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A Study on the Significance of the Padma Bridge in Bangladesh

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ABSTRACT

Bangladesh is a riverine nation in South Asia that borders the northern littoral of the Bay of Bengal over 580 kilometers of its coastline. Our nation has 213 rivers, and 20 significant bridges have been built across them. There are now five further bridges being built. The Padma Multipurpose Bridge Design Project entails a new fixed crossing of the Padma River in Bangladesh. It will include a new bridge measuring about 6.15 kilometers long across the river, approach viaducts, significant river training works, and roughly 13.6 kilometers of approach roads, as well as bridge end facilities like toll plazas, service areas, and offices. The longest bridge in South Asia will link the country's southwest region with the capital Dhaka, fostering trade and the transportation of products between Mongla, the nation's second seaport, and the rest of the nation. This essay highlights the significance of the Padma Bridge Bangladesh and provides a description of the project's components. The report explores the project's effects on several facets of Bangladesh, both positive and negative. The research also highlights the difficulties encountered during the main bridge and viaducts' field survey construction. According to the report, building the Padma Bridge would greatly boost a number of economic sectors both nationally and locally.

Keywords: Multipurpose, Construction, Nationally, Viaducts.

1. Introduction:

Bangladesh is a riverine country. 230 rivers currently flow in Bangladesh, according to BWDB. The river system of Bangladesh, which acts as the central communication route for the nation, is essential to everyday country life. Nearly all of the nation's major towns, cities, and commercial hubs were founded along its rivers. Bangladesh is a South Asian nation distinguished by lush greenery and numerous canals. It is located east of India on the Bay of Bengal. Travel by boat is popular, and the Padma (Ganges), Meghna, and Jamuna rivers of this region produce rich plains. Jamuna Bridge, Hardinge Bridge, Lalon Shah Bridge, Meghna Bridge, Padma Bridge, Shah Amanat Bridge, Khan Jahan Ali Bridge, and Kean Bridge are some of the major bridges in Bangladesh. The functions and significance of every bridge vary. For Bangladesh's development, the Padma Multipurpose Bridge and related infrastructure are crucial. This project has a notable effect on the entire nation and advances the socioeconomic situation in the Southwest. Additionally, industrial growth will quicken.

1.2 General Information about Padma Bridge:

Location Padma River, Bangladesh	**Type of Project** Versatile Railroad Bridge	**Construction Start** 2011
Completion 2022	**Inauguration:** June 25, 2022	

1.3 Objectives of the study:

1.3.1 Primary Objective:

The board's objective is to know the significance of the Padma Bridge.

1.3.2 Secondary Objectives:

To reach the broad objective, some specific objectives are identified. This includes but not limited to:

- To know the background of the Padma Multipurpose Bridge;

- To know the positive and negative effects if it;
- To know the toll and revenue collection pattern.
- To know the economic impacts of the Padma bridge.

1.4 Literature Review:

The opening of the newly built Padma Bridge over the powerful Padma River on Saturday put an end to the lengthy wait for 170 million Bangladeshis. Sheikh Hasina, the prime minister of Bangladesh, officially opened the bridge while being joined by almost 3,000 notable individuals. A multipurpose road and rail bridge over the Padma River is being built in Bangladesh, and it will be called the Padma Bridge. It will be the largest bridge in Bangladesh when it is finished, as well as the first fixed river crossing for vehicles. The project's executing agency is the Bangladesh Bridge Authority (BBA). Prime Minister Sheikh Hasina officially opened the nation's greatest infrastructure on June 25, 2022. Steel and concrete were used in the bridge's construction. This coveted Padma Bridge is the largest project Bangladesh has ever undertaken without any foreign aid. The main bridge measures 6.15 km in length and 16.10 m in width. There are two tiers to the bridge that connects Mawa in the Munshiganj district with Jajira in the Shariatpur district. It has a railway at the bottom and a four-lane road at the top. Future rail, gas, power, and fiber optic cable extensions will cross the Padma Bridge. The bridge, which was constructed at a cost of more than Tk 30,000 crore, has significantly aided the industrial, social, and economic growth of southern Bangladesh. Not only for the nation but also for regional connectivity between Asia and Southeast Asia, the bridge is crucial. The study identifies numerous significant gains for the socioeconomic development and the growth rate of GDP.

