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INFRASTRUCTURE

Howconcernedareweabout building maintenance?

STAFF CORRESPONDENT

Nearly 20 years ago, Rabiul Islam had constructed a four-storey building on his ancestral land in the capital's Tejgaon area. Just a couple of years ago, he had extended the building to another floor with a tin-shed roof. And in 2018, he had installed tiles on the floors to be able to get higher rent from tenants.

Typically, complaints related to broken windows or damaged faucets are what is understood as maintenance by the owner who is in his 50s. When a tenant leaves, maintenance issues are limited to factors such as repainting the walls or fixing small cracks of the particular apartment to welcome new tenants.

Thorough and periodic check-ups of the building, such as testing the strength of the concrete and corrosion of steel, are something very new to him.

Like Rabiul, most homeowners in Dhaka do not pay much attention to building maintenance. They lack concern about periodical check-ups with many being clueless about building maintenance, in general.

Experts suggest auditing buildings or conducting conditional surveys after a particular time is necessary for the safety of buildings. Timely maintenance reduces risk and increases the durability of such structures. Therefore, inspection and relevant actions are essential for Dhaka's buildings, since countless structures have been built without following proper design and regulations.

Over 95 percent of the structures under Rajuk's jurisdiction were built without building approval, according to survey findings for the ongoing revision of the capital city's Detailed Area Plan (DAP).

Experts recommend third party inspection of buildings and the formation of a separate authority for monitoring them.

According to a 2006 survey for drawing up the DAP, the number of structures in Rajuk area was 11,96,000. The survey conducted during 2016-17 for revision of DAP found 21,46,000 structures in the said area.

So, over a decade, 9.5 lakh structures were built in the said area of Rajuk's master plan, with a yearly average increase of 95,000 structures. In total, a 1,528 square kilometres area falls under Rajuk's jurisdiction.

Fire outbreak at FR Tower in Banani on March 28, 2019. PHOTO: PRABIR DAS

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ABSENCE OF BUILDING AUDITING

Prof Mehedi Ahmed Ansary of the Civil Engineering Department of Buet says, it is an international practice to audit all buildings after a five-year interval; during the auditing, a third-party firm checks up on every aspect of a building.

A homeowner has to hire a qualified engineering firm for auditing and he or she has to submit the audit report to a regulatory authority like Rajuk in Bangladesh.

That's not all. The owner would fix the building on the basis of the findings and would submit compliance report to the authority.

"Unfortunately, that is not happening in our country," he told *The Daily Star* on February 15.

He further says, proper auditing and action on the basis of the report would increase durability of a building and, on the other hand, reduce the risk of any incident of collapse.

He cited FR Tower as an example which is infamous for the devastating fire that caused the death of 25 people and injuries to more than 70 others in March 2019.

The building was extended twice from a 15-storey building. If building auditing had been done properly, safety concerns would have been known and necessary steps could have been taken, he says.

Prof Mehedi adds, "The owner is responsible for carrying out the auditing but the regulator has to force them to do so."

Besides, Rajuk does not have the capacity to do such work, he shares.

PERIODIC CONDITION SURVEYS ARE NECESSARY

Prof Dr Md Tarek Uddin of the Department of Civil and Environmental Engineering of Islamic University of Technology (IUT) shares that a person or authority may plan the service life of a structure for a period of 50 to 100 years.

But for many reasons, concrete structures may deteriorate significantly before the expected service life due to harsh environmental conditions, poor construction work or lack of consideration for durability-based design of structures, he says.

"Therefore, we need to understand the reasons behind early deterioration and we need to take counter-measures to avoid such problems in future," he told *The Daily Star*.

"Routine maintenance alone may not suffice in cases of distress, cracks or deflections in our structures or structural elements. In such a scenario, detailed surveys to find the reasons behind the deterioration of the building have to be identified and proper actions should be taken to keep structural health conditions within a desired level," he adds.

He says, it is also economical and safer to solve structural health-related problems at an early stage, adding, "Our infrastructure owners have to be vigilant and wary of any distress on the surface of the structural elements of their infrastructure."

"Building and infrastructure owners have to carry out condition surveys periodically (say at every five-year interval). This is similar to the health checkups we do at hospitals at regular intervals."

During the survey, aspects such as the strength of concrete, level of steel corrosion in concrete, besides other issues, have to be checked and appropriate actions have to be taken.

He says, designers need to focus on the service life of a structure during planning and design stages; written guidelines in this regard should be produced, covering the regular maintenance services and condition survey.

"Owners of infrastructure need to follow this guideline," he adds.

SEPARATE AUTHORITY FOR MONITORING BUILDINGS

FR Khan, managing director of Building Technology & Ideas Ltd (bti), shares that bti now provides mandatory maintenance service for five years after handing over a building to the owners.

Earlier, they used to provide maintenance service for two years, he told *The Daily Star* on February 16.

"We knock the owners periodically for maintenance concerns. Some of them respond while many others do not. They are not legally bound to comply with our suggestions," he says.

"The number of house owners who do regular maintenance is not impressive," he says, adding, "We are not obliged to do it but we do it because our name is tagged with the buildings."

Citing an example from Sri Lanka, he shares that they have Condominium Management Authority to monitor buildings after they are constructed.

"We should have a separate authority for monitoring buildings. Rajuk is overburdened with work. So, we need a clean, professional body."

VITAL RECOMMENDATION REMAINS UNIMPLEMENTED

The issue of checking buildings came to the fore after the collapse of Rana Plaza in Savar on April 24, 2013, which claimed the lives of more than 1,100 people and left around 2,500 others injured.

Prof Ansary says, on several occasions after the collapse of Rana Plaza, they have called for introducing third party vetting of buildings.

The committee, formed after the collapse and led by National Professor Jamilur Reza Choudhury, included this recommendation to introduce the system in its report in April 2016.

"But the recommendation has not been implemented yet," he says.

WHAT DOES RAJUK SAY?

Contacted, Rajuk Chairman Sayeed Noor Alam says, although buildings in the post-construction period are also under their jurisdiction, they still do not have enough manpower to monitor them.

"We have a total of 1,300 staff in different wings. It is not possible for them to monitor all the buildings at post-construction stage," he told *The Daily Star* on February 17.

Asked about the recommendation for third party vetting, he says, "We are now considering the recommendation."

He, however, admitted that the matter is still being discussed at the planning level.