

What if an earthquake of 6.9 magnitude hits Dhaka?



ADIL MOHAMMED KHAN

Shortly after noon on Sunday, Tangail and its nearby areas were struck by an earthquake of 4.4 magnitude. While this was a minor quake and resulted in no casualties, earthquakes have been observed at a higher rate recently not only in Bangladesh, but worldwide. On the afternoon of September 9, for instance, a 4.4-magnitude quake shook Sylhet. Another 3.9-magnitude earthquake, the epicentre of which was in Bhulta of Narayanganj, hit Dhaka on April 25.

Against the background of such frequent quakes, we must ask: is Dhaka adequately prepared to face a 6-7 magnitude earthquake? Are we planning our cities, buildings, and infrastructure in a way that would make the capital safe for our lives and properties, given its vulnerability to earthquakes? Are our development authorities diligently enforcing planning laws and building codes?

Unlike cyclones, earthquakes cannot be accurately predicted. Hence, requisite preparations are needed from urban development authorities. Unplanned urbanisation, unsafe building development, coupled with the expansion of urban areas in low-lying or marshy areas have greatly aggravated the capital's earthquake vulnerability, which has a population of nearly 20 million people. We must remember that a large portion of this population dwells in poorly built structures, and even in semiformal and informal housing in unsafe and precarious conditions.

Better preparation in terms of maintaining building codes and planning rules could save lives to a great extent, which has been seen in the experiences of recent earthquakes in Chile, Haiti, and Türkiye. In 2010, Chile experienced a quake of 8.8 magnitude, which killed 700 people, while the Haiti 7.0-magnitude earthquake killed around 220,000 people in the same year. Chile established strict building codes in 1985 following a 7.8-magnitude earthquake; and Haiti had no national building code and no means of checking building safety.

The 7.8-magnitude earthquake that hit Türkiye on February 6

resulted in a death toll of over 50,000, while more than 160,000 buildings collapsed or were severely damaged. This gave rise to questions about whether the natural disaster's impact was made worse by a lack of building and planning compliances.

Reports on the Türkiye-Syria earthquake revealed that unplanned urbanisation, material weaknesses, insufficient inspection processes, and illegal constructions were the main factors behind the extensive destruction. These factors are also prevalent in the urban development and building construction practices for urban areas in Bangladesh.

At least 65 percent of Dhaka and its surroundings are at high risk of earthquakes, as the buildings have been constructed on landfills due to unrestricted urbanisation, and have not taken into consideration the nature of the soil or earthquake vulnerabilities of the area in general. Rapid construction of housing and high-rise infrastructure on weak land, without carrying out proper study on geological features, have alarmingly increased the risk of earthquakes and other urban disasters in Dhaka.

The expansion of Dhaka city to the east and southwest has therefore made it more vulnerable to liquefaction during earthquakes, since buildings in these areas are erected by filling up water reservoirs and wetlands, in violation of building codes.

In order to ensure building safety, we have the Bangladesh National Building Code (BNBC), updated in 2020, and the Dhaka Building Construction Rules, 2008. There are also physical plans like the Detailed Area Plan that provide detailed guidelines for urban development in different land-use zones in Dhaka. Despite this, a large number of buildings in the capital have not been designed properly or have been constructed violating land use guidelines, which may turn out to be dangerous in case of a moderate to strong earthquake.

According to a survey by the Rajdhani Unnayan Karttripakkha (Rajuk), nearly 865,000 buildings

would collapse in Dhaka city if an earthquake of 6.9 magnitude strikes at Madhupur fault in Tangail. Additionally, 210,000 people would die and another 229,000 would sustain injuries if the quake strikes during the day. As per a survey conducted by Rajuk in 2018, an alarming 67 percent of buildings were found violating building codes, out of 1.95 lakh buildings surveyed.

We may recall the March 13 declaration by Rajuk relating to the evacuation and demolition of 42 dangerous buildings identified by its Urban Resilience Project. It also listed around 342 buildings, owned by various government organisations, as being risky for living. But no significant progress has been made since Rajuk provided the notice to the owners of the buildings to vacate the structures. This is proof of the utter disregard and apathy towards building safety and earthquake preparedness from different authorities and building owners.

A devastating earthquake could hit anytime and would be quite catastrophic for us. Yet, we are wildly ill-prepared to face something like this. A specific authority should be formulated on an urgent basis to enforce the Bangladesh National Building Code in order to increase building safety. Urban development in low-lying areas should be strictly prohibited, even for government projects. The government should no longer allow the violation of planning guidelines and building codes, and must take appropriate measures against violators. Planning and investment is required so that our utility services and facilities do not collapse in the case of a major earthquake.