2. MATERIALS AND METHODS

In this research, the author has followed the quantitative research strategy as the author has collected descriptive data set through the interview method and observation method.

2.1 Data Collection Method

In this research, the author has collected primary data through the interview method and secondary data from different websites, books, articles & published journals.

2.2 Data Analysis

The author has analyzed the collected data through MS word & MS Excel. The analyzed data has been published in descriptive in nature.

2.3 Time plan

The author was in need of the participants and their spontaneous engagement in the interview in order to complete the study. To finish the study, it has taken the researcher about 12 weeks. This may be seen in the gannt chart below.

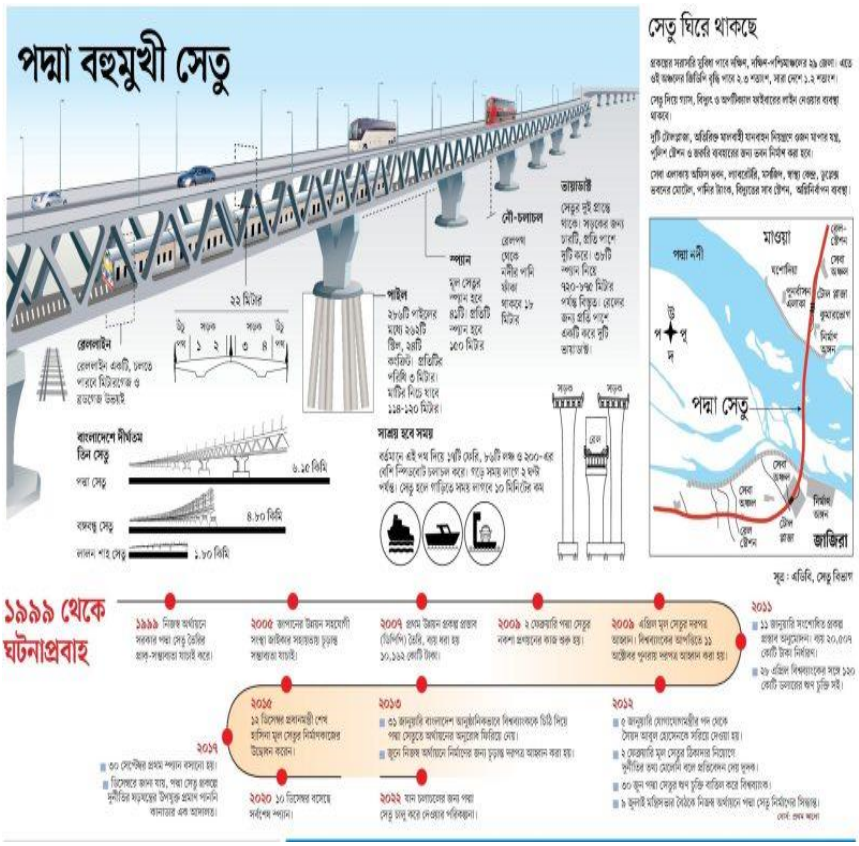
Task/Time	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Creating Research structure												
Literature review												
Designing data collection method												
Collecting information												
Data Analysis												
Presentation												
Supervision												
Submission												

Source: Author's calculation.

3. Result Analysis and discussion

3.1 What is the background of the Padma Bridge?

The bridge was officially opened on June 25, 2022, and it marked the realization of a dream that Bangladeshi Prime Minister Sheikh Hasina first shared with her countrymen 21 years earlier. The bridge encountered several difficulties along the way; perhaps this is why the bridge is regarded as a great example of strong leadership. On July 4, 2001, in the final days of the former administration, Prime Minister Sheikh Hasina laid the cornerstone of the multifunctional project at Mawa in the Munshiganj area. Sheikh Hasina and her dream project experienced a huge setback after regaining power in 2009 when the World Bank rejected $1.2 billion in loans on the grounds that it cannot, should not, and will not ignore evidence of corruption. The Asian Development Bank (ADB), Islamic Development Bank (IDB), and Japan International Cooperation Agency (JICA) also abandoned the project at a time when Hasina's hold on power was shaky, however a Canadian court ultimately dismissed the charge. But Hasina didn't abandon her dream project, and seven years later, she once more used public income to fund the bridge's construction, bringing the dream to fruition when she officially opened it. After the World Bank decided to abandon the project, it was successfully completed, giving the nation great expertise in planning, funding, and carrying out large-scale initiatives. It has provided a wonderful example of independence for people all throughout the world. It is a massive Bangladeshi project that is entirely funded by the Bangladeshi government. By building the Padma Bridge on its own dime, the Bangladeshi government has set an example for other South Asian nations, which will undoubtedly inspire other nations to step forward and undertake similar projects of this like in order to improve regional connectivity.



