EXECUTIVE SUMMARY

The Jamuna Multipurpose Bridge project in Bangladesh is a landmark infrastructure development, significantly impacting the local economy, transportation, and social structure. This report analyses the project’s lifecycle, challenges, and lessons learned, giving recommendations for future large-scale projects.

The Jamuna Multipurpose Bridge Project in Bangladesh, designed to enhance regional connectivity and promote economic growth, which spans 4.98 kilometres across the Jamuna River, has an estimated cost of $696 million. Beyond supporting highway and railway traffic, the bridge also carries gas pipelines, power transmission lines, and fibber optic cables. From the beginning, the project faced considerable complexities, including complex stakeholder management, challenging river training works, and significant social and environmental impacts.

The nature environment of the Jamuna River presented challenges of supplies transportation, with the river's channel structure and morphology changing significantly between seasons, created an unstable environment for construction. Also, the project team chose to transport materials by water due to budget constraints, but this method proved unreliable as water transport was highly susceptible to climatic conditions, slowing progress during heavy rains.

Human Recourse challenges also arose, as most workers were recruited from nearby villages and lacked the technical expertise needed, leading to construction quality issues. Cracks in various sections of the bridge, which also shows the construction quality problems. Additionally, the project impacted the environment was significant, impacted river ecosystems, increased erosion and flood risks. The river’s width has decrease from 14 km to 5 km led to increased water levels, worsen bank erosion and soil loss.

Socially, the project had a profound impact on local communities. Approximately 5,650 fishermen lost their jobs, with about 25% being full-time fishermen. Post-construction, flooding further damaged local agriculture, exacerbating the social toll.

Base on those project management issues, the report recommends implementing a comprehensive risk management strategy, including risk registers and further systematic risk analysis, to better address incidents. For stakeholder management, the PARIS framework is advised to tailor strategies for different groups, such as tracking the resettlement of Char people on Information System and establishing monitoring teams. Quality management should be enhanced through tools like the PDCA cycle and control charts, with regular inspections to prevent issues. To improve time management, critical path methods and iterative time estimation techniques are recommended.

Despite its challenges, the Jamuna Multipurpose Bridge project significantly contributed to Bangladesh's development. However, its experience highlights the need for thorough planning, stakeholder engagement, environmental consideration, and adaptive management in large-scale projects. Implementing these recommendations will help future projects navigate complex environments and achieve sustainable outcomes.