
Building construction laws and their enforcement: Looking beyond Rana Plaza

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Purpose of the report

On April 24, 2013 Rana Plaza, a nine-storey building that housed five garment factories, a commercial bank and several retail shops, collapsed. More than 1,100 people, approximately one third of the total number of people in the building at the time, were killed.¹ The garment factories had been manufacturing apparel items for many leading global brands, including Wal-Mart, C&A, Matalan and Benetton. Had the building been constructed according to the country's building code, the tragedy would never have occurred. But the code is often ignored by building owners and developers. In the aftermath of the disaster, government officials, garment sector leaders, and civil society activists have all recognized the need to close the loopholes in building code enforcement. But doing so will prove to be an enormous challenge. This report explores the causes of the Rana Plaza collapse, the legislation governing building construction in Bangladesh, and the reasons why this legislation has not been properly implemented.

Why did Rana Plaza collapse?

Following the tragedy, an investigation conducted by the Home Ministry found several problems with the construction and usage of the building:²

- It was partially constructed on a water body.
- The Bangladesh National Building Code (BNBC) was not followed.
- Inferior quality construction materials were used.
- Though the building was designed for six storeys, Savar City Corporation gave the owner permission to add four additional floors. (A tenth floor was under construction at the time of the collapse.)
- Despite being designed for commercial use, the third to eighth floors housed garment factories, each of which used heavy machinery not considered in the structural design.
- The building also had large generators on the top floors, the weight and vibration of which had contributed to the collapse.

Not an isolated problem: The risk of many Rana Plasas

As tragic as the Rana Plaza collapse has been, it is not an isolated incident.³

- In 2004, a six-storey building in Shankhari Bazar in Old Dhaka collapsed killing 11 people; it was built on a 200 year old foundation designed for three storeys
- In 2005, the unstable structure of Spectrum Sweater Factory gave way, killing 64 people.
- In 2006, a five-storey building that housed Phoenix Garments collapsed killing 21 people.
- In 2010, a five-storey building toppled onto three makeshift houses in Begun Bari killing 23 people. It was also found to have illegal additions.

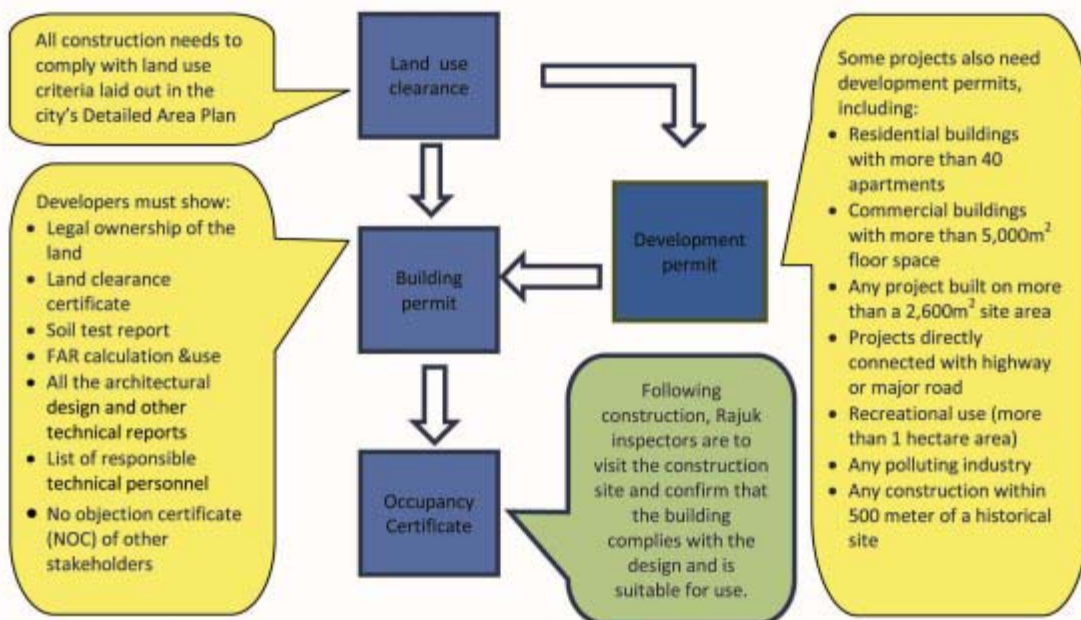
In the aftermath of the Rana Plaza tragedy, the factory inspection department of the Ministry of Labour and Employment and the Bangladesh Fire Service and Civil Defence carried out a survey of 3,197 member factories of the Bangladesh Garments Manufacturers and Exporters Association (BGMEA). They identified 943 buildings as faulty and shut down 12 high risk factories.⁴

