

Disaster Management

in Pakistan: Challenges

and Way forward

Outlines

1- introduction

1.1 The story of Fatima who rang the bell.

1.2 General statement.

1.3 Thesis Statement: Pakistan's disaster management suffers from institutional fragmentation, poor policies, out-dated warning systems and inefficient political system, however, through strong coordination, climate resilient policies, updated warning systems, the nation can transform its vulnerability into resilience.

2- What is Disaster Management..and

its phases of management.

3- History of Recent Disasters in Pakistan.

4- Institutional Framework for Disaster Management in Pakistan.

5- Major Challenges in Disaster Management in Pakistan.

5.1 Institutional fragmentation and poor coordination among NDMA and PDMAs and local bodies weakens disaster governance.

5.2 A reactive relief-focused approach overshadows prevention, mitigation and preparedness efforts.

5.3 Out-dated early warning system and weak data sharing limits response and forecasting.

5.4 Poor urban planning, deforestation and poor infrastructure intensity floods

and ~~weather~~ effects.

5.5 Limited resources, Political instability, and ~~bureaucratic~~ inefficiency hinders long-term resilience is major challenge for ~~Pakistan~~.

6- Way Forward for Effective Disaster Management in Pakistan

6.1 Strengthen NDMA-PDMA and enforce National Disaster Risk management Framework (NDRMF) through clear authority and accountability.

6.2 Shift from Relief to Prevention by Investing in risk mapping, training, preparedness and community-based disaster management.

6.3 Modernize early warning system, digital satellite data, digital forecasting and rapid information sharing at local area.

6.4 Promote climate resilient infrastructure, green environment on

floodplains, and launch large scale afforestation projects.

6.5 Ensure sustainable financing, political stability, and transparent governance to implement long-term disaster resilience strategies.

7- Conclusion

The Essay

When torrential rainfall struck in Sindh in 2022, a 13-year-old girl, Fatima, from Nasu district saw the flood water coming towards her village.

She immediately ran to the nearby mosque and rang the bell continuously, which was used for evacuation in any emergency.

She remembered this in one of her school disaster preparedness

drill, so the people evacuated

village immediately before the flood swept away their houses.

200 people saved due to

Fatima courage and timely

taken step. This incident shows

the community preparedness

effectiveness and strengthens Pakistan's

disaster management system.

This story reflects larger nation's

readiness: the response of people

to any disaster is brave and

poor institutional framework. A

country like Pakistan which

is prone to disaster need

stronger disaster management. After

2005 earthquake NDMA national

Disaster management Authority

established but wide devastating

in 2010, 2012 and 2015

flood shows its weakness.

The poor warning systems,

political instability add fuel

to fire. However, through well-planned policies, training, preparedness, new technologies used for warning system and empowering communities like Fatima's to turn vulnerability into strength.

Disaster management is the coordinated mechanism of utilizing available resources effectively to handle emergency, save lives and minimize loss. It is the strategic planning to protect assets from hazard risk. Disaster management has four interlinked phases: Mitigation, Preparedness, Response, and Recovery. This is continuous cycle of four steps. Every well-developed country has well-planned disaster management mechanism to save their people, and they follows four

Phases which includes Mitigation which means hazard mapping, Vulnerability analysis and public awareness to reduce long term risk. In this phase new and modern technology used and held on community drills to mitigate the hazards risk. The second phase is Preparedness which means to use available resources, evacuation planning and remains alert for any emergency situation.

The third phase is Response which means response in any emergency situation like

2011 in Japan Tohoku earthquake and tsunami, they evacuated the place by using early modern warning system and prevented from many casualties.

The fourth and last step is Recovery, which is after the disaster in this approach.

rebuilding infrastructure, livelihood and help the effected people as seen in Pakistan 2022 flood. in their recovery. These four phases are very important for any developed and developing country to save their people from hazards risks. Disasters are natural any country do not control or stop it but they have stronger disaster management to combat any catastrophe as Kofi Annan, former Secretary General of United Nation said.

