

Mega Infrastructure needs mega planning

We need expedited plans with a vision for increased connectivity in the southern parts of Bangladesh

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Mega infrastructure includes power, telecommunications, transportation, housing and health. Skilled engineering and technical professionals with ample understanding of the evolving needs of the industry and society are the key to successful planning, construction, operation, maintenance and rehabilitation of mega infrastructures.

Scale of investment must be on par with the future needs of the population and national investment ability. We plan our infrastructures keeping both in mind, but our post-independence planning has not always been executed with realistic projections. Our national policy used to deal with population control, but now we have shifted gears and are positively concerned with a population dividend. There has been a paradigm shift in conception. The more these shifts evolve, the more corrective measures are required, but at the cost of time. We cannot forget that the world is not always in the same position, so our planning cannot be rooted in theory. Foreign direct investment helps us develop physical capital, create employment opportunities, develop productive capacity, enhance local labour skills through the transfer of technology and managerial expertise, and integrate the domestic economy with the global economy. These need to preserve national interests and reflect visions of the future.

It took 75 years for the telephone to gain 100 million users, whereas the smartphone gained the same number in just two years. If a new app is released this year, it may take only a month to reach 100 million users. The world is growing exponentially.



electricity was the impetus, and the third industrial revolution in 1969, when computerisation was required, we fell behind. In 2021, since we are already two industrial revolutions behind, we are struggling to meet the fourth one's requirements.

Let's look at a scenario which shows how being oriented toward the fourth industrial revolution could make our systems more efficient. Suppose Bangladesh has installed an X-band radar for use in weather forecasting. The data collected using the radar can be sent to the Bangladesh Meteorological Department (BMD). The BMD could use

when planning for future infrastructure development.

Our inter-district highways and tertiary roads are not on par with those of the developed countries. This is again due to a lack of planning with realistic projections. We needed to build such infrastructure in the past with limited foreign aid and policy constraints. Our future lies with increased national investment abilities – the ability to make decisions on our own and planning with visions of the future, and acquiring benefits from such investments. With the benefits of Bangladesh's geopolitical location, we can be more attractive

beautiful spots such as Sandwip, Sonadia and many more stable islands in the northern Bay of Bengal. These islands need to be brought under an integrated road and bridge network connectivity to generate sizeable revenue from tourism. Our seashores have not been utilised because, for connectivity on deltaic land, we require bridges. Building bridges in the southern part of Bangladesh is not as easy as it is in the north. This is why we have many connectivity links to the south with broken surfaces. We need expedited plans with visions for increased connectivity in the southern parts as well.

A study in BUET by this writer on Southern Bangladesh indicated that developing connectivity through the islands would cut transport time from Bhola to Chittagong from 10 hours to just two hours. So far, our connectivity between Dhaka and Chittagong centres on the national highway (N1). By doing this, we are promoting Dhaka bound traffic and urbanisation around the city. Improvement requires alternate routes and diversification. There exists no direct connectivity between the south-west and the south-east. However, direct connectivity between Bhola and Chittagong can encourage not only decentralisation of the N1 corridor but can also connect the south-west with the emerging economic hubs – Mirerashorai, Matarbari, seaports and upcoming tourism parks in Cox's Bazar-Teknaf belt. Accomplishing this is technically

and financially challenging, but these ventures will allow us to develop as a more integrated nation with high-return infrastructure having far-reaching benefits.

Due to all the unplanned development that has already occurred in Dhaka, a way to improve the transportation network would be to build subways. Even then, the subways would have to be constructed deep in the ground, thereby increasing costs significantly. All future developments have to be under an integrated plan in correlation with the fourth industrial revolution.

Innovations in major bridge designs with aesthetic considerations are still quite uncommon. Bridge aesthetics are always prioritised through appropriate design optimisations – not by sacrificing cost economy but offering attractive tourist-friendly atmospheres. We still think about separate corridors for railway, roads, and pedestrian facilities. All our bridges, such as the Bangabandhu Bridge, Meghna Bridge or Padma Bridge, have so far created just paths for people to travel through, with no other planned civic or sustainable income generating facilities on the banks and shorelines. Planners abroad think about connectivity for a total area, including civic and tourism facilities when constructing a bridge, and provide as many other facilities to local people as possible. Such planning is still not visible in our mega infrastructures. An integrated approach is required to be conceived before moving forward.

Infrastructural development also plays a role in socio-economic development. The socio-economic structure of Bangladesh is reliant on the agro-economy. Yet, we are not generating enough revenue to boost it. Farmers are unable to access markets due to a lack of proper transportation infrastructure. Marketing strategies at the farmers' level are missing. They do not have information on the optimum time to sell their crops at the maximum price, hence wrongly forecasting the market demand. The poor infrastructure also makes transporting the produce to the market too costly; crop prices do not cover these transportation costs, leading to losses. These complications are caused by the weak transportation network within our agro-economy, ultimately leading to low revenue generation.

Without technological interventions and innovations, the wheels and gears of the economy can only move slightly. The country has produced only a few visionary planners in the past. For now, we should recruit planners and engineers who have succeeded in world-class projects to learn from their success stories. Still, we have to be the ones making best decisions about the kind of infrastructure development we want. Our local planners and engineers must be part of teams to gain hands-on experience and local customisation. With effective learning and sharing of experience within the industry, we will have more creative engineers and planners of our own with innovative capabilities. Improving engineering education and professional competence will help develop a crop of talented planners and engineers who can build our infrastructure to be on par with that of the rest of the world.