Given the pervasiveness of the problem, several experts have raised concerns over what would happen to the city in case of an earthquake. Dhaka is situated along two fault-lines, and according to a Comprehensive Disaster Management Programme (CDMP) study, some 78,323 buildings will collapse if a 6-magnitude earthquake hits Dhaka.⁵

A problem of implementation

On paper, Bangladesh has a robust regulatory regime designed to ensure the safe construction of all buildings. Figure 1 presents a flow chart of the approvals needed for real estate development in the Dhaka metropolitan area. First, all developments must comply with the city's Detailed Area Plan, which lays out where protected water bodies and wetlands are, as well as zoning for residential, commercial, and industrial uses. Second, large and special projects must also seek a development permit. Third, all projects require a building permit to ensure compliance with the Bangladesh National Building Code (BNBC) and the Dhaka Metropolitan Building Construction Rules.

Figure 1: Flowchart of the permits required for real estate development and construction



- The Bangladesh National Building Code (BNBC) was written in 1993, but it was not formally approved and made into law until 2006. Although it requires updating, the Code is well regarded. The 800 page tome lays out clear and comprehensive standards for architectural and structural design, construction procedures, building materials, use, occupancy, earthquake contingencies, and space utilization.
- Before the BNBC became law, members of the Dhaka architecture and real estate community, concerned that Dhaka was rapidly becoming a concrete jungle, pushed for the development of the Dhaka Metropolitan Building Construction Rules in 1996. (This legislation was most recently reformed in 2008.) In an effort to ensure greater "green space" in Dhaka, a primary focus of the Rules is the Floor to Area Ratio (FAR), which dictates what percentage of a plot of land can be developed, based on the height of the building.

Finally, even after a building permit is obtained, the Rules call on the regulator to visit the construction site upon project completion and issue an occupancy certificate certifying that the building complies with existing norms. If correctly followed, this process should ensure safe and secure development. However, as Rana Plaza clearly demonstrates, there are major challenges in putting the Code and Rules into practice. Interviews with experts suggest that while regulators check that architectural designs comply with the FAR, they do not confirm that the actual construction complies with the submitted design. Furthermore, the authorities have not made the occupancy certificate -- the most important element of the regulatory regime -- a priority. This begs the questions: What has gone wrong? Why has enforcement been lacking?

Ambiguity over regulatory responsibilities

The primary flaw in the BNBC is that it fails to clearly designate who should be the authority responsible for enforcement. The government was supposed to “establish a new or designate an existing agency” to enforce the building codes. It is yet to formally do so.⁶ In the absence of a national regulator, smaller jurisdictions are left to fend for themselves. In the Dhaka metropolitan area, the regulator is Rajdhani Unnayan Kartripakkha (Rajuk). While most experts agree that Rajuk has full responsibility for the BNBC and the Rules, in practice, it often evades this responsibility and has not been held to account for failing to enforce the existing legislation. Rajuk offers two arguments in its defence: that primary responsibility lies with the developers and that the agency lacks the resources to do its job effectively.

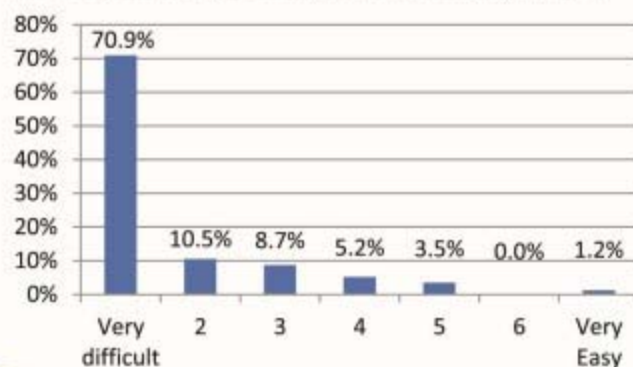
Regulation vs. liability

Under the current regulatory regime, primary responsibility for ensuring that the building codes and rules are adhered to belongs to the architects and engineers who are expected to oversee construction. If substandard materials are used or the approved design is deviated from, then the architect or structural engineer can be held liable. This makes a good deal of sense given the limited regulatory capacity of the government and the dramatic growth in the real estate industry. It does, however, create two problems that highlight the need for a stronger regulator. First, instead of preventing a tragedy, liability only comes into effect after a tragedy occurs. Second, there are loopholes in such a liability based system. For example, given the possibility that architects or engineers will be fired or ignored, they are able to report to Rajuk that they are no longer able to vouch for the quality of a construction project. This should lead to an intervention by the regulator to halt construction until a new supervising architect takes over responsibility; however, interviewees contend that this rarely occurs. In addition, the Institute of Architects of Bangladesh reports approximately 300 cases where architects’ signatures have been forged on documentation.