“We cannot stop natural disasters but we can arm ourselves with knowledge so that many lives need not to be lost if disaster strike”

Pakistan's history of disaster is shaped by geographical and climate vulnerability making it

most disaster prone country in

the world. Straddling Seismic

waves, and climate sensitive zone

ranked fifth in the Global

Climate Index (2023). The

recurring flood, earthquake, droughts

making it vulnerable country;

2005 earthquake claimed

73,000 lives affected. 2010

flood caused 20 million displaced

and effected exposed weaken

disaster management system of

Pakistan. Then in 2022 flood

33 million people displaced.

crops devastated, homes swept

away with flood. Recently

2025 flood affected about

6.3 million people. Moreover repeated

droughts in Sindh and Balochistan

caused food insecurity and lost

million of lives. Melting of

Himalaya's also threaten the

Glacial Lake Outburst flood (GLOFs)

in north pole. Together, these episodes underline that Pakistan's disasters are frequent, multifaceted and increasingly climate-driven, making resilient disaster management and long-term adaptation imperative. So, by looking at

plz work on language

entire history Pakistan has the need to invest in disaster management for its survival as according to United Nations Office for Disaster Risk Reduction (UNDRR)

"Disaster risk reduction is not a cost; it is an investment in humanity's future."

Pakistan's disaster management institutes operate through multi-tiered institutional framework designed to ensure coordinated response and resilience building. At the federal level, the National Disaster

Management Authority work as a main body involved in policy coordination and implementation of policies. In the amendment, the devolve to the provincial level Disaster Management (PDMA's) work for relief and recovery. Disaster Management formed which help and link community structure. Together institutes many like Pakistan Department (PMD) for digital satellite. Additionally civil forces and human like Edhi foundation, Pakistan Red

Management Authority (NDMA)

work as a main body which is involved in policy making, coordination and implementation

of policies. In the 18-constitutional amendment, the disaster authority devolve to the district and provincial level and provincial

Disaster Management Authorities (PDMAs)

work for preparedness, relief and recovery. District

Disaster Management Units (DMUs)

formed which helps to contact and link communities to national structure. Together with these

institutes many other institutes

like Pakistan Meteorological

Department (PMD), SUPARCO

for digital satellite-based monitoring.

Additionally civil defence, armed

forces and humanitarian organization

like Edhi foundation and

Pakistan Red crescent Society

Play a major role in relief and recovery. These institutes can save future generation if work properly. As Ban Ki Moon aptly said:

"Building resilience is not just to save lives - it is about securing the future of generations to come"

Although Pakistan have disaster management framework but it is facing many challenges which reduce their efficiency and it weaken the infrastructure of these institutes. There are following major challenges that Pakistan disaster management faced.

The major challenges faced by Pakistan in disaster management is institutional fragmentation and poor coordination among NDRM, PDMA, DMRM's. As National disaster

Management Act 2010 laid the foundation of these institutes

which works to reduce disaster risk and relief. But poor

coordination and bad governance weakens these institutions and these institutes have only reactive

or recovery approach. Floods like 2022 expose their weakness

when many people died because of no management of timely evacuation and 33 million affected

despite presence of federal,

provincial and district level disaster management authority

The Annual Report of NSMA in

2024 admit that inter-agency coordination remain weakest link

in national disaster governance

In 2025 recent flood also shown the fragmentation of

these institutes and many

people evacuated from affected

areas. and But the role of district and local bodies remains minimal in saving these people from flood. The bad governance in these institutes damage the framework of the disaster management system. Now Pakistan's disaster management remains a patchwork rather than cohesive strategy. As Kofi Annan, former Secretary general of United Nation said;

“Good governance is the single most important factor in eradicating disaster vulnerability.”

The second major challenge faced by Pakistan disaster management in their reactive relief-focused approach rather than risk reduction or preparedness. Pakistan's disaster management institutes failed

in organizing well-planned policies to reduce the disaster risk.

They only focus on the relief approach when country hit by any disaster that is out-dated and pathetic approach and risk the life of million people of Pakistan.

This relief focused approach is prove by the budget allocation of NDMA, in which 70% of the budget is for relief and recovery purposes, only 15% of the budget is for preparedness and mitigation.

The budget allocation expose the seriousness of the authority to reduce disaster's risk. Resultantly, the flood of 2010, 2022, 2025 shows the vulnerability of these authorities poor policies when they only focus on short-term emergency.

Services rather than rebuilding infrastructure and livelihood.

The countries like Bangladesh now focus on risk reduction

Policies through community-

Service training but Pakistan

merely rely on relief approach

True resilience as the

Sendai Framework (2015- 2030),

a global framework stresses

lies not in "responding to

disaster" but in "Preventing

new and existing disaster risk

reduction".

Along with poor policies

of NDMA, PDMR in Pakistan also

faces out-dated warning system.

Poor warning system lead

to poor and slow response

to any disaster. Pakistan is

facing challenges in technological

advancement. So due to reliance

on out-dated technologies

the catastrophe greatly impacted on Pakistan. Pakistan Meteorological Department (PMD) still rely on out-dated rely radar system.