Source: https://eduresultbd.com/padma-bridge/

3.2 Why a significant structure?

Located some 68km (42 miles) from Dhaka, the Padma Bridge will work as a gateway to the country's southwestern region and will significantly reduce travel time between Dhaka and major districts in the region, including Khulna, Jessore, and Barisal. It usually takes 15 to 22 hours to cover a distance of 180-300km (111-186 miles) between the southwest districts and Dhaka. It will also slash the distance between Dhaka and Bangladesh's second-largest seaport, Mongla, by 100km (62 miles). The mighty Padma separates the southwest region from Dhaka and people are forced to travel on ferries or launches that make slow journeys. Perishable goods transported to Dhaka from southwestern districts by truck often rot because on the long trip that can sometimes take 22-24 hours due to the long tailback in ferry stations.

According to a study by the government-run Bridge Division, the Padma Bridge will save a total of 187,727 hours of waiting for ferries per day for 2,620 vehicles. It is estimated that with the opening of the bridge, about 24,000 vehicles will cross the river every day – a significant jump from the current number of 2,620. The study also pointed out that the economic impact of the bridge will help increase the annual gross domestic product (GDP) of the southwest region by 2.5 percent and the overall GDP of the country by more than 1.23 percent.

Economist Selim Raihan, who conducted a study on the economic impact of the bridge, said its main benefit is that it will connect southwestern districts – known for fishing and agriculture – to the economic lifeline of Bangladesh – the Dhaka-Chattogram economic corridor.

- As communication and transportation over the Padma River had been solely reliant on ferries, much industrialization didn't take place in the southwestern districts so far.
- The readymade garment sector – Bangladesh's most prominent industry and main export earner – has remained completely absent from those districts.
- Investors and industrialists will be interested to invest there which will spark massive economic growth.

Source: https://www.slideshare.net/sajeeb1350/padma-brige-project-2017-slide

3.3. What are the positive Effects of Padma Bridge?

The Padma Multipurpose Bridge will greatly enhance numerous economic sectors both nationally and locally. The bridge will improve capital inflow, promoting business and industrial activities as well as expanding economic and job prospects for the local populace.

- **Communication:**

The communication issue in Bangladesh's southwest, which makes up 25% of the country's total land area, would be resolved with the construction of the Padma Multipurpose Bridge. Raw commodities from the port of Chittagong will be transported more affordably with the advent of both the road and the rail. The bridge will be built as part of the Southwest's economic growth, which will encourage business and industrial activity and increase locals' access to economic and job prospects.

- **Shorter travel distances and faster travel times:**

Direct connections between the two country's two major seaports will be made possible by the proposed bridge. It will take less time and money to transport goods and people from Dhaka to practically all significant locations in the southwest because the distance between the two cities will be cut by at least 100 kilometers (km) and by more than 3 hours every journey.

- **Life Safety for the Public:**

Surface transportation that is safer and more dependable must immediately take the place of the hazardous ferry and launch services between Dhaka an d the southwest region. When navigating this waterway's violent confluence of the Padma and Meghna Rivers, overloaded vessels frequently capsize(fo r example, sinking of the launce Pinak 6, M N Ashraf Uddin launce, Bangladesh Ferry Accident).

The Padma Multipurpose Bridge is being built as a solution to this plight.

- **Supply of Gas, Telecommunications, and Electricity:**

The Padma Multipurpose Bridge's development will link the country's southwest region to the national electricity grid. Between the two sections will be an electric circuit. Therefore, the current economy as well as quick industrialization will be produced by this enormous power supply.

- **Industrialization:**

The southwest region's industrialization was the main setback brought on by the lack of a bridge in the area. Since both raw supplies and completed items have transportation and consequence-marketing issues, only industries based on local resources may be formed. As a result of the Padma Multipurpose Bridge bringing the power required for industrialization to the doorstep of the average person, various scales and dimensions of industries would develop in the area, ultimately benefiting the national economy.

