

Dhaka's disappearing canals

Alarming loss of canals over the past 80 years

The crisis surrounding Dhaka's rivers, ponds and open spaces has been repeatedly highlighted in recent years. A new study by the River and Delta Research Centre (RDRC) now turned the spotlight on canals, which are fast disappearing thanks to encroachment, unplanned urbanisation, and negligence from the authorities. According to the study, Dhaka has lost a staggering 120 kilometres or 307 hectares of canals—which is more than the distance between the capital and Mymensingh city—over the past 80 years. Researchers compared the 1880-1940 land survey, known as the Cadastral survey, with satellite images from 2022 before concluding that some 95 canals have been completely lost or reduced to less than half of their original length.

In other words, 55 percent of the land occupied by canals and river channels during the Cadastral survey has been lost by now. Even though successive governments have excavated 10 major canals and created four new lakes, it was nothing compared to the critical loss of water bodies that Dhaka continues to suffer to this day, as various reports have shown. If the trend holds, it may not be too far into the future that these once-treasured features of the city would cease to exist, at least in the way they were intended to.

The question is, how long before we realise the gravity of this situation? Canals, like other waterways, are vital for our existence. They serve as lifelines for local communities, facilitating drainage, supporting ecosystems, and contributing to the overall well-being of the people. But the encroachment and filling of these waterways with structures, farmland, and streets have exacerbated flooding, waterlogging and environmental degradation. Often, this happened at the behest of the government itself. As a recent Rajuk survey showed, 68 ponds within its jurisdiction alone have been illegally occupied and filled up by individuals and government organisations. Many canals also had to go through the same fate.

While the canals that disappeared may not be recovered, preserving or restoring the ones that exist is still possible, experts say. We think this is where we must urgently focus on. A key challenge in this regard is the lack of specific authorities for many canals and the prevalence of collusion among land grabbers, officials, and politicians which often enabled encroachment. We must break this cycle. It will require decisive leadership, effective policies and strict enforcement, as well as active participation from all stakeholders.

We must defend our rights to our heritage

Bangladesh should immediately appeal to reclaim Tangail sari

After India's controversial move to secure the Geographical Indication (GI) rights for Tangail sari, Bangladesh's immediate priority should be undertaking legal measures to defend its rightful claim to the product's origin. As an expert has highlighted in a recent media briefing, there is a three-month window for aggrieved parties to appeal to India's Intellectual Property Appellate Board. While supporting this traditional craft and those associated with it is crucial, securing legal recognition remains paramount.

Typically granted by national organisations, the GI status carries global significance. It assures consumers of authenticity, safeguards producers' reputation and methods, fosters fair competition, and protects intellectual property in international trade. But while Bangladesh's Department of Patents, Designs and Trademarks (DPDT) has been sluggish in recognising products of our heritage—with only 21 registered so far—India has actively and exclusively claimed several heritage items associated with the entire Bengal, including Fazli mango, Nakshi Kantha, Rasgolla, Jamdani, Sundarban honey, and now Tangail sari. India is even attempting to claim Bengal Muslin, a distinguished product of Dhaka.

Whether Bangladesh will appeal to India's Intellectual Property Appellate Board to overturn their decision remains to be seen. But doing this is essential for not only safeguarding our GI rights but also asserting our stance against any appropriation of heritage. Tangail sari, as the name suggests, originated in Tangail under the patronage of local zamindars, woven by communities that migrated from Dhaka. During the Partition, some weavers migrated to West Bengal, carrying the tradition with them. While Bangladesh possesses strong historical claims to the product's origin (a key GI criterion), the legal battle also hinges on skilled handling of the proceedings. Securing top-quality legal representation is thus crucial. Additionally, international support can be sought from organisations like the World Trade Organization.

True, the DPDT has belatedly recognised the Tangail sari as a Bangladeshi GI product. However, this cannot be the end of the story. Proactive efforts are needed to identify and recognise all products of our heritage, seeking diplomatic solutions for shared traditions, and actively supporting these invaluable practices. Reclaiming Tangail sari should thus be a top priority.

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Will merger help solve the weaker banks' problems?



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Banks are an essential part of a nation's economy, facilitating the flow of funds from surplus units (depositors) to deficit units (borrowers) to fuel economic growth. The balance sheet of a bank has two sides: assets and liabilities. Assets are financed by two sources of funds: debt capital (liabilities) and equity capital (owners' equity). According to Basel III, a bank's capital must be at least 12.5 percent of its risk-weighted assets.

Banks with higher capital have higher loss absorbency. Suppose, Alpha Bank has assets of Tk 100 financed by a debt capital of Tk 85 and equity capital of Tk 15. If it lends out Tk 100 and ends up with a 15 percent loss, the whole amount of its capital will be wiped out because the loss is first compensated by capital. If the loss is more than 15 percent, the bank will be insolvent. If the loss is less than 15 percent, say, 10 percent, the bank will still be left with an equity capital of Tk 5. Thus, the greater the risk of loss, the more capital a bank should hold. However, if the loss is unusual, capital is not enough to protect a bank from failure.

