor preparedness, and neglect of environmental factors. The country's ineffective disaster management can only be improved through strong institutions, improved planning, Modern technology, financial preparedness and active community participation.

Pakistan landscape composes of Mountains, deserts, rivers, glaciers and coastline make it naturally vulnerable to earth quakes, floods, and droughts. The 2005 earth quake killed over 70,000 people; the 2010 displaced 20 million; and 2022 floods affected 33 million, causing damages worth 30 billion dollars plus. These events exposed institutional and planning failures. In response the National Disaster Management Act (2010) established a three-tier structure, (NOMA) at national level, (POMAs) at Provincial level and (DOMAs) at district levels. Despite this frame work the system suffers from weak enforcement, lack of coordination and inadequate funding. Disaster management continues to revolve around Post crisis relief rather than Proactive risk reduction.

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Pakistan's disaster management institutions are poorly structured and under-resourced. **NOMA**, though the apex body, has limited power over Provincial agencies. **POMAs** and **DDMAs** lack trained staff, equipment, and coordination mechanisms. During the 2022 floods, delays in information sharing between **NOMA** and Provincial authorities led to poor evacuation and relief distribution. Political influence often determines the flow of aid rather than ~~the~~ actual need. ~~Moreover~~ moreover, most **DDMAs** exist only on paper, with no permanent staff or operational offices. This disconnect between national planning and local implementation leads to delayed responses and duplication of efforts.

Preparedness remains the weakest link in Pakistan's disaster management chain. District and Provincial government lack contingency plans. Simulation exercises and evacuation drills are rare and emergency supplies are unavailable when disaster strike. This reactive attitude is evident in every major event: despite meteorological warnings before the 2022 floods, preventive ~~an~~ evacuation and resource positioning were minimal. Instead of investing in early mitigation, authorities

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Focus on post-disaster relief campaigns. This neglect increases casualties and reconstruction costs each time and one of the main reason of poor planning and preparedness are corrupt leaders, authorities because they mainly focus on self development rather than the state.

Effective disaster management depends on technology and accurate data. Pakistan's early warning systems are outdated, with limited radar coverage and weak communication networks. There is no central ~~data~~ disaster database for real-time coordination between NDMA, PDMA and local agencies.

GIS (Geographical Information System) mapping and hazards modelling are underutilized. Without scientific data, local planning relies on guess work rather than evidence. This lack of modern forecasting and information sharing leads to poor preparedness and misinformed decision which further leads to devastating consequences.

Environmental degradation has made natural disasters more frequent and severe. unchecked deforestation, soil erosion, and encroachments on river banks

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have destroyed natural flood defences. cities like Karachi and Lahore face urban flooding due to blocked drains and illegal construction. climate change further worsens the situation. melting glaciers trigger glacial lake outburst floods, while rising temperature causes heatwaves droughts. Poor land use and disregard for environmental sustainability magnify every hazard into a disaster.

Pakistan allocate minimal funds for disaster risk reduction. most spending occurs after disaster for relief rather than before for prevention. Provincial disaster management agencies often lack funds for basic equipments or emergencies stock piles.

Dependence on international aid creates further delays in relief delivery and reconstruction. The absence of insurance leaves citizens and farmer economically devastated. Thus, every disaster becomes a cycle of debt and dependency rather than recovery.

Pakistan must overhaul its institutional framework. **NOMA** and **PDMA**s needs operational autonomy, adequate funding and trained personnel. **PDMA**s should be activated with local staff and emergency command centers. Coordination among civil, military and

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humanitarian agencies should be systematized, not improvised during crises. A unified command and communication system linking all disaster agencies can eliminate duplication and delays. Furthermore accountability must be introduced to ensure transparency in relief operations.

Preparedness must replace reaction. Every province and district should develop and update contingency plans annually. Regular risk assessment, community drills, and training programs are essential. Schools, hospitals, and local government offices should have clear evacuation procedures. A national disaster calendar for seasonal hazards can help plan preventive measures in advance. Disaster risk reduction must also be embedded in national development and urban planning policies.

Modern technology is indispensable. The government should upgrade early warning systems using satellites and digital monitoring. Establishing a national disaster data centre linked to provincial units can improve coordination. GIS-based hazard mapping and AI based forecasting can guide infrastructure and agricultural planning.

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Collaboration with universities, SUPARCO, and meteorological institution should be encouraged to promote research-based decisions.

Environmental conservation is the most cost-effective form of disaster management. Massive reforestation and watershed management can reduce flood and landslides. Strict enforcement of zoning laws and building codes can prevent encroachments on rivers and drainage systems. Urban resilience must become a policy priority. Proper waste management, storm drains, and green belts can minimize urban flooding. Integrating climate change adaptation into disaster policy will ensure long-term sustainability.

Pakistan must allocate a fixed percentage of GDP for disaster preparedness. Establishing a National Disaster Fund for risk reduction, not just relief is essential. Insurance mechanism introduced for crops, housing and small businesses can provide economic security to affected citizens. Public-Private Partnership can finance resilient infrastructure and emergency logistics. Local fundraising

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and community micro-financing models can strengthen self reliance.

Pakistan's disasters expose administrative weaknesses rather than natural inevitabilities. Floods and earthquakes cannot be prevented, but their impact can be reduced through planning and preparedness. The country's disaster management framework suffers from multiple challenges, weak governance, poor preparedness, outdated technology, environmental degradation, inadequate financing and low public awareness.

These weaknesses collectively turn natural hazards into large-scale humanitarian emergencies. To move forward, Pakistan must strengthen its institutional capacity by empowering NDMA, PDMA and DDMA with authority, coordination and resources. Preparedness should replace reaction through effective contingency planning, early warning systems and local capacity building. Technological modernization such as GIS mapping, satellite monitoring and data integration can significantly ~~forecasting~~ improve risk forecasting.

Environmental protection, reforestation, and proper urban planning must complement these efforts to reduce

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vulnerability. Financial resilience is equally vital. Dedicated disaster funds, insurance mechanism and Public-Private Partnership can ensure timely response and recovery. Most importantly Community participation and disaster education should be mainstreamed so citizens become active partners in Preparedness and response. In sum, Pakistan's disaster management must evolve from a relief based model to a resilience based system. Only then can Pakistan withstand disasters without losing lives, livelihoods and development gains. And build future where disasters no longer dictate national destiny.

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