- **Improvement of life Standard:**

Homes close to the construction sites had to be evacuated, and many locals had to be transferred to relocation sites. The relocation of these locals will significantly improve the quality of life because new public facilities and social infrastructure will be built.

- **Cultural Integration:**

Different regions of Bangladesh exhibit linguistic, dietary, and cultural diversity. It might be challenging for people from one place to comprehend language from another. The Bridge will act as a national culture's growth catalyst. The cumulative socialization effects of everything will certainly result in a more uniformity in thought, outlook, interaction, and action than there is now.

3.4. What are the negative effects of Padma Bridge?

Many people's means of subsistence and way of life will alter as a result of the quick economic growth in the southwest. With this transformation, numerous other social and political issues will emerge that could endanger Padma Bridge's future success.

- **Household losses:**

For the creation of five resettlement sites as well as the bridge's associated infrastructure, the project will need to purchase 755 hectares (ha) of land. Additionally, for roughly 6 years, a total of 163 acres of land will be temporarily needed for construction sites. 26,500 people across 5500 houses would be impacted.

- **Loss of Agricultural Land:**

The component will have an impact on a total of roughly 507 thousand acres of land in the districts of Munshiganj, Shariatpur, and Madaripur. The majority of the affected land, approximately 83 percent of the total acquired area, is situated on the Janjira side, while the remaining affected landlines are situated on the Mawa side. Due to the loss of agricultural land, 30,000 people in 10,000 households will experience a loss of income and way of life.

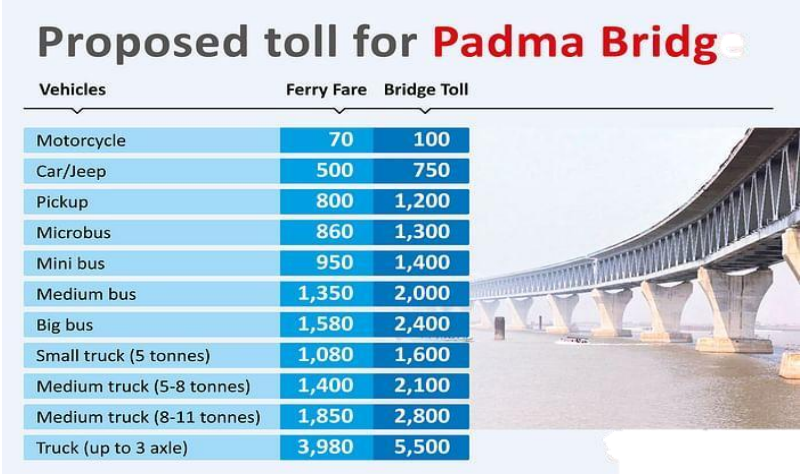
- **Income Loss:**

Fisheries, services, trade and transportation, as well as wage jobs, will cause an income loss for 25,000 people. The opening of the bridge to traffic will have an indirect impact on some of these persons.

3.5. How much toll and revenue does Bangladesh collect from this bridge?

- **Toll and Revenue:**

On 28 April 2022, the Ministry of Bridges proposed a toll rate for the Padma Bridge and sent it to Prime Minister Sheikh Hasina for approval. On May 17, the Ministry of Road Transport and Bridges issued a notification fixing different toll rates for different transports. These are shown in below table:



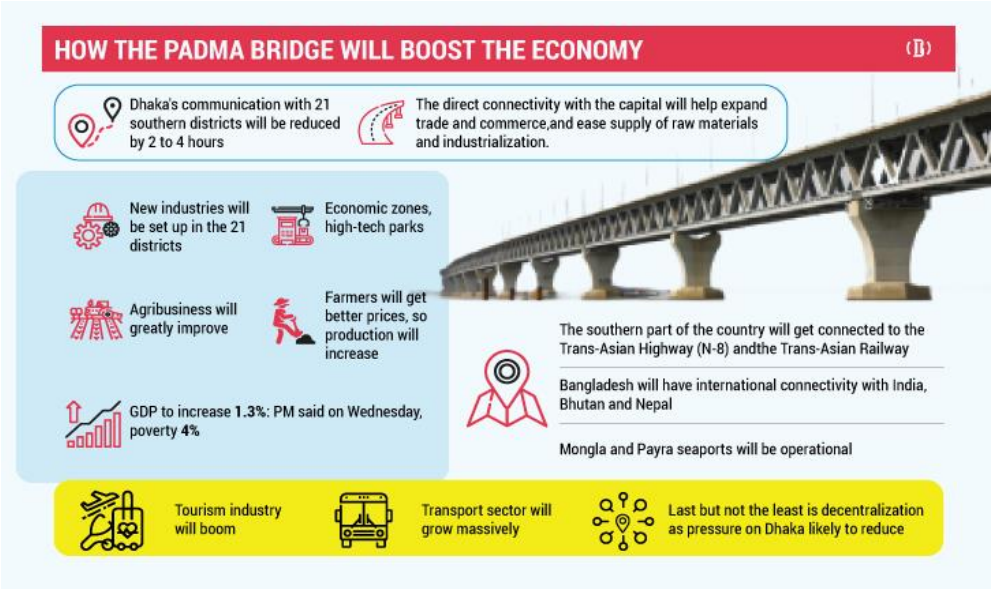
Source: Prothomalo.com

The construction cost of the Padma Bridge is Tk. 30,193.39 crore. It is estimated that by 2022, the bridge will carry 21,300 vehicles per day in 23 districts of Bangladesh, which will increase to 41,600 by 2025. It will take 9 and a half years to recover the toll from all of them. According to Jugantar, citing the World Bank, the revenue from the Padma Bridge in the next 31 years will be 18.5 billion dollars, which is 5.5 times the construction cost. In addition, social progress will add 25 billion dollars to the economy. The land that has been protected through river governance on both sides is worth about Tk. 1,400 crore. The bridge will save Tk. 2,400 crore on electricity, gas, and internet lines. The non-operation of the ferry will save Tk. 3,600 crore. According to the agreement, the bridge authority will have to pay Tk. 36,000 crore in the next 35 years. According to the Bangladesh Bridge Authority, most of the money collected from the toll will be used to repay the loan and the rest will be used to maintain the bridge.

On 26 June 2022, a total of about 15,200 vehicles crossed the bridge in the first eight hours after the authorities opened it to the public at 6 am. According to an official from the Bangladesh Bridge Authority, Tk. 82,19,000 toll was collected between 6 am to 2 pm.

3.6. How it will boost the economy?

These are shown in the below figure:



Source: **https://www.businessinsiderbd.com/padma-bridge/news/24349/padma-bridge-a-landmark-of-overwhelming-courage**.

4. Limitation, Recommendation, and Conclusion

Limitation:

- There is no CC camera all over the bridge.
- A one-way rail crossing.
- Limitations in increasing the pile number.
- Insufficient pile capacity.

Recommendation:

- Set up CC camera as soon as possible and monitor continuously.
- Strict rules should be made and must implement properly.
- No consideration for rules breakers and punishment
- Telecast the full view of the bridge through the TV channel so that foreign investors are encouraged to invest.

Conclusion:

As Bangladesh is striving toward reviving the economy from the fallouts of the Covid-19 pandemic, the Padma Bridge would helpfully fill this effort to an enormous extent. This book provides a profound insight into understanding the potential capability of our nation applying home-grown development philosophy. The lessons learned from the analysis of this book also have reverberation for future policy formulation and implementation towards realizing the spirit of liberty and independence.

The Padma Bridge standing proudly straddling the two banks of mighty Padma is not merely an architectural wonder. It is also the pinnacle of the nation's pride and ambitions. Stretching from Mawa point in Munshiganj to Jazira in Shariatpur, the bridge will hopefully contribute 1.23 percent to the country's GDP growth, while the GDP of the south-western region will see a 2.3 percent growth. So far, the river Padma has been a big barrier to the desired social and economic growth of the 21 districts lying on its other bank and beyond. The bridge has removed that barrier making it easier for investments to flow to those districts. Thus integrated, this part of the country will begin to make its due contribution to the national economy. The achievement of such a miracle has been possible, thanks to the visionary and bold leadership of the prime minister. For it is due to Prime Minister Sheikh Hasina's single-minded will to overcome all odds that the dream bridge could finally see the light of day.

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