

Topic :-

Disaster Management in Pakistan: Challenges and Wayforward

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The Essay

"The planet is continuously sending angry text messages through floods, heat strokes, famine and water scarcity - but we are ignoring them at our peril." Pakistan has been facing the anger of Earth through food insecurity, water scarcity, frequent floods and seasonal heat waves but unfortunately we have been neglecting those issues. The 2010, 2022, and 2023 floods are evidences for the nation's indifference

towards climate change. In 21st century, most of the disasters are due to anthropogenic activities. This includes intense deforestation, unplanned mining practices, inefficient irrigation practices and the list goes on. Such malpractices have then consequences which were faced by Pakistan in form of 2010, 2022, 2023 floods, and 2017, 2022 heat waves. Other kinds of disasters faced by Pakistan are water scarcity, intense population growth, food insecurity, sea level rise. This essay will discuss the disasters of Pakistan and its management along with its challenges and measures to mitigate such fallacies.

Pakistan is geopolitically located in South Asia with its southern borders touching the Arabian sea. This location makes it highly prone to floods when sea levels rise due to melting of Himalayan glaciers. Furthermore, it has a population of over 250 million making it one of the most populated country in world which further result in issues such as food insecurity, housing issues and global warming. This further leads

to problems such as unplanned and unregulated groundwater consumption leading to sinking of various areas. Karachi is sinking at ^{rate of} 6mm per year due to unregulated groundwater consumption according to a report by UN water. Disasters like this are multiple which will be discussed in following paragraphs but the irony is Pakistan's government and population are turning eyes from such major issues. When an intense disasters hit Pakistan, there is a media hype but for a temporary course of time. Even that is some times silenced by reactive and short term policies of government such as giving aid to the affectees. Such practices can have a beneficial results for a moment but for longterm results, effective and scientific understanding and policing is necessary.

In this essay, challenges for disaster management in Pakistan will be discussed first followed by measures to improve its management.

Therefore, beginning with one of the major challenges of disaster management in Pakistan which is bureaucratic inefficiency. Our institutions are engaging with international

organizations and holding conferences on big issues such as climate change while ignoring the root causes of those big issues. This resultantly makes ^{even} the few steps taken by government ineffective. Their example is like a boat taken on water while the captain argues about deck color - time sensitive action is missing. This could be understood by the NDMA's inefficiency at home while authorities attending Conference of Parties (COPs) internationally. Hence, for effective management of disasters it is imperative to solve the grassroot causes of disasters so that the risk could be reduced.

Additionally, a second major challenge to Pakistan's disaster management is fragmented communication system. Pakistan - being a third world country, has limited networking system. For example, network signals drop far flung areas, villages and other remote areas. Communities in such areas are highly vulnerable to sudden disasters such as floods, earthquakes and land slidings. This is due to multiple reasons like delayed or no early warning systems, authorities' negligence or

sometimes community's itself ignorance. The landslidings in Hunza and Chitral in 2025 resulting in displacement of thousands of people is an evidence that how lack of communication have serious consequences. Therefore, streamlining communication networks to prevent from future prospects of such disasters is vital in Pakistan.

Another important challenge of Pakistan's disaster management is the focus of governments on short term policing over long term results to avoid public's reaction. Historically, Pakistan's policing has been reactive rather than proactive which has made it prone to far-reaching consequences. When floods hit an area, or infrastructure collapses due to earthquakes or any other calamity hits, governments respond by giving aid abruptly and then forgetting about making policies to prevent further such catastrophes. The recurrent IMF bailouts taken by Pakistan to build infrastructure but ignoring the reasons for frequent collapse of infrastructure is an example that how governments ignore long term results for short term gains. This short sightedness must be fixed to avoid future disasters.

Moreover, paper industry is Pakistan's one of the major element of economic sector. But unfortunately paper production requires intense water, energy and other natural resources. According to FAO, 1 ton of paper production needs 24 trees, 100,000 litres of water and 4% of total industrial energy. Hence, in Pakistan, deforestation is done at a large scale to meet the paper demands of public. Cutting of trees lead to increased global warming, industrial emissions and other factory wastes further paving the way for disasters like floods, heat strokes and soil erosion. This is because trees are carbon sinks absorbing excess carbon of environment and also preventing soil from being eroded. But frequent deforestation makes Pakistan prone to such disasters. According to PARC, 10-20% of deforestation in Pakistan is done to produce paper. Hence, using alternatives for paper to reduce deforestation is beneficial to reduce disasters in Pakistan.

Pakistan's disaster management authorities such as NDMA, PDMA and other related institutions are grappling with outdated technology. Such obsolete

technology is of no use in today's world. Even if it is of some use, the machinery is in a miserable situation i.e. not workable at the time of necessity.

Updated technology includes efficient helicopters, early warning systems and other transportation systems but unluckily it is just a dream, being in Pakistan.

This lapse of technology could be understood by comparing the technological advancement of Pakistan's National Disaster Management Authority (NDMA) and America's Federal Emergency Management Authority (FEMA). FEMA's preparedness and efficiency was seen in 2025 floods in USA which rescued millions of people by early warning system and through its effective transportation system. Hence, it is important for Pakistan to integrate latest technology into its disaster related institutions to mitigate future consequences of disasters.

Lastly, the most important challenge towards disaster management is the communal indifference towards disasters. Small actions lead to bigger consequences. Pakistani people's small mal practices lead to bigger disasters but the nation is continuously paying deaf ears to the alarming situations.