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The internet pushes all devices and national physical assets to talk to each other with seamless connectivity on the information superhighway. To keep up with these fast-paced advancements, Bangladesh needs accelerated growth in infrastructure development. Our future infrastructure must be ready for the Internet of Things (IoT). IoT is a system that allows devices to communicate with one another without requiring the intervention of humans. Most countries are increasingly using IoT in the era of the fourth industrial revolution.

The driving force of the first industrial revolution in 1784 was steam, which we successfully capitalised on to some degree as the British colonial regime needed it. However, during the second industrial revolution in 1870, when

this data to forecast rain for the next day. The rain would cause the environment to cool down, and people would use air conditioners less. This means that there will be a lower electricity demand. We require fuel to generate electricity, so the fuel supply needed would be lesser, leading to a lighter load on the fuel transportation network. If this information reaches the city authority, they will be able to determine the traffic forecast for the next day. This data can be fed to navigation apps on our phones so that all users are aware of travel times. This will help people in making private investments have not seen much of a surge in the recent past despite investment-friendly policies being in place. This reiterates the fact that only policies are not enough to attract investment. The overall investment climate has to be improved. One of the important pre-conditions is the removal of the supply side's constraints, including inadequate infrastructure, and the existence of red-tape and corruption which increase the cost of doing business. In an attempt to reduce infrastructural deficiency, the government has

for foreign investments. There is room for more potential, but we have not recognised it. Only three percent of our total GDP can be credited to tourism while neighbouring countries have much higher percentages.

One reason for this is the high population density in our cities, which we cannot manage with our present infrastructure. One solution could be to shift tourism to our islands, which have much lower population densities. To make this possible, we must develop our island-to-island and island-to-mainland connectivity. This island infrastructure network could feed the whole country. Yet, we have no plans for best utilising our islands. When we think of tourism in Bangladesh, our minds immediately go to St. Martin's Island, ignoring more

Our future lies with increased national investment abilities – the ability to make decisions on our own and planning with visions of the future, and acquiring benefits from such investments. With the benefits of Bangladesh's geopolitical location, we can be more attractive for foreign investments. There is room for more potential, but we have not recognised it.

50 Years of Bangladesh: Accelerating export-led industrialisation

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dramatically changed since 1985. Several trade policy reforms were implemented which included trade, exchange rate, monetary, and fiscal policy incentives. The export promotion measures were designed to diversify the export market, improving the quality of exports, stimulating higher value-added exports, and developing industries for backward linkages in the country. Such reforms were beneficial to a number of sectors, including the RMG sector. These reforms provided exporters with unrestricted and duty-free access to imported inputs, financial incentives in the form of easy access to credit and credit subsidies, and various forms of fiscal incentives such as rebates on income taxes and concessionary duties on imported capital machinery.

Trade liberalisation since the 1980s reduced the nominal tariff rate, the import-weighted average tariff rate, the implicit nominal tariff rate, and the effective rate of protection. Non-tariff barriers such as quantitative restrictions

on imports were also removed by a large extent. Both the import penetration ratio and the export orientation ratio rose significantly during this period.

21st century industrialisation needs to take emerging realities

The progress towards industrialisation has been significant in terms of its share in the GDP, export income and employment generation. However, the sector has to move to the next phase, which will be characterised by high value-added RMG and non-RMG manufacturing. In order to make this transformation happen, a number of measures have to be taken by policymakers.

First, in terms of policies, there is a need for a second-generation industrial policy which will be based on the emerging realities of the 21st century. Hence, the industrial policy should be coordinated with other relevant policies such as financial, trade, and investment policies. Since Bangladesh will graduate from

the least developed country (LDC) category by 2026, these policies will need to be revisited and made more strategic and consistent with global policy regimes, particularly in the context of the World Trade Organisation (WTO).

Second, in line with the changing global demand, Bangladesh has to diversify its manufactured products. This requires large investments in the more modern sectors. Unfortunately, both domestic and foreign private investments have not seen much of a surge in the recent past despite investment-friendly policies being in place. This reiterates the fact that only policies are not enough to attract investment. The overall investment climate has to be improved. One of the important pre-conditions is the removal of the supply side's constraints, including inadequate infrastructure, and the existence of red-tape and corruption which increase the cost of doing business. In an attempt to reduce infrastructural deficiency, the government has

undertaken several large projects. The Padma multipurpose bridge is one of these initiatives, which is expected to enhance the efficiency of our economy in many ways. The improvement in the power and energy sector is also noteworthy. The government's efforts towards setting up 100 Special Economic Zones (SEZs) are expected to remove investment-related shortcomings in a significant way. Speedy completion of the SEZs is what is needed now to attract foreign investment.

Third, supply of skilled and smart human resources who can do the job on the ground is urgently needed. Modern industrialisation depends on the quality of human resources. Investment comes where there is a skilled set of people. Despite having a large youth population, Bangladesh suffers from lack of qualified people for industries. As a result, private companies are increasingly relying on human resources from neighbouring countries, while there is a large number of unemployed youth in the country. Higher investment

on education and capacity development is required by both the government and the private sector.

Finally, due to increasing interface with technology, the entire production and marketing environment is going through a dynamic change. Additionally, the overall supply chain has gone through a change during the ongoing COVID-19 pandemic, which may continue beyond the pandemic. These will disrupt the labour market. The need for human labour is shrinking in several jobs. Therefore, human resources have to be reskilled and upskilled so that they can benefit from large-scale industrialisation. At the same time, they should also be provided with financial, technological, and other related support for self-employment through investing in small-scale industrialisation. This will create new jobs and eventually help eradicate poverty.

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