

What can we learn from the Indonesia earthquake?

DHIMAN RANJAN MONDAL

THE island of Sulawesi in Indonesia was struck by a 7.5-magnitude earthquake on September 28, 2018 followed by 10-ft high tsunami waves. The death toll climbed to 1,424 as of Thursday. Indonesia is one of those countries that have adopted the tsunami warning system. This warning system contains about 150 buoys anchored to the seafloor sensors. The sensors send signals when they sense a sudden change of water level because of a tsunami.

It is shocking that despite having cutting-edge technologies offshore, Indonesia went through this devastating experience. It turns out that the authorities had issued a tsunami warning right after the earthquake as a routine procedure, but they eventually lifted it after 34 minutes. The rest of the story is known to all.

The tsunami crashed onto the shores of densely populated Palu and left the area destroyed. You might ask why the authorities had lifted the tsunami warning. The responsible body, Indonesian Agency for Meteorology, Climatology and Geophysics (BMKG), blamed the early detection system, saying that the buoys from the Palu bay did not record any evidence of high water level. The fact is that the system of 22 buoys in the Palu bay has not been working since 2012. It was not properly maintained due to a lack of funding. What is surprising is that someone actually decided to cancel the warning despite being aware of broken buoys in the Palu bays. One could say that ignorance is to be blamed.

Let's shift our focus to the coasts of Bay of Bengal, especially the southeast coast of Bangladesh and west coast of



Indonesians examine the damage to houses in the Balaroa village in Palu, Central Sulawesi on October 1, 2018.

PHOTO: ADEK BERRY/AFP

Myanmar. This coastline experienced one of the largest disasters on April 2, 1762 in which more than 200 deaths were reported in the aftermath of the earthquake. A recent scientific study published in *Tectonophysics* journal concluded that the 1762 Arakan earthquake raised the Saint Martin's island by 2.5m and perhaps the Teknaf coast by 2.5m. The same earthquake raised the west coast of Myanmar by three to six metres.

Some researchers suggest that the coastline also experienced a tsunami after the 1762 earthquake and it is still possible for there to be an earthquake and/or tsunami in the future. But the problem is that we do not have the exact time when it might happen. Although the repeat time of this earthquake is about 500 years, we should

start preparing now. It does not mean that we should start installing buoys starting tomorrow, but we should at least keep it on our radar. There are ongoing debates about whether or not the Bay of Bengal can be impacted by a tsunami. One might argue that the shelf break and shallow water level may help to dampen the effect of the tsunami. But I would say since we do not know if that is the case, we should be taking all precautions.

The tsunami in Palu is thought to have been caused partly by the submarine landslide although research is still going on and data is still being collected. However, if this is the case then it is one of those unique earthquakes where submarine landslides contributed to the tsunami. Some of the scientific studies suggested that submarine

landslides may have contributed to the tsunami during the 2011 Tohoku earthquake in Japan which is well-documented. Now the question is, do we have that same possibility in the Bay of Bengal? That remains uncertain. Some evidence of small submarine landslides in the Bay of Bengal was documented by scientists. However, the continental slope angle is stiff enough to cause a landslide. Whether or not it can cause a tsunami is yet to be studied. Several studies elsewhere have addressed this issue. The research community in Bangladesh should study this and take precautionary measures accordingly.

Liquefaction was another after-effect of the Indonesia earthquake that caused building collapse. It is a geological phenomenon where water escapes from the space between individual sand particles due to agitation caused by seismic shaking. According to a recent report published in the *New York Times*, the tsunami waves did not do much to the buildings in the Palu area; rather the ground turned into jelly which could not hold the structures above. An area called Balaroa of Palu experienced the worst damage.

In Bangladesh, we may have to deal with a similar situation if an earthquake occurs. Some of the housing complexes and high-rise buildings were built after filling lakes and rivers with loose sand. How do we know that we will not see liquefaction in those areas? We saw the aftermath of the 5.5-magnitude earthquake in Tripura last year. Tremors felt in Shamshearnagar and Kamalganj of Moulvibazar district in Sylhet caused cracks in the ground and liquid sand to come to the surface as revealed from our fieldwork. The newly built auditorium at Kamalganj partly collapsed due to the tremors

caused by a small earthquake. We later came to know that the auditorium was built after filling up a pond.

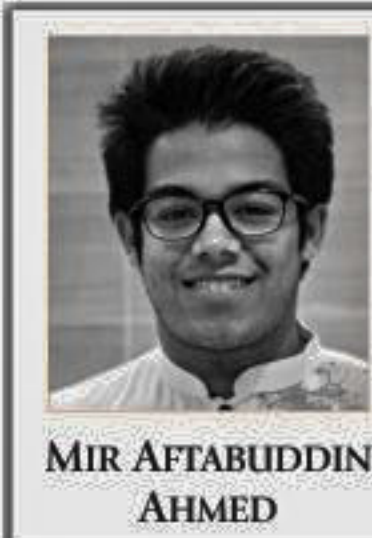
After reading articles in local newspapers and watching reports on local channels regarding earthquake hazard in Bangladesh, I get the feeling that people are more concerned about the magnitude of the earthquake, where it is located or where the plate boundary is. Some researchers in Bangladesh are debating these issues. But I think from the hazard mitigation perspective, they should be concentrating more on how an earthquake can affect a certain area which seismologists refer to as "intensity". The intensity of an earthquake can be much higher further away from the epicentre based on geologic conditions. It's not the epicentral region that always experiences the worst damage. The epicentre of Indonesia's earthquake was about 100km away from Palu. Likewise, the intensity can be much higher even with a low-magnitude earthquake. For example, the magnitude of the 2010 Haiti earthquake was seven—killing 220,000 to 316,000 people.