The corruption in the supervision and monitoring system of Rajuk and related bodies must be checked. We welcome recent directives from Rajuk to mandate the submission of architectural, structural, fire safety, electrical, and plumbing plans before building construction. However, making planning permits – which still does not exist in Bangladesh – mandatory is required as well to increase building safety and urban resilience. Third-party monitoring of building construction, as planned by Rajuk, could help push this forward. However, there is no scope for laxity by development authorities and urban bodies in monitoring the overall urban development process. We cannot prevent earthquakes; but we should be properly prepared against them to save invaluable lives.



VISUAL: SALMAN SAKIB SHAHRYAR

Our cities need animals



Naimul Alam Alvi is a member of the editorial team at The Daily Star.

NAIMUL ALAM ALVI

"I have a surprise for you!" – I think I was four or five that morning when I was trying to: rub the morning sleep out of my eyes, and figure out what surprise Ammu had for me under the blanket. I was ready to put an end to my curiosity right then and there. But Ammu said hush, and not to wake him up. The big reveal came with a story – there came a kitten in our kitchen. He came down the window to have some rice. But he was so small, and his belly so full, that he tried and tried but couldn't get out. So, he was going to live with us.

It was through him, I think, that I started to truly grasp the concept of the "self" – that you don't have to talk, dress or look like us to deserve care and affection. You can be even more of an "other" than our house-help Khala's son and still not be timid about demanding food, attention or distance. No amount of moral lessons, criticisms or "Ah! Dushumi kore na loke ki bolbe?" could manipulate him. The only way to come to terms with his Nawabi self was with careful interaction. He didn't have the slightest care about our family hierarchy, or the concrete walls that restricted us. He would go out at his will and only return if you offered a liveable place. And there he was, a curled-up thief sleeping on my mother's lap – an object of jealousy (why wasn't it me the one sleeping there?!) and fascination; and a free individual where I can project my "self" and pretend to explore reality from different perspectives. I wonder, when we complete our endeavours of cleansing our urban space from animals, how will it affect us and our society?

When I was growing up in Tongi, it still had some wildlife left. We didn't hear jackals howling at night like the stories our elders told us, but in the pond behind our home, I used to see snakes coiling around fish, in an attempt to eat them. I'd get mixed feelings – a sense of excitement for the snake and a lump in my throat for the fish. After asking around, I eventually learned that this is just nature. I'd see birds of all kinds sitting on my veranda, snails scaling the walls, goats running around, and sometimes even monitor lizards. But within just 15-20 years, that place has lost almost all of its biodiversity. Our "development" has detached my niece's sense of reality from the stories of her grandparents, along with our fables, poems, songs, philosophy, and cultural legacy. This is not just the story of Tongi but the countless places in Dhaka that have died within decades.

The core problem is that we have placed development against conservation, civilisation against nature, and separated humans from natural environments. In urban Western philosophy, which we try to blindly copy, this segregation perhaps took root when Descartes started considering animals as non-

living objects. In our part of the world, although our Central Asian conquerors initiated the reduction of animals into objects, it was the British colonisers who brought their capitalist worldview and started the wildlife genocide.

Just like us non-Caucasian humans, nature was also just an infinite source of profit for them. Vast forestlands were cut down for wood, and the cleared grounds were used for agricultural spoils. The East India Company disregarded native traditions of replantation and cohabitation. The colonisers persecuted entire communities when there were protests. After the crown took over, they created forest departments and conservation laws – not because they cared for nature, but because their once seemingly infinite source was extorted to near extinction. For them, native animals

We are creating roads and railroads that cut through habitats, industries that poison water, construction works that make the air toxic, and "development" that excludes animals. Maybe we humans can somehow survive living in the most unliveable place in the world, but animals can't. Our policymakers are oblivious to the layers of life inside the forests and under the rivers.

served three purposes: tools you can control (elephants and cows); games that you hunt for food and sport; and beasts that you must kill as a Sahib saviour. Tigers were hunted down to such an extent that the Raj had to make protected areas to try and keep some for the European customers travelling for a fun week of hunting.

Unfortunately, like many other things, we inherited this culture from our oppressors. Deforestation and destruction of biodiversity continued and even escalated after our independence. We are creating roads and railroads that cut through habitats, industries that poison water, construction works that make the air toxic, and "development" that excludes animals. Maybe we humans can somehow survive living in the most unliveable place in the world, but animals can't. Our policymakers are oblivious to the layers of life inside the forests and under the rivers. They don't seem to notice the greens declining and rivers dying until someone points out that a species has gone extinct. Isn't it surprising that we've somehow

become more ruthless in colonising our nature than the British, and turned one of the most fertile and biodiverse patches of land in the world into an ecologically dead city?