Throwing garbage at public places, forming informal settlements, excessive water wastage, and malpractices in agricultural ^{sectors} all collectively lead to bigger issues such as water shortages, global warming and land area sinking. One of such communal indifference is evident through the practices of timber mafia of Pakistan which is continuously cutting trees from forests at unprecedented rates leading to floods and intense heat waves. Therefore civic education and strict accountability is necessary to reduce such practices and thus reducing disasters in Pakistan.

Above were few of the challenges that ~~were~~ ^{being} faced in Pakistan in management of disasters. Now, measures to reduce such challenges are discussed.

Afforestation is the most practical solution for managing disasters in Pakistan. Trees are the lungs of earth, breathing in CO_2 and releasing oxygen to the environment and hence reducing global warming and heat strokes. Also, they prevent soil from being eroded from surface of land thus preserving nutrients for agricultural practices and reducing the risks of food insecurity. Afforestation also

tend to cooling the Earth's temperature upto a certain level. Khyber Pakhtunkhwa governments initiative of "Billion Tree Tsunami" is an excellent example of planting trees for reducing disasters. Moreover, "Monsoon Tree Plantation Drives" by Pakistan Tobacco Company is also an excellent effort for mitigating disasters. Hence, continuously planting trees to restore the original essence of land and ~~re~~ so reducing disasters is imperative.

Secondly, adapting "zero paper policy" to avoid deforestation is also highly helpful. Paper production is highly energy intensive process requiring millions of trees, thousands of litres of water and other resources which require practices that lead to disasters. But adapting zero paper policy would reduce such exercises and ultimately leading to reduced disasters. Pakistan's State Bank's and other few commercial bank's initiatives of paperless workflows resulted in efficiency and transparency and contribution in reducing deforestation at the same time. Another example is Singapore's zero paper policy in administrative sector which has resulted in administrative efficiency and transparency, while also

reducing paper production. Thus, shifting to online working, e-statements and cloud storage is advantageous to reduce paper demand and so reduce deforestation.

Another important step towards mitigating disasters and improving its management is converting to renewable energy systems. Fossil fuels, and nuclear energy are non-renewable energy sources which contribute to 85% of Pakistan's total energy among which 90% of oil is imported for foreign countries.

These sources are not only expensive for distorted economy of Pakistan but also result in harmful emissions which further lead to global warming and green house effect. Therefore, shifting to renewable energy sources such as solar energy and wind energy is not only cost-effective but also environment-friendly - reducing the risks of disasters. Morocco's

Noor Solar Programme and China's Renewable Energy Revolution are excellent models of how shifting to renewable energy enhances environmental progress.

Thus, shift towards renewable sources such as solar panels is highly beneficial for people as well as climate of

Pakistan because, after all solar charges nothing; but WAPDA charges everything.

Adding to above points, water recycling is also an effective step towards reducing the disaster of water scarcity. According to UNDP, Pakistan is 5th most vulnerable country in world among water stressed country and if the situation remains same, it will officially enter from "water stressed" to "water scarce" country by 2030. Therefore, considering the situation of Pakistan, circular use of resources which include reusing, recycling and regenerating is highly beneficial for preventing country from future water crisis. In this regard, Singapore's NEWater Recycling Programme model is highly useful for Pakistan to take lessons and build infrastructure and policies accordingly. Hence, for Pakistan water recycling is not an option, but necessary to reduce future risks of water crisis.

Moreover, efficient agricultural practices would also be beneficial in reducing the disasters in Pakistan. Pakistan is an agricultural country with 23% of its GDP relying on agriculture and approximately 40% of employments.

But being an agricultural country does not mean to cut forests to use the land for agricultural practices. It also implies not to waste water. According to PARC, approximately 60% of water goes to waste during irrigation because of outdated practices. This involves seepage, pipe leaks and evaporation. But this could be prevented using efficient technology such as drip irrigation or sprinklers. Thus, in this way, a considerable amount of water could be stored and hence preventing the disaster of water crisis.

Last but not least, the most important step in reducing disaster management is engaging communities in mitigation programs. Instead of mere giving them services, actively engaging locals in initiatives like plantation drives, civic education programs could give a longstanding benefits. By inculcating civic responsibility and morality in communities it would be a lot easier to reduce the future prospects of disasters and also facing the calamities efficiently. Educating communities about impacts of unfavourable

practices and initiatives for reducing such steps could be considerably advantageous in reducing disasters in days to come. In this regard, Bangladesh's community based early warning system and awareness programs could be taken as example which has led to significant reduction in economic and human losses. Therefore, engaging communities in such programs is beneficial to manage aftermaths of disasters.

In conclusion, Pakistan is a country which is highly prone to disasters due to its geopolitical location, over-population, bureaucratic inefficiency and outdated and fragmented communication system. Furthermore, institutional short term planning and policies have exacerbated the issues of disasters in Pakistan. Pakistan's nation is also indifferent towards recurrent messages of mother Earth. This has resulted in frequent catastrophes. To overcome such challenges, various measures have to be taken. Because as the Native American proverb goes, "we do not inherit Earth from our ancestors; we borrow it from our

children," to make Pakistan livable and disaster free it is a moral obligation on present generations to take steps to reverse the impacts of their own actions. This could be done by planting trees and avoiding deforestation to reduce the risks of floods and heat waves. Conserving water and its responsible use is also vital to prevent excessive wastage. Also, adopting efficient agricultural practices to reduce water loss while enhancing crop yield to meet demands of people is necessary. And at last, engaging communities and educating them about reducing risks of disasters and its effective management is imperative. After all, knowledge and education is the best of things a person can gift to others. By adopting above mentioned measures, the time is not far when Pakistan could be a global exemplary model of managing disasters and reducing its risks.

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