Therefore, research efforts are necessary to update the seismic hazard map. This exercise should involve geologists, engineers, policymakers, and government officials if we want to avoid an earthquake-related catastrophe in the future. Let's not just assume that it will not happen in our country. Ignorance is not the right path. When it comes to natural disasters, we should be looking at each and every known possible scenario and make a logical decision about taking precautionary measures with sincere efforts. Let's not just reject a hypothesis without proving it wrong.

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REFORMS IN THE RMG SECTOR

The need for equitability



MIR AFTABUDDIN AHMED

THE Bangladesh government proudly promotes the notion that the country is going through a rapid spell of socio-economic development—encapsulated by real

GDP growth rates of over seven percent since 2016. We should give credit where it's due. The sectoral diversification instituted by the AL government, in avenues of ICT augmentation and power generation, has contributed to impressive strides in the domestic economy.

Nevertheless, the backbone of our industrial sector remains at the hands of the RMG industry—representing over 80 percent, or above USD 25 billion, of the industrial economy. Therefore, as Bangladesh moves forward in its quest to be an economic powerhouse, it is equally important for the state to ensure that the fundamental economic resource behind these developments—our labour force—is treated equitably and, more importantly, humanely.

Employing over four million workers, the RMG sector is in need of reform due to the longstanding problems of low wages and sub-par labour conditions. This is not to say that certain steps have not been taken—for one, the draft Bangladesh Labour Act 2018 incorporated, in

theory, many of the concerns international and domestic stakeholders have regarding labour conditions in the country. The prevalence of top-notch green factories in Bangladesh also adds vibrancy to the idea of sustainable industrialisation. However, there has always been a tendency to sidestep a core issue of labour rights: wages.

Recently, a 51 percent increase in the minimum wage level was announced by the State Minister for Labour and Employment, in response to demands made by trade union activists and other stakeholders to increase wages to USD 215 per month. The increase in the minimum wage level from USD 64 per month to USD 96 per month was met with criticism from human rights and labour organisations. They suggested that the new wage level is simply not enough to sustain the lives of these working-class people.

It has always been somewhat difficult to ascertain the appropriate wage level for Bangladesh's RMG workers. On one end, our comparative advantage—in other words, the ability to produce goods or services at a relatively lower opportunity cost—stems from cheap labour. Whether we like it or not, the reality is that this forms the basis of modern-day Bangladesh economy, including GDP and employment growth. On the other hand, the prevalence of low wages is a stark reminder of the severe inequalities present in our society. It begs the question as to why we cannot or do not



The government raised the minimum monthly wage for garment workers to Tk 8,000 which fell way short of labour leaders' demands for Tk 16,000 as minimum monthly wage.

PHOTO: ANDREW BIRAJ/REUTERS

do more for the working class. Increasing wages to an acceptable level therefore is not simply an economic need which ought to be pushed forth to global brands that exploit our workers but is also a fundamental responsibility of the state.

According to the Bangladesh Bureau of Statistics, the per-capita income of the country is expected to reach USD 1,466 this fiscal year. Nevertheless, with the new minimum wage of USD 96 per month, a worker earning the minimum wage throughout the year would be receiving less than what the per-capita income of the country would be. There

are those who will suggest that bonuses and other facilities would dictate that these wages will increase to per capita levels by the end of the year but the issue is simply not that. If these workers are contributing the highest output towards total GDP, merely increasing their basic wages to an insufficient level, which nominally has the possibility of falling even below the real income per capita, belittles their efforts.

A crucial problem to real wage growth in the country remains in the inability of the state to reconfigure inflation rates with wage increases. The

draft Bangladesh Labour Act 2018 has indeed instituted policies against child labour and in favour of maternity leave provisions—yet questions regarding the need for consistent increases in wages remain. Bangladesh needs a long-term plan to ensure the sustained increase of wage levels on an annual basis—be it through a 10-year policy programme of reviewing and increasing wage levels annually according to percentage changes in inflation, or a long-term scheme of instituting and improving workers' rights policies considering factors beyond wages. A single piece of legislation, without a clear-cut long-term policy plan, cannot solve the numerous impediments. It is the duty of the state and other stakeholders to empower our workers in a manner befitting their dedication and efforts.

Our country is simply not one which provides average quality products to the international market on the basis of cheap labour. It is the chief source for many well-known brands and chains. If we can focus our global marketing on the quality of products that we sell, maybe one day, we can turn the superiority of our products into a marketable advantage. Furthermore, the state has a responsibility to ensure that the ease of doing business for local investors is enhanced and, more importantly, our workers' welfare becomes central to all policymaking.

