

Recent Climate Calamities in Pakistan Call for Disaster Management Reforms and Institutional Building

1. Introduction:

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Flaws observed during the recent climate calamities have compelled the policymakers to introduce reforms in the current disaster management system. Response centered approach, poor coordination, lack of funds, absence of local governments and over-reliance on foreign aid has exacerbated the crisis. However, effective policy measures can improve disaster management capability of Pakistan.

2. An overview of the climate calamities and disaster management framework:

3. Recent Climate Calamities in Pakistan and their impact:

a) Extreme climatic conditions are threatening food security in Pakistan

b) Agro-based economy such as that of Pakistan is most vulnerable to climate change

- c) Heatwaves have cascading impacts on ecosystems, agriculture, and water supply.
- d) Recent Pakistan floods: a health crisis of epic proportions.

4.

Flaws in the disaster management framework and calls for reforms:

- a) Recent floods and wildfires in Balochistan has exposed the flaws
- b) Lack of political will to shift from a response-centered approach
- c) Shortage of financial resources to acquire machinery and equipment, and to train manpower
- d) Lack of pre-event forecasting and preparedness
- e) Non-existence of empowered local governments and district level disaster management systems
- f) Poor coordination and communication among state's disaster management structures

5.

A few recommendations to enhance the disaster management capability of Pakistan:

- a) Integration of disaster risk reduction in sectoral policies and local development plans
- b) Local government is a crucial cog in the disaster response wheel

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c) Strengthening of flood forecast systems with the extensive use of technology

d) Effective coordination mechanism among the key disaster related institutions to avoid duplication and enhance cooperation

Conclusion:

Recent Climate Calamities in Pakistan Call for Disaster Management reforms and Institutional Building

Flaws observed during the the recent climate calamities have compelled the policy makers to introduce reforms in the current disaster management system. Response centered approach, poor coordination, lack of funds, absence of local government, and over-reliance on foreign aid has exacerbated the crisis. However, effective policy measures can disaster management capability of Pakistan. The recent catastrophic floods in Pakistan, droughts in Sindh and Balochistan, and the early summer wild fires in Balochistan have risen questions on the disaster management framework of Pakistan. Policy failures as well as structure failures during these calamities have initiated a new debate to bring reforms. For instance, an effective disaster management framework involves four distinct components: mitigation, preparedness, response and recovery. Unfortunately, in ^{the} case of Pakistan, few structural flaws in the system have ~~failed~~ resulted in failure to mitigate the socio-economic impact of these

disasters. The foremost weakness in the disaster management system of Pakistan is the lack of political will to shift from a response centered approach towards more preemptive measures. Similarly, shortage of financial resources to acquire machinery and equipment, and failure to meet the training expenses of workers is another shortcoming. Moreover, lack of pre-event forecasting and preparedness, non-existence of empowered local governments and district ^{level disaster} management system is aggravating the crisis. In addition to that, poor coordination and communication among state's disaster management structures makes the whole system less effective. However, some effective policy measures, if introduced, can be beneficial to enhance the disaster management capability of Pakistan. Integration of disaster risk reduction in sectorial policies and local government plans can be some preemptive measures to counter climate related disasters. Similarly, introducing local governments, strengthening of flood forecast system, and effective coordination mechanism can pave the way for improved coordination.

Despite chequered history of climate induced disasters in Pakistan, successive policy makers have failed to introduce an effective disaster management system. Since its independence in 1947, Pakistan has witnessed 28 super riverine floods, affecting 616558 square kilometers of land and snatched lives upto 13262. Additionally, it caused losses of 39 billion to the national expenditure (Dawn, "Pakistan's history of disasters and the lessons we fail to learn", August 31, 2022). Nonetheless, various steps have been taken to address this issue, such as the establishment of National Disaster Management Authority and its provincial counterparts. However, its policies could not be fully implemented and its approach is more reactionary than pro-active. Conversely, Damon P. Cappola writes in his book, "Introduction to International Disaster Management," (2006), that an effective disaster management has four distinct components: mitigation, preparedness, response and recovery. Therefore, lack of these transform a traditional hazard of floods into a horrendous disaster as seen in recent times.

