



# PADMA BRIDGE: A NEW DAWN

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## “We invented 13 new technologies in the process of constructing the Padma Bridge”

*Leaving behind all odds, Padma Bridge, the largest bridge in Bangladesh and the first multi-billion-dollar project of its kind to be financed by the peoples' money, is a reality today. This tells of the country's inner strength. The main works of Padma Bridge were done by the China Railway Major Bridge Engineering Group Co Ltd (MBEC). How did it undertake such a gigantic and challenging job requiring unique engineering? A MBEC senior engineer shared the experience in a recent interview with The Daily Star's Porimol Palma. The MBEC official preferred not to be named.*

constructed the Paksey Bridge, the 3rd Karnaphuli Bridge, Kuril Flyover and Dapdapia Bridge in Bangladesh.  
**TDS:** What was your impression after getting the work?  
**MBEC:** I remember being quite excited. However, the feeling did not last very long as I soon realised that the work would be quite challenging. So, I immediately devoted myself to preparing for the project. We signed the contract with the Bangladesh Bridge Authority (BBA) in June 2014 and our first batch of staff was deployed to the site in July.  
**TDS:** What preparations did you have to take before starting the work? What difficulties did you face in the

Then, we had to mobilise a large number of personnel, geo-bags and sand to protect the embankment of the construction yard.  
**TDS:** Did you face any other challenges from logistic, social or government sides that could have been avoided?  
**MBEC:** We encountered almost all kinds of challenges. However, the Bangladesh Bridge Authority (BBA) and other government agencies always provided us with the best support whenever required. It is a little pity though that Chittagong Port was always congested while we imported large volumes of materials and equipment for project construction

continue working during the peak of the Covid-19 pandemic?  
**MBEC:** In order to protect our staff, the most urgent issue was to prevent Covid-19 from spreading in the project area. This was particularly difficult at the time as no vaccines had been developed yet and people did not have a clear idea about the virus. Everyone was scared to go outside to work but against all odds, our construction continued. We shouldered the mission to construct the dream bridge as soon as we could. To overcome those difficulties, we enhanced the security work of our construction yard and increased the investment for Covid-19 containment. We strictly controlled

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A Chinese technician operating a heavy machine at the Padma Bridge construction site. Source: Xinhua.

**The Daily Star (TDS):** When did you think of bidding for the project and how did you win it?  
**MBEC:** In the year 2000, our company came to Bangladesh to construct the Paksey Bridge. That was when we came to know that the Bangladesh government was planning another major bridge on the Padma River. That excited us since our company constructed the Wuhan Yangtze River Bridge, the first road-cum-rail bridge over the Yangtze River. We were eager to construct another historic bridge in a foreign country as the national team of bridge construction in China, and for over 10 years, we had been tracking information related to the project. So, we were fully prepared to win the bid. More importantly, we had successfully

initial stages?  
**MBEC:** First, we prepared the project management plan and sorted out all the necessary sources for the project construction yard. Then, we completed the deployment of personnel within a month. A large amount of special construction equipment was mobilised to the project site before the authorities issued orders for work commencement. In the initial stage, we had a lot of challenges. For example, with inclines and because of unforeseeable soil conditions, it was extremely difficult to use long pile drivers for the foundation. In addition, we suffered land collapse incidents several times during the monsoon season in 2015 and 2016 due to heavy floods and strong scour.

work. We had to spend long hours for customs clearance. In April 2020, the brackets of railway stringer beams were the most urgent material for the project but that was when the Covid-19 pandemic struck Bangladesh, prompting the government to impose a nationwide lockdown. To keep the work going, we decided to visit Chittagong Port and facilitate customs clearance. We immediately reported our plan to the BBA and received a special pass, so that our designated staff and cars could go to Chittagong Port smoothly. My staff stayed there for a few days and worked with the customs officials. That's how we received the brackets on time at the site.  
**TDS:** How did you manage to

the personnel movement at the main gate. We quickly established more than 40 dormitories at different places inside our construction yard as an accommodation area for more than 2,000 local employees, for free. We also paid them an additional daily living allowance, and provided medical face masks and other medical materials imported from China when the markets were closed in Bangladesh. With all our efforts, we tried hard to mitigate the impacts of the pandemic, moving forward in the process step by step.  
**TDS:** Do you think you could have done the work more quickly and efficiently?  
**MBEC:** There were lots of unpredictable and unprecedented

challenges for the project. Such as the water velocity, the extremely bad weather, the Covid-19 pandemic and so on. For example, the Padma River has a mean flow of around 150,000 m3/second, making it one of the largest rivers in the world. This brought extreme challenges to the construction work. Extreme weather, such as hurricanes, lightning, heavy rain, and high temperatures frequently forced us to stop work at the site. In particular, the outbreak of Covid-19 severely affected the construction work. Despite it all, we believe that we made the most appropriate decision, took the most effective actions and made the best effort to achieve the best result.  
**TDS:** Do you want to make any comparison between construction of the Padma Bridge and any other mega projects anywhere in the world?  
**MBEC:** Like other mega projects in the world, the Padma Bridge is of great significance and requires large-scale construction. However, I would like to say this project is unique because of its greater significance to the people of Bangladesh, its economy and not to mention, the difficult construction technologies, the challenging construction environment requiring high levels of skill and efficiency and finally, the time it took to complete.  
**TDS:** What is your impression after completing the project?  
**MBEC:** I feel as if I have completed the most valuable work of my life.  
**TDS:** Is there anything new that you have achieved through completing this project?  
**MBEC:** Yes, there is. Technically speaking, we have invented 13 new technologies, such as construction technology of super-large diameters and super-long inclined steel pipe piles, integral manufacturing and hoisting technology of 150 metre-span steel truss, over 10,000-ton friction pendulum anti-seismic bearing technology and so on. With the successful application of these original technologies, we constructed Padma Bridge successfully.  
**TDS:** Is there any lesson that you want to share with the people and government?  
**MBEC:** Bangladesh is a country of hope with a huge potential for development. However, everybody has to understand that hard work, persistence and perseverance are always the basic elements to support continuous development.

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