They have not advance digital satellite which limits them to share accurate data timely countries like Nepal using modern technologies to share data digitally and quickly.

warn the communities through mobiles. But in Pakistan 2022

flood poor warning system was inefficient and did not provide exact water data which affected and displaced millions of people. Recently during 2025 flood, Pakistan water sharing data according Indus water treaty (IWT) was suspended and Pakistan rely on Chinese

satellite technology for data sharing. This shows the vulnerability

Pakistan warning system. Pakistan Partnership with SUPARCO and International agencies like the World Bank's "climate resilient Pakistan" (2023) initiative as positive step - but unless predictive modeling, GIS mapping, and digital data network are fully integrated, early warning remains a failure.

One more major challenge faced by Pakistan's disaster management is poor... urban planning. The disaster risks stems from chaotic expansion, poor planned infrastructure and building deforestation and encachment on riverbeds. As seen in 2020 monsoon tragedy in Karachi due to poor drainage system which clogged and caused urban flooding. In 2022, Sindh was heavily damaged

because of poor planning poor infrastructure into and caused loss of Recently 2025 flood on riverbeds displaced when river passed its path and affected devastated 6 million approximately. Deforestation one of the major soil erosion. The H. frequently and deforestation pole cause which increases the of glacial lake outflow (GLOF) in so now ^{only} integrated afforestation can reverse tragedy. as the saying "When you build Planing ^{no} you in Wrath, by the

because of poor planning and poor infrastructure ^{urban} intensity flood and caused loss of millions.

Recently 2025 flood, inundation

on riverbeds displaced largely

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devastated 6 million people

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one of the major cause in

soil erosion. The Himalay melt

frequently and deforestation in

North pole causes soil erosion

which increases the frequency

of Glacial Lake out-burst

Flood (GLOF) in north pole

so now ^{only} integrated planning,

afforestation can reverse the

tragedy. as the saying goes,

"When you build without

Planning, you invite nature's

Wrath by design."

The fifth most important challenge faced by Pakistan disaster management is limited resources, political instability and bureaucratic inefficiency undermine the long-term resilience from disasters. Every year fiscal budget is slashed and decrease the budget of disaster authority which cripples the institutions to work properly. According to the World Bank's "Resilient Recovery Project 2023", highlights the post-disaster management underfunded by 11 billion dollar during 2022 floods. As Pakistan heavily rely on foreign aid and UN which further weakens its self-reliance and efficiency. Majorly political instability caused in changing authorities of NMA, PDMN frequently which further deeper

the gap of well-planned and resilience policies formed by these institutions. The bureaucratic inefficiency, red tape culture politicization of relief distribution erode public trust. True progress demands consistent political will and well-planned policies to reduce the disaster risk.

As Allama Iqbal said,

"Nations are born in the hearts of poets, they prosper and perish in the hands of politicians."

So too does Pakistan rise or fall resilience with its leadership, vision and commitment. Pakistan needs a quick and efficient response to all these challenges if Pakistan want to flourish and turn its vulnerability into resilience. Here are following way forwards for Pakistan's

disaster Management

The first foremost step

taken in disaster management

is for effective disaster governance

is strengthening vertical and

horizontal coordination among

NDMA, PDMA, DPMU's and other

local bodies. ~~The NDRMF~~ ~~is~~ ~~not~~

must be enforce with clear authority and accountability.

The accountability of all the

official must be checked

for effective and proper working.

The 2022 floods shows

the poor coordination among

the authorities which costs

lives of millions so now

Pakistan shift its structure to

proper coordination to save

future generation. The NDMA

is federal body its work

merely not only in relief

or budget allocation it must

oversight the provisional authorities and its binding must be legal which enforces other bodies to work properly.

Additionally disaster management training exists for civil servants and other officials to cope with any emergency situation. As the UNDP's 2024 report notes,

Resilient institutions are the first responders of modern states".

only through empowered and accountable structure can disaster transform Pakistan's vulnerability into resilience.

The second major step must be taken by Pakistan disaster management to shift its focus from post-reactive approach to pre-risk reduction approach, aligning

good

if

with Sendai Framework

(2015-2030), principle of

"Build Back Better". This

requires a hazard mapping

community-based disaster manage-

ment program. The CBDM

Programs are very effective

in risk reduction transform

people to victims to responders

like in Bangladesh cyclone

Preparedness, training could reduce

90% of fatalities in

last two decades only. The

community training and public

awareness is most important

Step in risk reduction as

in 2025 flood, on 15

August, a principal Saeed

Ahmed from Swat saved

900 student by timely

evacuating school in only

15 minutes. The time taken

Step saved 900 lives.

