

# Disaster Management

## Essay Outline

Introduction: Two kinds of disasters\_ predictable and unpredictable\_ Science of Disaster Management guides to predict and control the damage.

Main body: Famine was the disaster of the past\_ Was managed with development of means of communication\_ Opening up of irrigation works\_ development of agricultural techniques\_ Bengal famine was purposely created by the British. No famines after Independence\_ Earthquake of 2005 and Indus flood of 2010\_ Caused vast damage\_ Disaster Management to be learnt and put into practice.

Natural Disaster Management Authority (NDMA): created by Pakistan government to deal with disasters\_ Not well empowered\_ Scope to be widened\_ Should forewarn the coming of a disaster\_ Survey and prepare pragmatic report of damage\_ Recommendations to deal with calamities\_ Preplanning to meet the disasters\_ Give road map for rehabilitation of the displaced until they are resettled\_ Recommend to go ahead with the projects of national importance despite opposition\_ KBD must be built\_ Precedent of taming of China's Youngtze river and building a huge dam.

Floods as the result of global warming\_ likely to hit Pakistan every year\_ Disaster management to be done well in advance.

KBD in the best interest of opposing provinces\_ No fear of inundation\_ additional supply of irrigation water would be available\_ Cheap electricity to bring down inflation\_ Industry to benefit.

Conclusion: Indus now likely to bring floods every year\_ Disaster management in time\_ KBD only alternative\_ Three benefits: Flood control, additional supply of irrigation water, cheap electricity\_ No possibility of harm to any province.

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**Note: Please use this essay ie 'Disaster Management' in  
place of Floods and Kalabagh Dam**

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## Disaster Management

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Natural disasters that humanity has often faced in the past are of two categories. First that can neither be predicted nor stopped from coming, such as tsunamis and earthquakes, but damage done by them can be mitigated through proper management. There are other disasters equally devastating like famines and floods, which can be forewarned and their impact can also be alleviated through determined effort. Both need expertise, use of modern technology and an iron will to succeed. Disaster management is a well developed science that some international agencies have mastered by handling worldwide natural calamities. Countries that are frequently hit by such disasters should learn the essential management techniques through own experience.

### Deadliest disaster of yester years

There were times when 'famine' was the most feared and deadliest disaster that used to hit one or the other part of the subcontinent. Since the economy in those days was predominantly agricultural it depended entirely upon timely rainfall. Failure of the monsoons for two consecutive years, which was not an uncommon phenomenon, would set in famine conditions that would lead to death of people in millions. Unfortunately, there were neither any preventive measures in existence nor remedial alternatives to undo the fatalities caused by the famines. The frequency with which famines hit unchecked indicated that the rulers of those days were completely helpless and had no choice but to leave their subjects to destiny. Famines continued to come even after the arrival of the British who took pride in being good administrators. From 1850 to 1947, for instance, as many as eight large scale famines struck the subcontinent to devour 449 million humans. The last one was the great famine of Bengal of 1943 and 1944 that took toll of human life to the extent

of about 71 million. A queer dimension of the famines of those days was that they did not witness any part of the regions that later fell to the lot of Pakistan in the west. But they had an intriguing aspect as well. With the departure of the British the advent of famines fizzled out almost completely with the sole exception of one low intensity famine that broke out in Indian Bihar during 1966 and 1967 without causing much loss of life. Famines faded out but disasters in some other forms like earthquakes, tsunamis and floods took over with equally devastating consequences.

In case of famines, the disaster management came into effect through improved rail and road infrastructure. It became possible to move foodgrains from prosperous regions to famine hit areas at short notice. The canal irrigation provided a dependable alternative to vagaries of nature that compensated for the uncertainty of the monsoons. However, in case of Bengal famine of 1943-44 analysts have always been critical of the British for having used the famine as instrument of policy to promote their imperial designs. This was inhuman. They willfully denied timely help to the suffering humanity in an area where the alien government thought people anti-British and excessively nationalistic. The government did not come to the rescue of the Bengalis and let them die of hunger in millions. One of the major reasons cited for this willful negligence was that the Second World War was at its apex and the Japanese were knocking at the doors of Calcutta. They had already subjected it to a few initial air raids in preparation to an all out invasion. Government's priority was to use railway's rolling stock to move its troops to counter the offensive of the enemy and not provision of lifesaving food stuff to alleviate hunger of the Bengalis. Moreover it was widely believed that the Bengalis were prone to welcome the Japanese under the leadership of Subhash Chandara Bose. The British strategy in this situation was that a famine struck land would be a liability for the invading forces and the Bengalis dying of hunger would not be able to resort to rebellion under Japanese flag.