There are four main reasons why banks fail: credit risk, interest rate risk, foreign exchange risk, and bank runs. A bank fails when the market value of its assets declines below that of its liabilities, and so the market value of its capital becomes negative. Losses are initially adjusted against capital. When losses exceed capital, a bank becomes insolvent, faces a serious liquidity crisis, and fails to meet the immediate demand of its customers. The ultimate result is bank failure. In Bangladesh, there is no case of bank failure, although many banks would have failed if not rescued.

For example, the Oriental Bank Ltd, founded in 1987, reached the point of failure because of insider lending, corruption and mismanagement. However, the Bangladesh Bank (BB) dissolved the bank's board in 2006 and floated a tender to sell its majority shares in 2007. The Swiss ICB Group purchased the majority of shares, and in 2008, the bank was rebranded as the ICB Islamic Bank Ltd. It has been operating in Bangladesh since then, and has turned into one of the worst performing banks.



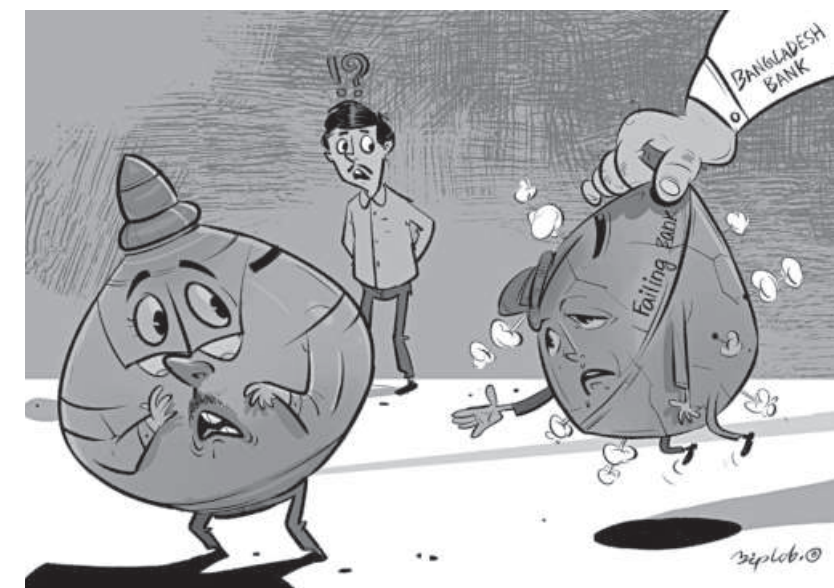
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While Bangladesh has made significant strides in various sectors, the domain of engineering education lags behind. As a student of engineering, then a professor and then a vice-chancellor of a private university, I have witnessed the changes within the academic landscape of engineering in Bangladesh for over four decades. Over the years, engineering programmes in Bangladeshi universities have stagnated, still clinging to a 20th-century structure instead of evolving to keep up with the Fourth Industrial Revolution (4IR). Some necessary steps have to be taken to rectify that.

Bangladesh is adapting to 4IR, marked by the convergence of various exponential technologies like artificial intelligence (AI), cloud computing, 3D printing, Internet of Things (IoT), biotechnology, genomics, and nanomaterials. Integration of cyber-physical systems automates manufacturing and develops many innovative engineering systems. Concerns about AI's competition with

Another story revolves around the Bank of Credit and Commerce International (BCCI), which was founded in 1972. Amid massive irregularities and mismanagement, the bank collapsed in 1991. Its Bangladesh wing was also affected, but then BB came to its rescue. After restructuring of ownership, the Eastern Bank Ltd was established in 1992 with 100 percent Bangladeshi



The Bangladesh Bank may persuade the well-performing banks to merge with the weaker banks to rescue the latter but it cannot order them to do it.

ownership. It has been operating successfully, being one of the well-performing banks.

One bank's failure may introduce a systemic risk through which solvent banks may also fail when their customers panic and quickly withdraw their deposits. When there is a crisis of trust, it becomes difficult for some banks to continue operating. Bank failure is different from that of other institutions, because it has serious economic, political and psychological consequences. Hence, governments in Bangladesh have always tried to avoid it by injecting public funds.

Almost every government in the country has licensed some banks over time on political considerations, ignoring their economic justification. Some of those banks could not attain financial viability; faced

with enormous amounts of non-performing loans (NPLs), they failed to maintain the required provisions and capital. Merger was warranted repeatedly for such banks, but it was not allowed. These banks ran with the mounting scope of failure.

Merger takes place when two or more companies combine together to form a new company in order to reduce competition, increasing their market shares. It helps strengthen capital base and asset size. The ultimate objective of merger is to drive up revenue, reduce costs, and improve operational efficiency. Banks are merged to curb NPLs, and it is generally voluntary. If two banks merge together, it is believed to be mutually beneficial to the buying bank (the bidder) and the selling bank (the target). The effect of merger can be understood by how this news is

reflected in share prices in case the companies are listed in the stock exchange. Empirical evidence shows that in the short run, the target gets benefit. The bidder usually gets benefit in the long run.