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ON THIS DAY IN HISTORY



OCTOBER 5, 1947

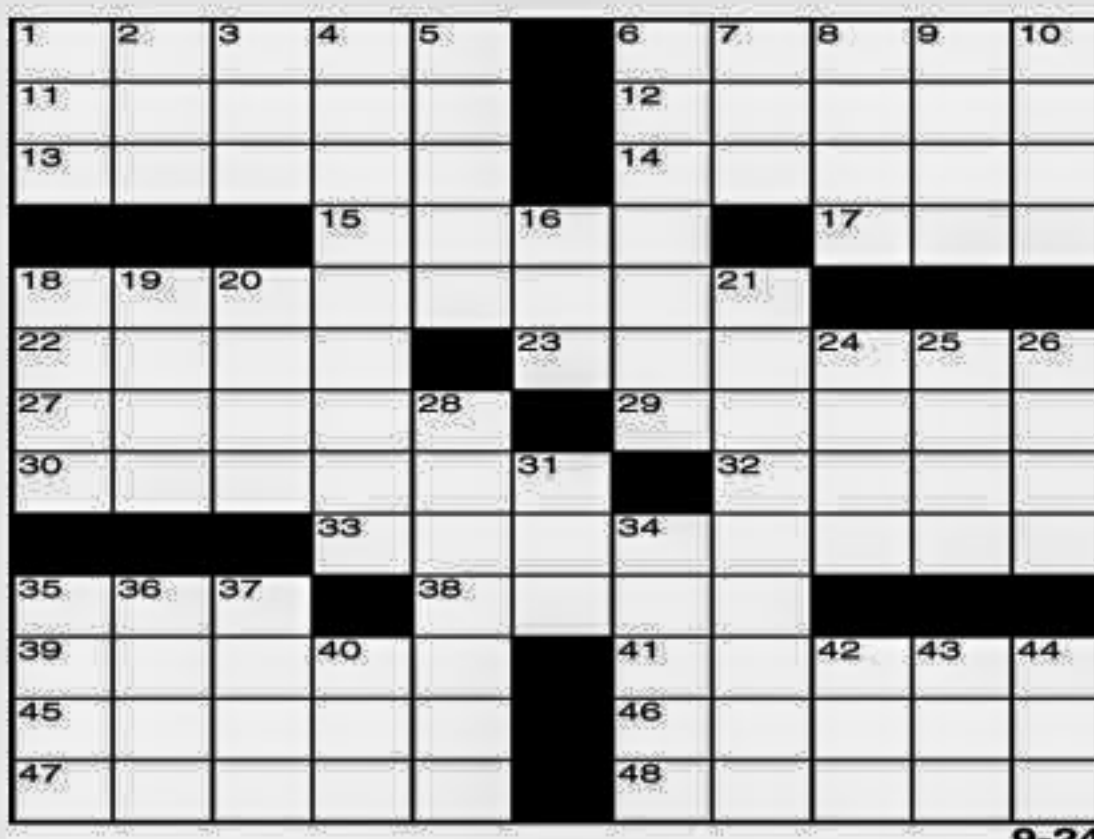
HARRY TRUMAN BECAME FIRST US PRESIDENT TO GIVE A TELEVISED ADDRESS TO THE AMERICAN PEOPLE

In his speech, he asked Americans to cut back on eating meat, poultry and eggs in an effort to help the people of Europe.

CROSSWORD BY THOMAS JOSEPH

ACROSS		often	10 Whirl
1 Puccini opera	35 Shirt protector	16 " -- been real!"	
6 Marsh croakers	38 Like most NBA	18 Rudiments	
11 Radio station	players	19 Grant of films	
sign	39 Without letup	20 Has debts	
12 Open, as a bottle	41 Viscounts'	21 Do the math	
13 -- Dame	superiors	24 Crowd sound	
14 "The Evil Dead" director Sam	45 Flight part	25 Ripped	
15 Abel's brother	46 Worried	26 Gorillas and gibbons	
17 Bear's lair	47 Thick, as fog	28 Put a tarp over, say	
18 Like some guitars	48 Negligee buy	31 Farrow of films	
22 Cry like a baby	DOWN	34 Golf shoe feature	
23 Rival of Athens	1 Shipping weight	35 Honcho	
27 Floor-board sound	2 Lennon's wife	36 Fascinated with	
29 Sailing boat	3 Plopped down	37 Swain	
30 Method	4 Move around	40 Quick taste	
32 Give a hoot	5 Provinces	42 Stoplight colour	
33 Food critics,	6 Root vegetables	43 Young fellow	
	7 Not -- dare	44 Pig's place	
	8 Corrosive stuff		
	9 Titled woman		

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YESTERDAY'S ANSWER

S	C	A	R	F	G	U	M	U	P
P	A	D	U	A	A	M	I	N	O
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BEETLE BAILEY



BABY BLUES



BY MORT WALKER



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