Famine was a recurring feature of the life of the subcontinent. From 14<sup>th</sup> century to the 19<sup>th</sup> as many as 22 famines witnessed the country in which countless people died. But ever since Independence this disaster has so successfully been managed that the new generations

are absolutely unaware of the existence this curse. Apart from the availability of canal irrigation and quick transport facilities of food supplies from one place to the other, increase in the volume of international trade, application of chemical fertilizers, improvement in per acre yield, mechanization of agriculture, improved quality of seeds and better farming techniques have resulted in production of food-grains surplus to the local needs which can either be exported or shifted to food scarcity regions of the subcontinent or to the rest of the world under UN aid programs. Some African countries like Somalia faced famine conditions in the recent past but the international response under UN aegis was so quick that the grim situation was brought under control without much loss of life.

#### Extent of damage done by the twin disaster

Tsunamis and earthquakes are also natural disasters but unlike famines are too difficult to harness. Such natural disasters hit every county around the globe. The World Bank and the Asian Development Bank have mastered to handle them especially in view of their experience in dealing with calamities such as Bholia Cyclone of 1970 of former East Pakistan, the Indian Ocean tsunami of 2004 and Haiti earthquake of 2009, cyclone Nargis and the Kohistan avalanche and many other such disasters which provided them a lot of practical experience.

Hurricane Katrina hit the US coastline in 2005. Louisiana and New Orleans were the hardest hit areas. More than 1500 people lost their life and one million became homeless. An earthquake generated great Indian ocean tsunami in 2004. Giant forces that had been building up deep in Earth for hundreds of years were released suddenly on 26 December 2004. They shook the ground violently and unleashed a series of killer waves that sped across the Indian Ocean at the speed of a jet airliner. More than 150,000 people were either dead or rendered homeless in 11 countries making it the most destructive tsunami in history. Pakistan was hit by a massive earthquake in October 2005 and an unprecedented flood in 2010. These disasters affected 13.8 million people. The death toll was 1600 and about 46 million became homeless. Flood victims in one form or the other were 2crores. Estimate of crop damage was \$525bn, 17 million acres of fertile land was submerged, 2 lac heads



of cattle were lost, many roads were washed away and quite a number of bridges were destroyed. The floods were worst in the 100 years affecting 81 districts of the country. Several villages were completely wiped out.

#### **Devastation by flood of 2010**

According to one estimate the flood disaster had pushed the country back by 50 years in terms of infrastructure, electricity and communication. Hundreds of miles of electricity pylons and gas pipelines were destroyed and numerous power stations were flooded. Punjab was hardest hit. Crops were inundated and lost. According to a UN estimate floods displaced 20 million people out of which 6 million were children; 724,000 homes were destroyed. In Khyber Pakhtunkhwa 112 schools, 210 hotels and 137 bridges were swept away. The whole of Charsadda district and major portion of Nowshera was swamped. In Sindh upto 40 kilometres of Indus highway was washed away. Rough estimate of the loss of property and infrastructure amounted to around Rs 35bn. The number of people in Pakistan affected by floods could exceed the combined total of the Indian Ocean tsunami of 2004 and the Kashmir earthquake of 2005.

#### **Natural Disaster Management Authority (NDMA)**

Authorities were totally unprepared to deal with natural disasters of such a big magnitude. Pakistan relied a bit too much on the World and Asian Banks. Self-reliance was the need of the hour. In view of this a Natural Disaster Management Authority (NDMA) was created in 2007 with the objective of providing an effective natural disaster management system. However, it proved to be only a half hearted measure. The Authority could neither evolve any system to predict the coming of an earthquake nor could it take any preventive measure to manage the destruction caused by the floods. A similar Authority exists in the US which has been assigned well defined role. It caters for the employment of the individuals affected by natural disasters. It also coordinates with housing, agriculture and health departments to work for the rehabilitation of the displaced persons. Pakistan's NDMA makes no such provisions. Rather in the aftermath of the earthquake of 2005 the generous aid that came from international donors was misappropriated on such a wide scale that set new records

of corruption. The government as well as its agencies such as NDMA lost credibility and transparency in handling relief operations. It is, therefore essential that scope of NDMA should be legislated to cover disaster management on the lines of US Authority.