Recent Climate calamities have vastly impacted the lives of the Pakistani people. Extreme weather conditions such as more than average rains, heatwaves, and unprecedented droughts, ^{have} exacerbated the food crisis in Pakistan. Torrential rains in 2022 have pushed the country to the brink. According to "International Rescue Committee" data (September 2022),

3.6 million acres of crops have been destroyed and 800,000 livestock have died. Similarly, economic loss due to the floods stands at an enormous \$40 bn. This is in a country reeling from steep inflation of almost 25 percent. Consequently leading to enormous pressures on food systems. Rapid government action is required to avoid lawlessness situation in the country.

(Aljazeera "Floods are tipping Pakistan into a food crisis", Oct 2022) Therefore, steps should be taken to minimize the impact of climate change on food supply and agro-industry of Pakistan.

Unfortunately, agro-based economies such as that of Pakistan are most

vulnerable to climate change. Climate induced disasters like the torrential rains in 2022, damaged critical infrastructure, crops, and informal agricultural markets. Additionally, loss of agricultural land and unavailability of fodder deeply disturb the farmers, daily wagers and agricultural labourers. In Pakistan 23 percent of gross domestic product (GDP) is created by agricultural sector. Almost 6 million acres of kharif crops have been affected, largely in Sindh. The national poverty rate may increase by 3.7 to 4 percentage points potentially pushing between 8.4 million and 9.1 million more people below the poverty line (Voice of America, "Study: Pakistan Flood Damages, Economic Losses Exceed \$30 Billion", Oct 2022). Hence the government should address the immediate challenges spawned by the floods and introduce long term plan to avoid losses to the GDP in future.

Similar to floods, heatwaves not only damage agricultural growth but also have cascading impacts on ecosystems and water supply. Severe heatwaves exacerbate the energy crisis, impact crops and cause unprecedented glacial lake outburst

Floods, which have devastating effects on the socio-economic spheres of a country. Turbat in Pakistan's Balochistan have repeatedly hit almost 50°C during the early summer heatwaves in India and Pakistan. People's miseries exacerbated as they were unable to work except during cooler night hours. Moreover, critical water shortages and extensive load shedding hours added to the crisis. Likewise, Jacobabad city of Pakistan hit 49 in April making it one of the highest April temperatures ever recorded. In addition to that apple and peach harvests have been decimated in district Mastung.

(The Guardian, "We are living in hell: Pakistan and India suffers extreme spring heatwaves" May 2022) Even though climate calamities cannot be fully avoided in the ~~long~~ short term, however, their impact can be reduced by providing relief to those affected.

While, heatwaves are responsible for ecological disruptions, the recent floods in Pakistan is a health crisis of epic proportions. Flooding directly and indirectly affect human health in both the short and long term. It can strain health services

due to damaged infrastructure, loss of health professionals and access to medicine. Additionally, waterborne diseases and vector-borne diseases come about during the event of flooding. Moreover, the ongoing disease outbreaks, including acute watery diarrhoea, dengue fever, malaria, polio, and Covid 19 are being further exacerbated aggravated, particular in camps and where water and sanitation facilities have been damaged. Additionally, Pakistan has so far reported 20 cases of wild poliovirus in 2022, which in 2021 was only 1. (World health Organization, "Major health risks unfolding amid floods in Pakistan", August 2022). Thus it clearly depicts the worsening situation of health crisis due to climate change, which can be only handled by curing the flaws in the disaster management system of Pakistan.

Flaws in the disaster management framework should be tackled by introducing critical reforms. The recent floods and wildfires in Balochistan has badly exposed the shortcomings in the disaster management system of Pakistan. According to (The Diplomat, "The anatomy

of Pakistan's 2022 Floods", Oct 20, 2022),
When rains in June began to inundate
villages, logistically the country was hardly
prepared. It took at least two months for
Pakistan to accept the scale of destruction
and loss. In addition to that, when the
government issued an alert declaring this year
floods a "national emergency" it was already
late. In the same manner, wild fires in
the Koh-e-Sulaiman in mid May, inflicted
billions of rupees losses on the local
communities and reduced millions of trees
to Ashes. As the forest continued to burn,
after 13 days, the fire was extinguished
with the help of an Iranian aircraft.