However, the question remains about the validity and reliability of data, based on which a selling bank will be evaluated. There is a massive mismatch in the NPLs reported by individual banks and identified by the central bank. The valuation of collateral is also controversial. The riskiness of assets that determines capital adequacy is also underrated. Here, the bidder must face problems in evaluating the target. An erroneous assessment will lead to a wrong conclusion on merger.

Mergers should be based on economic rationality. Its prospect has

to be judged based on the data on asset quality, profitability, liquidity, capital, etc. If a strong bank feels that merger will bring benefit to it, only then it may proceed. The bank intending to be merged will show its interest and the good performing bank intending to buy it will make financial and non-financial analyses. If these analyses justify overall benefit, then merger can be carried out.

Since merger appears sensible now, BB cannot discount its own responsibility as it grants banking licence. How did it justify licensing the banks that later turned weak and are now looking for merger? Did they not understand that the economy is not fit for so many banks (there are 61 banks in Bangladesh at present)? There are always points of disagreement between BB and the government. It must be prudent in licensing a bank. If it fails *ex ante* in this case, it must face problems *ex post*—as is now.

There is no doubt that our economy is overbanked and the number of banks must be reduced. If good performing banks are not interested in merger, considering it may deteriorate their performance, BB may persuade them further, but not order. If merger cannot be made to happen, weak banks should be allowed to wind up reducing further losses. Some banks have such chronic problems that capital injection will not save them. BB will have to develop a well thought-out plan for their decent exit. In shutting down the banks, it must be guaranteed that their clients will get their funds back in the shortest possible time. It is also necessary to identify and punish the perpetrators of weak banks because of whom they reached such a state.

For a merger to be effective, financial reports must be correct. Weak banks have to be identified objectively, although there is always doubt about it. Different powerful groups will put pressure to keep their banks off the list of weak banks. BB must proceed very carefully in this matter. It should be remembered that the experience of merger between Bangladesh Shilpa Bank and Bangladesh Shilpa Rin Sangstha to form Bangladesh Development Bank Ltd in 2009 did not prove successful. This bank had the NPL rate of 41.37 percent in 2022, although a key objective of this merger was to reduce NPLs.

It is appreciable that the regulators and the government have realised that the number of banks in the country needs to be rationalised. There must be some appropriate ways to reduce the number so that the economy can present a healthy environment to the banking sector.

How should our engineering education evolve?

human intelligence and the uncertain future of jobs are widespread. The complexity of technologies and the diverse array of societal needs necessitate a renewed approach to engineering education.

So far, the engineering curricula are being updated by adding a few new courses. In light of the current context, some educators propose incorporating courses like machine learning, biotechnology, and data analytics into the curriculum of every engineering programme to address the challenges of the present era. Their argument is based on the idea that complex systems can be inferred from "objective" empirical data and understood by analysing the behaviour of their constituent parts. This underlies our current undergraduate engineering curricula, following a Cartesian/Newtonian perspective marked by dualism, reductionism, and determinism.

The characteristics of present complex systems include: i) holism—

the system's characteristics can only be explained in terms of the whole, not its components; ii) chaos—there can be multiple possible outputs for a given input, or small changes in input can result in significant changes in output; and iii) subjectivity—some aspects of the system might not be able to be described objectively.

A "holistic undergraduate curriculum" can embrace complexity, ambiguity, and uncertainty inherent in technologies. Students need to transition from problem-solving to problem formulation and learn to navigate ambiguity. Essential skills include creativity, open-ended problem-solving, innovation, collaboration, communication, ethics, entrepreneurship, lifelong learning, emotional intelligence, and systems thinking. Introducing capstone projects, especially interdisciplinary ones, can foster critical thinking and problem-solving skills. Many universities abroad have learning laboratories to provide an experiential, collaborative environment to prepare students for their professional journey. Traditional teaching methods are being replaced by alternatives like project-based learning, problem-based learning, flipped classrooms, and experiential learning, acknowledging the inadequacy of the traditional "chalk and duster" approach.

Universities in Bangladesh are teaching 21st century students with 20th century curricula in 19th century

classrooms. Transforming engineers for the present and future requires a departure from reductive curriculum and traditional teaching approaches. The time is ripe for a paradigm shift in engineering education, one that embraces transformational change to adequately prepare students for the challenges and opportunities of the contemporary technological landscape.

Developing holistic curricula and innovative teaching and learning is a challenge. The education authorities could consider establishing the Bangladesh Academy of Engineering, dedicated to overseeing this discipline and fostering the development of innovative engineering education for both present and future. This initiative is not unprecedented; for example, the United States has already established the National Academy of Engineering, and Australia has named its counterpart the Australian Academy of Technology and Engineering.

In our globally connected landscape, engineers need to stand out internationally. To thrive in this competitive arena, I also advocate for the creation of a master's degree in professional engineering (MPE) modelled after an MBA. The MPE curriculum should be meticulously crafted to cultivate cognitive skills, robust management expertise, and essential soft skills, ensuring that our post-graduate engineers stand out on the global stage.