

Essay on Earthquake: Effects, Preparedness and Measures

Hints: Introduction, Bangladesh perspective, Present state of preparedness of Bangladesh to face Earthquake, Measures to be taken to meet the havoc, Conclusion.

Introduction:

The Earthquake results from a sudden release of energy through the earth's crust that creates seismic waves. In its most generic sense, the word 'earthquake' is used to describe any seismic event, whether a natural phenomenon or an event is caused by humans that generate seismic waves. Causes of earthquakes are mostly ruptured geological faults, volcanic activity, landslides, mine blasts, and nuclear experiments. An earthquake's point of initial rupture is called its focus or hypocenter. Earthquakes originate due to various reasons, which fall into two major categories, nontectonic and tectonic. The origin of tectonic earthquakes is explained with the help of the "elastic rebound theory." However, it has been observed that most destructive earthquakes originate within two well-defined zones or belts, namely "The Circum Pacific Belt" and "the Mediterranean Himalayan Seismic Belt". Unlike most natural disasters, Earthquakes can affect millions of square kilometers within a short time, which is less than a minute in most cases. And there is no accurate early warning system of it invented so far.

Bangladesh perspective

Historical earthquake records suggest that Bangladesh has experienced at least four major earthquakes between 7 and 8. These earthquakes are namely great Assam earthquake of 1897, the Sri Mongol earthquake of 1918, and the Dhubri earthquake of 1930. These earthquakes caused

extensive damage to property and life and changed geographic expressions such as ground tilt, ground subsidence, river course change, etc. In most parts of the Bengal delta, there are many indications of earthquakes. But despite all the signs of a possible large earthquake, Bangladesh's preparation to face an Earthquake event is poor. Most infrastructures and communication of Bangladesh are likely to collapse in the event of a significant Earthquake. That Bangladesh lies in the active earthquake zone is not unknown to Bangladesh. Alarmed by the recurrence of quakes during recent years, experts have called for developing an earthquake-resistant building code that all buildings should follow as mandatory.

As many buildings are likely to collapse, the death toll is expected to be numerous. Besides, many will be injured due to building collapse. The casualty toll of Bangladesh will be much higher as it is too densely populated country. The mega-cities like Dhaka, Chittagong seem to appear as the city of death in case of Large Earthquakes. In Bangladesh, the major cities are expanding vertically because of the lack of land to accommodate their people. In the present day, most of the buildings are being constructed without following the building code. In case of an event of an earthquake of magnitude 7.0 and above in the Richter scale, the effect can be branded as "Beyond imagination." Bridges are likely to fall down; the railway line is expected to bend in case of an earthquake having a magnitude of 8.0 and over. There might be cracks in the road. Moreover, debris of the destroyed buildings and establishments may block the roads, railway lines, and other communication tracks; electric power may be hindered. Moreover, debris from destroyed buildings and establishments may also tear off the electric wires which are still connected above the ground. This will disrupt the power sector, which will ultimately result in enormous suffering, especially for the medical industry. Again, water pipelines beneath the ground are likely to burst in the case of an earthquake with 8.0

magnitude and above.

Like many other developing countries, in Bangladesh, where the doctors' ratio is insufficient considering the population, Earthquake will cause more hazards in the medical sector. Especially in the major cities, the number of injured people is likely to be too high because of the destruction of many buildings that were constructed, violating the building code. Our insufficient medical facilities will not be able to manage all the patients.

Bangladesh, one of the overpopulated countries in the world, often experiences food crises. This mainly happens because of any disastrous situation; few businessmen raise the price of food to make more profit so that the poor population sometimes can not afford it. This situation, in turn, may result in worsening the law and order situation. In our country, maximum people are dependent on gas for cooking. Moreover, many industries are run with the help of gas as the source of power generation. In major cities, gas is supplied through the pipeline, and people use gas in cylinders in other cities. In case of a significant earthquake, the gas pipelines may burst and result in breaking out of fire. Earthquake is always followed by a risk of tsunami which in Indonesia, the Maldives and Sri Lanka in the year 2004 was the result of an under-sea earthquake where thousands of people died. Bangladesh is likely to face a tremendous crisis in the economic sector because of total infrastructural damage, increase in unemployment after being shaken by a large earthquake.

The present state of preparedness of Bangladesh to face Earthquake:

We must have to admit that our preparation for managing the disaster is not at all satisfactory. The practice of various organizations in Bangladesh is discussed below.

Preparation of Ministry of Food and Disaster Management is still in the bottom line. Still, it has not chalked out a detailed plan. However, recently this department has geared up its actions in this regard.

Preparation of Housing and Public Works is not satisfactory too. It is expected to ensure that the buildings are being constructed with the line of building code. But unfortunately, they are working very slowly.

Ministry of Health should remain prepared with enhanced medical facilities. But we still observe deficiency in this sector. Fire service and Civil Defense can be somehow prepared through job training on the rescue operation. But they lack specialized and sophisticated instruments.

So far, the Ministry of Information has rarely been found to formulate an effective policy for media to grow awareness amongst people. This department can be said to be least prepared despite its capabilities.

Presently for an incident of Earthquake, govt. We will have to rely on the equipment of Roads and Highways, Fire service and Civil Defense, and the Bangladesh Army. But these equipment are not designed primarily for carrying out rescue operations in an Earthquake; neither are these adequate in number. Govt. should think in detail and new equipment should be purchased without much delay.

Measures to be taken to face the havoc

The buildings which were constructed violating the building code should be demolished wholly but slowly. This will increase the accommodation crisis definitely, but this will save lives in time. For an event of Earthquake, a massive number of volunteers will be required for rescue operations and medical treatment; They should be organized at the Upazilla level and trained so that they can

come in use when necessary.

The medical facilities of Bangladesh should be enriched immediately to face the disaster of the Earthquake and render the required service in the standard period.

Earthquakes can not be suppressed, but their effect can be reduced by developing awareness amongst the people.

Bangladesh should establish an earthquake monitoring and early warning center.

We do not have adequate and modern equipment to rescue the injured personnel from the debris. Endeavors should be taken to purchase unique and sophisticated equipment for rescue operations.

Ministry of Food and Disaster Management should enrich the Food Bank to sustain up to the period until international relief arrives.

A tsunami shelter should be constructed regularly so that the people living in the coastal areas can take refuge there just after an earthquake.

Conclusion:

Two schools of experts regarding Earthquake opine that there is almost cent percent possibility of occurring Earthquake in Bangladesh and some surrounding countries. One school of experts opine that the recent recurrent tremors in the country are a significant Earthquake threat. But the other one opines that through the small tremors, the possibility of the major quake is gradually dwindling because the Tectonic plates, due to such occurrence, are getting their balance back. However, whatever be the magnitude of the probable earthquakes, some vulnerable zones of Bangladesh, such as some areas of Dhaka city like Magda, Basabo, Jatrabari, Moghbazar, Goran, and the like, may be gruesomely endangered, and that is why about aftermaths of the quakes, govt. Related authorities alongside non-govt. Leaders must be alert to avoid loss as much as possible.