

AVOIDING AN URBAN NIGHTMARE: TIME TO GET PLANNING RIGHT

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A golden era for the construction industry

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Our construction industry is going through a golden era, with the engagement of foreign contractors. Previously we had lacked our own, but opportunities have been created to learn the best possible knowhow and practices when these are being implemented by foreign contractors at the doorsteps of our engineers. Knowledge, skill, and attitude are three requirements in the learning process that an engineering educator needs to deliver in grooming new engineers. Bangladeshi engineers and contractors are learning on the job and are acquiring the know-how of foreign construction procedures. This is paving the way for the "transfer of technology." It is important to note here that we in Bangladesh have seen such technological interventions before on a smaller scale but with larger impacts, with the Mirpur Indoor Stadium (use of ready-mix concrete) and Bangabandhu Shetu (use of precast segmental pre-stressed box girders) being some examples. Such projects helped the cement and concrete industries in Bangladesh to flourish. Steel manufacturing and fabrication companies will soon flourish further in our country when steel is reintroduced, after about 100 years, to construct the Padma, Second Meghna, Second Gumti, and Second Kanchpur Bridges. These are solid yet giant steps toward higher construction standards. The level of skill of Bangladeshi engineers should be enriched by them.

Nevertheless, Bangladesh is currently "buying" construction technology and expertise from outside, with present budget constraints because of our need for affordability. Any government also looks only to minimise costs and to provide quick solutions to citizens where needed—for instance, where the leadership voices from engineers remain absent in decision-making. The engineers need to look for long term solutions offering lower costs in the end.

The mega-projects going on in our country are helpful to our citizens for their orientation and national mindset, a prerequisite for national goalsetting. Ongoing projects include a satellite in space, a metro rail, an expressway with access control, the double-decker Padma Bridge (roadway and railway), a subway, BRT (bus rapid transit lines), an airport terminal, a tunnel in the Karnaphuli, and a nuclear power plant. Note that we are making only "one" of each of the listed items. The reality is



Any construction project should be carried out with the adequate budget, and its proper purpose must be served.

that we are a relatively "new" country. If one compares our state with that of neighbouring developed countries, one may deduce straightforwardly that we still have a long way to go. This is our first learning cycle in the development process. We must be looking for more tunnels under the waters of our rivers and shores, more river crossings that will be larger and more challenging than the Padma Bridge, more power plants, larger airports as regional hubs, a metro-subway network for Dhaka, an inter-district access control expressway network, and perhaps also some more satellites in the sky. Success in the current projects can offer better economic growth to escape the vicious cycle and offer these new ventures.

What are the key aspects of quality construction from the perspective of materials?

Currently, we do not have ample mate-

rials in Bangladesh for the ongoing mega-projects. We import all of the basic raw materials for cement. Steel, selected sand, and rocks (imported even from Vietnam, Malaysia, and Thailand) are all brought from outside the country. If we dream of an industrialised building system (IBS) offering faster construction, again, we have to rely less on imports. Specialised materials are also import-dependent. This is a scary proposition, as scarcity often leads to lower quality.

One way we could reduce material costs is by importing materials before they are fully processed. More concentration needs to be placed on adding value to all inputs of production. As discussed earlier, Bangladesh is on a development path. Yet, our overall advancement will not be possible without the efficient allocation of resources. **Who will regulate quality construc-**

tion?

Our able engineers and their dedication are the future, and they will regulate construction quality. Quality assurance plans are limited due to budgets, but such plans must be acceptable. Quality levels need to be enhanced with proper budgets. Our aim should be to reach the maximum threshold with future flexibility, while keeping the minimum threshold in mind.

Our engineers need to develop in three areas: knowledge, skill, and attitude. They need to be involved in projects with innovation capabilities in all three of these domains. Our engineering education demands immediate reforms. Take a garments factory, for example. Even the smallest error on a piece of cloth may put off a retailer. Thus, our engineers need to treat our projects in a similarly pragmatic manner. The construction of anything

should be done with adequate budget, and the proper purpose must be served. We must have plans that will benefit the whole nation. A list must be made of exactly what changes are needed around the country. Again, budgets need to reflect the costs of efficient construction.

What are some standard construction practices? How can we ensure that builders abide by them?

Standard construction practices are part of the "Engineering Bible," and such, they are to be followed for a long time. Practices, however, are conjoined with quality assurance. Quality can be divided into material quality, construction quality, operation quality, and maintenance quality. Builders are usually nowhere to be found following the construction of their facilities. This makes future legal claims related to construction defects more complicated.

রূপালী ব্যাংক শিওরক্যাশ

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দেশের সর্ববৃহৎ ডিজিটাল পেমেন্ট সেবা



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(রূপালী ব্যাংকের মোবাইল ব্যাংকিং সেবা)

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