NDMA should perform its functions, as under:

One: It should work for pre-disaster hazard mitigation. The concept implies that the Authority should take action in advance to reduce risks to human life and property from natural disasters. It should recommend to develop new areas away from the high risk locations. Since major parts of Azad Kashmir, northern KP areas cannot be shifted for lack of space and people too are reluctant to leave the place of their forefathers, it should recommend construction of shock proof buildings extending generous monetary compensations.

Two: When disaster has struck, it should have plans ready at hand to reduce the human sufferings. It should have mandatory prerogative to mobilize para-military forces and should have enough funds in its kitty to launch rescue operations with authority and also to ask for additional resources.

Three: Its long term planning should foresee the coming of disasters and make suitable recommendations which the government should be duty bound to take notice of and initiate remedial measures well in advance. For example India is feverishly busy in building dams and reservoirs in Indian held Kashmir on the rivers Chenab, Jhelum and Indus and if Pakistan permits it to do so unchecked our rivers will run dry and Pakistan will be turned in to a desert.

Four: If a project is in the wider interest of the whole nation the recommendations of the Authority will be lawfully binding upon the government to go ahead with its implementation irrespective of the opposition of certain political leaders or the provinces. For example the construction of Kalabagh Dam is essential as a flood control measure and production of inexpensive hydel power but has been subjected to criminal delay for lack of consensus among the provinces on frivolous grounds.

Five: Whenever a natural calamity hits, the Authority should immediately spring into action to prepare a report giving true appraisal of the situation and not depend upon the surveys to be carried out by foreign agencies. The report should end up with

proposals for remedial measures. The damage should be repaired out of own resources and SOS call should be sent to the international community only, under extraordinary conditions. The Authority should itself undertake the responsibility of making pragmatic assessments of the loss of life and property by associating maximum possible NGOs and concerned government departments.

Six: The Authority would make sure the transparent use of foreign assistance. Any instance of corruption should be met with death penalty under the provision of an Act of the parliament. This provision will restore confidence and credibility of the aid giving agencies in the government of Pakistan as well as agencies working on its behalf.

#### Taming of Yangtze by China to control floods

The process of disaster management in respect of the tsunamis and earthquakes can possibly begin only when the calamities have struck and done the damage. There is no known technology to stop them from occurring. But the disaster of floods, just like famines, can be predicted and controlled and converted into a blessing for the economy of the country. China has done that by taming its Yangtze river. Once this river was a wild and menacing torrent. Hundreds of rivers and streams joined the Yangtze upstream converting it into a furious current. It flowed eastward and emptied into East China Sea. Every year it took heavy toll of life on both sides all along its length. It is world's third longest river winding through a series of rugged mountain ranges called the Three Gorges. To convert a curse into blessing the Chinese government finally gave approval in 1992 to build one of the world's largest dams below the Gorges. The reservoirs were filled up by 2009 in two stages. Many farmers were relocated or shifted to larger cities. As many as 1.3 million people left their homes and hearths reluctantly but they did it in the larger interest of the nation and the state. They got enough money to build houses and get settled elsewhere. But this \$15 billion project was destined to save countless lives for all times to come. It is now generating electricity for millions of homes with its huge hydroelectric project. Large ships can safely navigate the river as the dangerous rocks have been submerged under water. The water current once dangerously furious has become benign and serene. The



death and destruction that used to be caused by seasonal floods of the river has become a nightmarish tale of the past. This is an incredible feat of disaster management by the Chinese which should be emulated by Pakistan as well.

#### Kalabagh Dam victim of politicization

Unlike the Yangtze of China, Indus of Pakistan was a harmless river until the floods of 2010. Petty politicians could play upon the ethnic sentiments of their electorate and oppose the building of a dam on the site of Kalabagh on the basis of frivolous arguments. This project was conceived way back in 1953 and given go ahead signal during nineties when quite a number of feasibility reports prepared by local engineers as well as World Bank experts had accorded its clearance. Successive governments of Pakistan that followed one after the other vowed to build the Dam but relented when failed to get consensus of the KP, Sindh and Balochistan.