This shows the abysmal situation of
the disaster management system. In order
to avoid such calamities in future there
is a need for a shift from response
centered approach to more proactive policies.

Undoubtedly, political will to ~~do~~
shift from a response centered approach
to disaster management, towards pre-planned
measures is the core issue in the disaster
management framework of Pakistan. This approach
benefits political leaders. They are seen as

saviours championing relief initiatives and handing out rations to the affected. In the response-centric approach, government spring into action after a disaster, providing rescue, relief and rehabilitation support. This approach has contributed to the unfolding of a monumental humanitarian crisis and has led to ~~the~~ extensive losses to the economy. (Dawn, "A Flawed Approach", Sep 17, 2022)

Thus, lack of will to change policy measures not only brings catastrophe, but also makes the system ineffective to deal with future crisis, as there is no priority for the funds allocation.

In addition to that, there is a shortage of financial resources in the disaster management system of Pakistan. It has ^{been} struggling to acquire machinery and equipment required during the crisis, also funds to train manpower are meagre.

According to a report, (Asian Development Bank, "Narrowing the Disaster Risk Protection Gap in Central Asia", September 2022), Pakistan currently needs to enhance the current disaster risk finance approach as risk retention mechanisms are insufficient to cover the losses associated with even the most frequent of floods and earthquake events. The report further

mentioned that the Federal government "has limited contingency funding of around \$15 million - \$20 million to respond to national emergencies. Therefore the meagre quantity of funds hampers the rehabilitation processes during a crisis. It also does not allow government to adopt modern methods for pre-event forecasting and preparedness.

~~Lack of pre-event forecasting and preparedness~~ aggravates the impacts manifold. Early warning system allows vulnerable communities to avoid or reduce risk. It is an integration of four main elements - risk knowledge, monitoring and predicting, disseminating information, and response. It is required to improve preparedness and response.

Unfortunately, in Pakistan, despite the announcement of National Multi-Hazard EWS Plan in 2012, its implementation is still a far off dream. According to, (Daily Times, "Disaster Risk Reduction: Early Warning System", Oct 2022), the total cost of implementation of the DRR plan was USD 1040.90 million.

After 10 years the plan is partially implemented. The recent floods have badly exposed ill-preparedness in the worst possible manner. Therefore EWS as envisaged in the National Multi-Hazard

EDNS Plan 2012 should be implemented at the earliest. This is further worsened by the absence of local governments and district level structures.

Non-existence of empowered local governments and district level disaster management system makes the whole disaster response and preparedness plan less functional. It is because, local governments are the first interface between natural calamities and communities. Local councillors and local governments have a stake in prevention and response strategies due to their local electorate. Similarly, district level disaster management authorities remain dormant and non-functional in most districts. Mostly, DMAs are treated as mothballed bureaucratic setups. They suffer from ownership and lack of accountability. (Down, "Managing disasters", October 2014)

Moreover, Pakistan is a signatory to the Hyogo Framework of Action, which places great stress on the involvement of local-level involvement in disaster preparedness and response. Therefore it is the need of the time to reform local government structures for bridging the gap between the rulers and the ruled, and

to improve coordination and communication. Sadly, poor coordination and communication among the state's disaster management institutes have worsened the recent climate crisis. Coordination is a critical factor in successful organization and appropriate response to disasters. According to (Dawn, "Call to boost disaster management coordination", 2018), the National Disaster Management Ordinance, 2006 and the National Disaster Management Act, 2010, fail to identify and define ~~key~~ relationship between key disaster related institutions. This leads to high level of duplication and poor coordination among the disaster management structures. Therefore, introducing reforms in the current structure is mandatory to avoid future calamities.