If we really want to move away from this path of destruction, we need to ensure environments where wildlife and humans can harmoniously coexist. We have to focus on places like Dhaka, where wildlife has been completely uprooted; new cities or city extensions, where relatively conserved areas will eventually be urbanised; and rural areas, where village and (toxic) city life are melding. But first and foremost, we must include biodiversity as an essential part of development. It has to be incorporated into our policies, city regulations, and urban designs. For instance, it's commendable that there are certain percentages of green patches reserved in the designs of the new economic zones and city extensions. But that is nowhere near what is required. None of the designs addresses how the establishments will affect migration, food sources, life cycles of different species, or how the city interacts with wildlife. And what about when a city needs to expand further? Will it just "save" another small percentage of green and conquer the rest? When you put "development" against nature, it's always "development" that wins.

There's a German development company that is advocating the philosophy of "animal-aided design" – using which urban planners incorporate biodiversity as a foundational block, not a late addition that designers have to somehow manage, making compromises. If we, the people who barely raise such issues, adopt a similar policy, it will make us take a hard look at our geography, weather, biodiversity, and society. We can even study native traditions, get inspired by "Aranya Sanskriti," a social order that revolves around forests, from the Maurya and Gupta empires, or come up with a new design philosophy of our own.

I know it sounds bizarre to hope for a human-nature utopia in this country, given the track record. But this delta is now once again at the crossroads of becoming an economic powerhouse. This is the time to decide what path we will take in our journey towards a developed nation. And even if we fail to make proper implementations, the mere acceptance of cohabitation in our policy can push our environmental standards higher. Animals are great environmental health indicators, even for the aspects we don't usually consider to be important, like sound or light pollution. During Covid, we've seen how mere days of non-interference brought back dolphins to our coast. Why can't I hope to see dolphins in our rivers like my father used to on his way to Bhola? Maybe places like Dhaka can never bring back many that are already lost, but if we invest in reparation for all the wrongs we've done – maybe there's a chance squirrels, owls, and monkeys will come out of the last remaining sanctuaries in the city.

We must realise we can't afford the audacity to exclude ourselves from the ecosystem. We need animals to have a liveable environment, even in the artificial worlds we create.

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার

সিভিল সার্জন কাম তত্ত্বাবধায়কের কার্যালয়

২৫০ শয্যা জেলা হাসপাতাল, মাদারীপুর

E-mail: madaripur@hospi.dghs.gov.bd

স্মারক নং-জেহাম/এমএসআর/দরপত্র/২০২৩-২৪/৩১৩৮

তারিখ: ১৭/০৯/২০২৩খ্রিঃ

এম.এস.আর দরপত্র বিজ্ঞপ্তি (OTM)

সিভিল সার্জন কাম তত্ত্বাবধায়ক, ২৫০ শয্যা জেলা হাসপাতাল মাদারীপুর এর জন্য ২০২৩-২০২৪খ্রিঃ আর্থিক বৎসরের এম.এস.আর সামগ্রী ক্রয়ের নিমিত্তে গণ্যযোগ্য সজ্জাহ আইন/বিধিমালা ২০০৩, ২০০৬, ২০০৮ ও ২০০৯ এবং তৎপত্রবন্ত্রী সংশোধিত বিধিবিধান অনুযায়ী নিম্নোক্ত "ছক" মোতাবেক প্রাপ্ত ভিত্তিক পৃথক পৃথকভাবে সীলমোহরকৃত গালানুভূক্ত খামে দরপত্র আহ্বান করা যাচ্ছে।