This is the importance of the community awareness. The National authority of Pakistan (NAP) 2023 now focus on the approach of pre-risk reduction approach. The true knowledge and drill of disaster management shows when the villages of Baloch and Sindh know what to do when siren walls. As Henry Kissinger observed,

“The task of the leader is to anticipate crisis, not to react it.”

Third most important step taken by Pakistan disaster management is the updated and new early warning system. Now Pakistan has to shift from old radar system to modern satellite like system,

AI forecasting, timely data sharing at community level. The NDMA, PPM, and the SUPARCO has to coordinate strongly and share data in no time with citizens to reduce the risk of disaster. Lesson learnt

From Japan Meteorological agency which uses real-time public alerts through mobile apps, sirens and automated messages. Pakistan's ~~authorities~~ needs to ~~coordinate~~ like this and forecasting the flood, earthquake, and drought and adopt pre-risk reduction measures to reduce the damage.

As World Bank supports Pakistan resilient climate approach (2023), this program already lays the foundation of this transformation through digital hydrological mapping

and GIS base flood modeling
so now requires is local level
connectivity ensuring that information
reaches district official and
citizen within a minutes.

In the words of UNDRR
(2023),

"An early warning that fails
to reach the people is merely
a whisper before a storm".

Promote climate resilient
infrastructure is the most
important and fourth step

should be taken by Pakistan.

disaster management if want
to build resilience, without
proper infrastructure it is

not possible to reduce the
risk of disasters. There must

be strict monitoring on

future development in construction,
the housing colonies building
must be on strict resilience.

codes approved from disaster management. There must be ban along encroachment on river-beds and drainage system so the flood water flows properly in future without causing devastation. Large scale afforestation must be introduced as Ten billion tree tsunami project which can reduce the soil erosion and reduce the risk of Glacial lake outburst flood at north pole. The Asian Development Bank's 2020 report highlights that 1 \$ investment in resilience infrastructure saves \$ 6 in post-disaster destruction. By turning climate adaptation into economic policy, Pakistan must ensure that future of Pakistan withstand with nature's tests. As environmental

Wangari Maathai Said,

"The generation that

destroys the environment

is not the generation that

pays the price?"

The 5th and ~~the~~ most

important step in disaster

management is financial stability,

political stability and will, and

transparent governance to

implement long term resilience

Strategies for disaster. No management

strategy can succeed without

political will and financial

stability. So this need to

be addressed most importantly.

Pakistan must create a

National disaster resilient

fund, climate resilient fund,

green climate fund to

stabilize its financial structure

As the World Bank reports,

"Resilient Recovery Project" 2023,

stressed the need of domestic funds to reduce aid dependency

Additionally political stability is required. The NDMA must be free from political pressure to implement and formulate policies for disaster management.

The transparent system should be introduced at national, district and local level which can increase public trust.

So the policies should formulate before the disaster as Ban Ki Moon reminds us.

“Resilience not build in the heat of crisis – it is cultivated in the calm before it”

So Pakistan survival is now based on the strength of the institution. Political stability. These can turn Pakistan's from vulnerable to resilient nation.

Disaster longer isolate national test foresight, and the disasters devastation m Lessons from and recently the Pakistan weaknesses. incl poor coordination out dated ea and lack of turns hazards crisis. Yet, w lies an oppo Stronger Pakistan at pivotal it should transform modern technol policies of inc Proper infrastru Stability in

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Disasters in Pakistan is no

longer isolated tragedie

s but a national test of governance,

forsight, and resilience. Although

the disasters are natural but

devastation made is man-made

Lessons from 2005, 2010, 2022

and recently 2025 flood expose

the Pakistan disaster management

weaknesses institutional fragmentation,

Poor coordination, poor policies,

out-dated early warning system

and lack of political will

turns hazards into humanitarian

crisis. Yet, within every crisis

lies an opportunity to rebuild

Stronger Pakistan is now stand

at a pivotal moment where

it should

transform into adapting

modern technology, well-planned

Policies of institutional framework,

proper infrastructure, and political

Stability in disaster governance

needed for survival. As Pakistan align with Sendai Framework and Paris agreement, it must realize that resilience not begin in relief camps but in classrooms, councils and cabinet.

True disaster management is not about counting losses - It lies about cultivating foresight.

"Then rise from dust, O' nation worn and torn,
Let every flood remind - the dawn is born"

Pakistan's destiny depends not on the storms it faces but on the strength it builds before they come.