Even though, the picture looks grim but there is always a light after the darkness. Here are few reforms to improve the disaster management capability of Pakistan. In order to improve the current framework, integration of disaster risk reduction ~~#~~ in ~~need~~ of the ~~best~~ sectoral policies and local development plans is need of the hour. Risk is a must and inseparable part of economic activities and development. Therefore

Integration of risk reduction must be driven from within key development sectors to ensure that specific sectoral vulnerability can be assessed and risk management institutionalized in the policy making, planning, project cycle and investment planning processes (United Nations Office for Disaster Risk Reduction, "Disaster risk reduction integrated in development planning and budgeting," 2013) Hence, integration of disaster risk reduction should be prioritized as it plays an important role in strengthening the socio-economic resilience of the local communities.

Additionally, Local government is a crucial cog in the disaster response wheel. A working local government system in Pakistan can revolutionize governance and leave inextinguishable problems well treated. Where policies may be enunciated at the center, part of the agenda and its implementation can be done by local governments. Moreover, local governments are also an important actor when it comes to providing up-to-date, real time information that allows for effective and quick decisions which are especially needed in times of disaster. (Pakistan Today, "On local governance and

effective disaster management" August, 2022)
 Also, lack of planning and preparation
 main action and efficacy, which can be
 solved through local government system.
 Hence, it necessitates the institutionalization
 of effective local bodies which if meaningfully
 operationalize can truly unleash sustainable
 progress and development, and revolutionize
 the disaster response framework of Pakistan.

Not only this but strengthening
 of flood forecast system with the extensive
 use of technology can play a major role
 in effective disaster management preparation.

Effective flood forecasting and early warning
 system plays crucial role in enhancing
 system's predictive capacity. Currently,
 flood forecasting and early warning
 system has limited predictive capacity.

According to (Metrian University Research Journal of Engineering
 and Technology, "Flood Management Current State, Challenges and Prospects in Pakistan" (March
 A Review 2018)

Though considerable strengthening of flood
 forecasting has been done by improving and
 adding weather radars and telemetric system,
 in some areas forecasting is difficult
 because of insufficient monitoring equipment.

Therefore, in order to improve flood forecasting

Funds should be allocated on priority basis for technology acquisition.

Last but not the least, effective coordination mechanism among the key disaster related institutions should be established.

It helps in avoiding duplication and enhances cooperation. To put it in a perspective the establishment of National Command and Operation Centre (NCO) can be taken as a case study.

It was established through an executive order for integrated response towards the Covid-19 pandemic. It was internationally acknowledged for its decisive, quick and collective action in controlling the spread of pandemic.

It proved that good governance, adoption of information communication technology, and bringing all stakeholders under one administrative structure can play an effective role in managing a crisis. It not only supported the government in implementation of policy measures but also, assisted the government in uplifting the socio-economic ~~that~~ conditions of the

people. (Journal of Politics and International Studies, "Integrated Response to Covid 19: A Case of Good Governance in Pakistan", June 2021)

Therefore, there should be another national

body like NCOC, which would contribute positively in the national resilience of the country towards disasters.

The weight of the evidence suggests that the recent climate induced disasters has alarmed the stakeholders to reform the incumbent disaster management structure. Since, climate threatens every aspect of human life, from food availability to economy, health and ecology, therefore the vital reforms should be made. Basic imperfections like the recent floods and fires brought to notice, should be eliminated. Most importantly, lack of political solutions ~~and changes in approach~~ to change traditional approaches towards new policy measures should be prioritized. Moreover, the meagre quantity of funds should be increased to counter future calamities by acquiring modern equipment. Also, priority should be given to the early warning systems and establishment of empowered local governments which are missing in the current structure. Lastly, the major flaw, which is less connectivity and collaboration among the disaster management institutes should be corrected.

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However, every problem has a solution, same is the case with the current disaster management structure. It can be improved and revolutionized into an epitome of success, which Pakistan has done before in the shape of NCOC. By ~~employing~~ effective plan of actions like empowerment of local government system, adoption of modern technological practices and establishing a well coordinated structure Pakistan can come out of this crisis.