১	মন্ত্রণালয়/বিভাগ	স্বাস্থ্য ও পরিবার কল্যাণ মন্ত্রণালয়, বাংলাদেশ সচিবালয়, ঢাকা-১০০০।	
২	এজেন্সি	২৫০ শয্যা জেলা হাসপাতাল, মাদারীপুর।	
৩	সজ্জাহক সংস্থার নাম	সিভিল সার্জন কাম তত্ত্বাবধায়ক, ২৫০ শয্যা জেলা হাসপাতাল মাদারীপুর।	
৪	সজ্জাহক সংস্থার জেলার নাম	মাদারীপুর।	
৫	দরপত্রের নাম	এম.এস.আর, সামগ্রী ক্রয়/সজ্জাহ।	
৬	দরপত্র সজ্জাহের পদ্ধতি (ওটিএম)	উন্মুক্ত দরপত্র পদ্ধতি।	
৭	বাজেট এবং অর্থের উৎস	(ক) রাজস্ব ও অন্যান্য।	
৮	দরপত্র সিডিউল বিক্রয়ের শেষ তারিখ, সময় ও স্থান	১৭/১০/২০২৩খ্রিঃ অফিস ঢাকালালীন সময় (সকাল ০৮.০০ ঘটিকা হতে দুপুর ০২.৩০ ঘটিকা পর্যন্ত)। সিভিল সার্জন কাম তত্ত্বাবধায়কের কার্যালয়, ২৫০ শয্যা জেলা হাসপাতাল মাদারীপুর।	
৯	দরপত্র দাখিলের তারিখ, সময় ও স্থান	১৮/১০/২০২৩খ্রিঃ দুপুর ১২.৩০ ঘটিকা পর্যন্ত। সিভিল সার্জন কাম তত্ত্বাবধায়কের কার্যালয়, ২৫০ শয্যা জেলা হাসপাতাল, মাদারীপুর ও পুলিশ সুপারের কার্যালয়, মাদারীপুর।	
১০	দরপত্র খোলার তারিখ, সময় ও স্থান	১৮/১০/২০২৩খ্রিঃ দুপুর ১.০০ ঘটিকায় সিভিল সার্জন কাম তত্ত্বাবধায়কের কার্যালয়, ২৫০ শয্যা জেলা হাসপাতাল, মাদারীপুর।	
১১	দরপত্রাদাতার যোগাযোগ	এম.এস.আর, সামগ্রী স্ব স্ব প্রাপ্ত অভিজ্ঞতাসম্পন্ন সরবরাহকারী প্রতিষ্ঠান (দরপত্রের শর্তাবলী মোতাবেক)।	
১২	কাজের সর্বক্ষণ বিবরণ	এম.এস.আর, সামগ্রী সরবরাহ।	
১৩	প্রাপ্ত নাম	দরপত্র সিডিউলের মূল্য (অফেরতযোগ্য)	দরপত্রের সহিত দাখিলকৃত জামানতের পরিমাণ (বায়নার টাকা) (ফেরতযোগ্য)
	"ক"	ঔষধ (ইউসিএল বহির্ভূত)	১০০০/- (এক হাজার টাকা মাত্র)
	"খ"	সার্জিক্যাল যন্ত্রপাতি	১০০০/- (এক হাজার টাকা মাত্র)
	"গ"	দিলেন সামগ্রী	১০০০/- (এক হাজার টাকা মাত্র)
	"ঘ"	পত্র, ব্যাজেট ও তুল্য	১০০০/- (এক হাজার টাকা মাত্র)
	"ঙ"	কেমিক্যাল রি-এজেন্ট	১০০০/- (এক হাজার টাকা মাত্র)
	"চ"	অসুবিধাপত্র	১০০০/- (এক হাজার টাকা মাত্র)
			৩৫,০০০/- (পঁয়তাল্লিশ হাজার টাকা মাত্র)
১৪	দরপত্র আহ্বানকারীর নাম	ডাঃ মুনীর আহমদ খান।	
১৫	দরপত্র আহ্বানকারীর অফিসের ঠিকানা	সিভিল সার্জন কাম তত্ত্বাবধায়ক, ২৫০ শয্যা জেলা হাসপাতাল, মাদারীপুর।	
১৬	দরপত্র আহ্বানকারীর সাথে যোগাযোগ	টেলিফোন নম্বর-০২৪৭৮৮১০৬১৪	
১৭	সজ্জাহক সত্ত্বার ক্ষমতা ও বিশেষ নির্দেশাবলী	<p>ক) অগ্রাধী দরপত্রাদাতাপ্রাপ্ত বিজ্ঞপ্তি পরিকার্য ও সিপিটিইউ এ প্রকাশের তারিখ এর পর হতে প্রতিদিন অফিস ঢাকালালীন সময়ে (সকাল ০৮.০০ হতে দুপুর ০২.৩০ মিনিট পর্যন্ত) সপ্তক্রেট প্রণেয় দরপত্র দলিলের মূল্য বাদে অর্থ কোড নং-১-২৭১১-০০০০-২৩৬৬ এ ট্রেজারী চালানের মাধ্যমে সোনালী ব্যাংক, মাদারীপুর প্রধান শাখায় জমানদপূর্বক চালানের মূলকপি ও সিটিআর কপি সহ এবং প্রতিষ্ঠানের নিজস্ব প্যাতে সিল ও স্বাক্ষর সহ সরবরাহকারী নিজে অথবা প্রতিনিধি প্রেরণ করলে তার নমুনা স্বাক্ষর সত্যায়িত প্রদানপূর্বক দরপত্র প্রাপ্তির আবেদনপত্র জমা দিয়ে অত্র কার্যালয়ের হিসাব শাখা হতে সিডিউল সজ্জাহ করা যাবে।</p> <p>খ) কোন কারণ দর্শানো ছাড়াই দরপত্র গ্রহণ বা বাতিল করার ক্ষমতা দরপত্র মূল্যায়ন কমিটি সর্বক্ষণ করেন। দরপত্র মূল্যায়ন কমিটির সিদ্ধান্ত চূড়ান্ত বলে গণ্য হবে।</p>	

ডাঃ মুনীর আহমদ খান
সিভিল সার্জন কাম তত্ত্বাবধায়ক
২৫০ শয্যা জেলা হাসপাতাল মাদারীপুর

জিউ-১৪২৪