Main objection of KP was that rising waters of the Dam would submerge Nowshera and other fertile areas. Exhaustive studies both on computer and physical models had confirmed that highest level of the reservoir was to be 915 feet above sea level while the lowest point in Nowshera area was 935 feet. The maximum reservoir extent was to remain 10 miles downstream of Nowshera. Hence there wasn't any likelihood of the town being flooded ever. It is ironical that the flood of 2010 swamped Nowshera even though the dam had not as yet been built. Had dam been in place it would have accommodated much of the excess water and KP including Nowshera would have been saved from flooding.

Sindh argued that the Dam would deny availability of enough irrigation water that will turn whole of Sindh into a desert. The reality on the other hand is that Kalabagh Dam will store surplus water during summer months ie the flood season between July to October which will be available to Sindh for irrigation during its drought period of April and May, especially when the original design of the Dam had been revised to drop the canals that were to be taken out of the Dam from right and left banks of the river. Thus the stored water will be released during lean period to irrigate millions of acres of Sindh now lying barren.



The province of Balochistan will highly benefit from the construction of the Dam. Its katchi canal which at present has water for 100 days only will become perennial.

One of the objections is that the power station of the Dam will not be able to generate during summer season when the reservoir is being sluiced. The fact is that the power station has been designed to generate power at all levels of maximum and minimum retention.

#### An authoritative verdict

It will be observed that all the above stated views are only figment of the imaginations of the petty politicians whose only aim is to buttress their weakling leadership by keeping the fires of provincial prejudices alight. What really matters is the technical opinion of the experts on the project. One of the outstanding engineers who happened to be the former Chairman of WAPDA has categorically declared all above objections as frivolous and wholeheartedly supported the construction of the Dam. A reservoir to store water has become all the more essential in view of India's water aggression against Pakistan in held Kashmir whereby it is trying to deny free flow of water down the rivers that constitute lifeline of Pakistan. Moreover acute power shortage that is likely to worsen with the passage of time can be overcome only by building the Dam and its power house. The electricity that is being produced under the existing arrangements costs Rs 12 kwh which will decrease to only Rs 1 kwh. Enough power available at such a cheap rate will bring the general price level down and provide a new lease of life to energy starved industry.

From the disaster management point of view, it would not be unrealistic to expect the Indus to devastate the country every year during the rainy season. In case the unprecedented floods of 2010 were caused by excessive rainfall and melting of glaciers on account of the global warming then there is every likelihood that the deluge would hit the country year after year. If all the above stated objectives of building the Dam fail to appeal the politicians of hate and prejudice, this stark danger alone is enough to convince them about the necessity of the Dam.

Conclusion

Famine was the traditional disaster that hit the Indian subcontinent 22 times during the past few centuries. With the development of rail, road and other infrastructure devastation caused by them was contained. During the course of time, disaster management measures took over which made the famines to fizzle out completely. However, famines were followed by more deadly disasters in the form of tsunamis, earthquakes and more recently by the unprecedented floods generated by the mighty Indus which for centuries has remained a peaceful water course. Disasters like the earthquakes can be forewarned but cannot be stopped from coming but floods can be predicted as well as controlled and are not hard to harness. Had Kalabagh Dam been built on time, the flood would have been contained easily. Unfortunately it had fallen victim to the politicization of the small time leaders and could not be built. The unmanageable scale of the earthquake of 2005 and the widespread floods of 2010 led to the formation of Natural Disaster Management Authority (NDMA) which in its present shape has not been able to contribute much. The Authority is required to be further empowered and its scope of responsibility widened. It should be capable of giving advance warning of the coming disasters and when they have struck it should be capable of preparing a pragmatic report of the damage done. It should propose remedial measures and give a roadmap to the authorities for looking after the welfare of the affected people until they have been rehabilitated in their homes. So far as floods are concerned if they are the result of global warming they are likely to recur every year. In view of this Pakistan should follow the example of Chinese precedent wherein it tamed its violent Yangtze river by building a huge Dam which not only controlled its floods for ever but also produced lot of cheap electricity. The lesson is that despite the opposition of the provinces Kala Bagh Dam must now be built. Otherwise those very opposing provinces should be prepared to suffer the disastrous consequences of devastating floods every year as per their bitter experience of the 2010 flood.

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