“Shortage” of resources: Rajuk has always cited their shortage of manpower as the main reason for their inability to monitor violations of the building rules and codes. While the number has recently been increased, there were only 40 inspectors at the time of the tragedy, many of them without engineering degrees.⁷ Experts interviewed, however, point out that! However, they noted that Rajuk is able to find sufficient manpower for its non-regulatory functions: including acquiring land, allocating plots, selling plots, constructing roads and bridges, and developing land. In fact, political influence and corruption appear to be far more compelling reasons for Rajuk’s shortcomings.

Political influence: Prior to 1987, Rajuk’s functions were performed by the Dhaka Improvement Trust (DIT), which was an independent authoritative body run by highly-qualified people with civil society participation. During President Hussain Mohammad Ershad’s government, however, Rajuk was brought under the umbrella of the government, losing its independence. The detrimental effect of political influence is best represented by the 15-storey BGMEA Bhaban, which was built after filling up a portion of Dhaka’s Lake Hatirjheel without authorization from Rajuk. Despite the lack of approval, the foundation stone was laid by a Prime Minister and the building was inaugurated by another Prime Minister. Political influence appears to have played a role in the Rana Plaza catastrophe as well. The building’s owner Sohel Rana was a senior joint convener of the ruling Awami League’s youth front and was allegedly able to circumvent regulations because of his political connections.

Figure 2: Perception among 168 real estate development firms of the ease of obtaining a building permit without paying bribes.



Corruption: Interviewees agreed that corruption was a major problem within Rajuk. As part of the Overcoming Business Challenges Survey conducted by CES, 175 real estate development firms were asked about government corruption. Of 168 firms that reported seeking a building permit from Rajuk, 97.6% reported that someone within the agency solicited a bribe from them. When asked how easy or difficult it was to obtain a building permit without paying bribes on a

scale from one to seven, the answer was overwhelmingly negative (See Figure 2).

Courts: On the one hand, the courts are potentially part of the solution to the lack of enforcement. In several cases, the courts have ruled real estate development projects illegal and ordered their destruction and removal. For example, the courts ordered the demolition of the unauthorized 21-storey Rangs Bhaban, which was obstructing the construction of a planned road linking Bijoy Sarani with Tejgaon Industrial Area. On the other hand, the courts have also become part of the problem.⁵ On several occasions when Rajuk attempted to take legal action against a building project, developers turned to the courts to stop or delay legal action against them. With better lawyers than the under-resourced Rajuk, the developers are often able to win cases. For example, action against the BGMEA Bhaban has been tied up in the courts for the last 3 years⁹.

So what's the solution?

There is an urgent need for a regulator with the resources and, more importantly, the political will to enforce the existing legislation. Rajuk is the most obvious choice for Dhaka. But clearly Rajuk has fallen short thus far and focusing on Rajuk does not solve the problem for the rest of the country. This analysis has discussed several limitations confronting Rajuk, including a lack of clarity regarding its obligations and mission, insufficient resources, political influence, and corruption. Whether the solution is a reformed Rajuk or some other body, these problems will need to be addressed. Furthermore, while Rajuk's enforcement efforts are currently focused on granting permits prior to construction, equal if not greater weight needs to be given to approving buildings for occupancy *after* construction is completed.

Concluding remarks:

"A defective building is far worse than a defective government", said one interviewee. In fact, while government officials come and go, buildings are far more permanent. Mistakes made today will continue to live with us for decades. Only by ensuring an effective, independent, and professional regulator can we ensure that the buildings we inhabit are trustworthy and safe. The problems will not disappear overnight, but with an effective regulator that can ensure firm implementation of the existing rules and codes, we can hope for a Bangladesh where disasters like Rana Plaza will not be repeated.

¹ Md. Asadullah Khan. 2013. "Greed compounded by criminal negligence". *The Daily Star*: May 4

² M. Rahman. 2013. "Rana Plaza was built poorly". *The Daily Star*: May 23

³ 2010. Salma A. Shafi. Keynote paper on National Building Code and its implementation. Round table discussion on implementation of national building code. June 30.

⁴ 2013. Refayet Ullah Mirdha. "12 risky garment units shut, shifted." *The Daily Star*: May 26

⁵ 2013. "Bangladesh preparedness for earthquake too inadequate: Experts." *Dhaka Tribune*: April 27

⁶ Section 2.1. Chapter 2. Part 1 of the Bangladesh National Building Code (BNBC) 1993

⁷ 2013. "Rajuk plans to set up 8 zonal offices." *The Independent*: June 3

⁸ Porimol Palma. 2007. "Rajuk itself flouted demolition code." *The Daily Star*: December 15

⁹ Ashutosh Sarkar. 2011. "Demolish BGMEA highrise: HC." *The Daily Star*: April 4