

Charting Course for Sustainable Growth in Shipbuilding and Ship Recycling Industry of Bangladesh

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Bangladesh Shipbuilding Industry

Shipbuilding is a primitive and labor-intensive industry. Conventional shipbuilding was a low-tech industry. Since the invention of arc welding technology in the 1950s, specialized high tensile strength and tough steel with good physical and chemical properties have been used in the shipbuilding industry. Modern shipbuilding uses prefabricated blocks or modules, where entire multi-deck segments of the hull are usually built elsewhere in the yard, transported to the building dock/slipway, and then

lifted into place and the fabrication process completed. This is well known as 'block or module construction'. The most modern shipyards pre-install equipment, pipes, electrical cables, and all other components within the blocks to minimize the effort needed to assemble or install components within the hull once it is welded together. Again, 4IR or Industry 4.0 will definitely influence the whole maritime sector, and new transformations will come in the shipbuilding industry, which will be crucial. Let's evaluate the trend of the global shipbuilding industry. We find that Japan had been the dominant

shipbuilding country from the 1960s through to the end of the 1990s but gradually lost its competitive advantage to the emerging industry in South Korea, which had the advantages of much cheaper wages, strong government backing, and cheaper currency. South Korean production overtook Japan's in 2003, and Japanese market share has since fallen sharply. In 2010, China became the number one shipbuilding nation, leaving behind South Korea and Japan. The market share of European shipbuilders began to decline in the 1960s as they lost work to the Japanese in the same way as Japanese shipbuilders lost work to South Koreans in 2003.

The indigenous shipbuilding industry of Bangladesh has a glorious history. Shipbuilding is considered as an early industry developed in Bengal based on its traditional boat buildings. Ibn Batuta came to Bengal in the 14th century and returned with a wooden ship built in a shipyard located at Sonargoan, Dhaka. Interestingly, Ibn Batuta's ships have been conserved in European Museums. European Traveler Mr. Caesar Frederick viewed Chattogram as the centre of building ocean-going ships during the middle of the 15th century. In the 17th century, "a fleet of ships was built for Sultan of Turkey at Chattogram. In the Mughal period, a large number of warships were manufactured at Chattogram for their Naval Force. The British Navy used wooden hull warships built at Chattogram and was successfully deployed in the Battle of Trafalgar in 1805. The wooden hull frigate Deutschland (1000 DWT) was built in Chattogram for the German Navy in

1818". Around one hundred indigenous private shipyards are located all over Bangladesh. Those local shipyards can construct and repair almost all types of inland and coastal ships and crafts.

Recently, a few local private shipyards (ASSL, WMSL, KSY Ltd, and KSSL) have received orders from foreign ship owners like Germany, Japan, Denmark, Netherlands, Mozambique, India, Nigeria, etc. Various types of merchant ships have been built successfully and handed to foreign owners by local Shipyards. Bangladesh has a magnificent shipbuilding history and has three public shipyards (DEW Ltd, KSY Ltd, and CDDL). However, after independence, all those shipyards were declared sick and laid off due to poor management and inherent problems like other public industries. Finally, those are handed over to Bangladesh Navy (BN), and presently, those are running successfully by BN management with the same civil workforce. Cheap labor alone cannot be the only factor for the sustainable development of shipbuilding. Ships made by Bangladesh of international standard are roughly 10%-30% less costly than those made in Japan, Korea, China, Vietnam, or India. Recently, the opportunity for Foreign Direct Investment (FDI) has been created in the shipbuilding sector. Countries like China, Turkey, and Netherlands are showing keen interest in this sector. So, creating an export shipyard zone or air-marking a special zone for export shipbuilding can help develop healthy growth of the shipbuilding industry in Bangladesh. Small and medium-sized containers,

tankers, cargo, and multipurpose ships with around 3000-10000 DWT are suitable for Bangladesh. Previously, shipbuilding cost in China was cheaper. But at present, their labor wages have also been increased due to their improved living standard.

Though Bangladesh is a maritime nation with a glorious shipping and shipbuilding history, yet country has failed to keep pace with the global shipbuilding race for a few reasons. Bangladesh shipbuilding must know its strengths, correct its weaknesses, and apply protection measures against external threats. We must utilize our potential and opportunities for sustainable development of the shipbuilding industry. Bangladesh has all the potential and capacity to capture a tiny portion of a small niche market share at a competitive price. The tentative size of the global shipbuilding market is \$200 billion, whereas the small shipbuilding market is \$20 billion. The world will need a few thousand ships, mainly small to medium. The old single-hull tanker fleet will be replaced soon due to IMO requirements. There is also a considerable demand for container ships. Bangladesh has all the potential and capacity to get 2% of the global market share within 2030, and the worth value of that will be \$4 billion. The present government has taken some steps and drafted a shipbuilding policy to improve the shipping and shipbuilding sector. Before implementing the policy, it needs to consider proper evaluation and uniform priority so that both public and private shipyards get benefit equally from the policy. Local shipbuilding is still in a vulnerable stage; there are so

many things to do to achieve sustainable development and international standards. If this sector gets the same facilities as given to RMG, the net benefit will be better than that of RMG.

Bangladesh Ship Recycling Industry

Ship recycling is a rapidly developing global industry that involves dismantling and scrapping ships when they are no longer usable. Approximately 1000 large-scale vessels, such as container ships, cargo and bulkers, oil and gas tankers (LNG, LPG), and passenger ships, are recycled across the globe every year. This process helps to recover steel and other precious metals or recyclable items from these vessels. Currently, most of the ship recycling activities around the world are conducted in five countries: India, Bangladesh, Pakistan, China, and Turkey. These countries have become hubs for all ship recycling activities due to their advantageous geographic location and resource capabilities. Ship recycling is currently a booming business in South Asia. Some 200 obsolete ships are recycled yearly in breaking yards at the port city of Chattogram. According to research, about 2 million LDTs of different types of ships are recycled in Bangladeshi yards each year. Pakistan and India have seen the highest rise in share, with 14.7% and 3.2%, respectively, in FY 2020-21. On the other hand, Bangladesh and China saw a 15% and 2% reduction, respectively. This decrease in market share of China is likely due to their ban on international ship recycling. Bangladesh's market

share has been on the decline because of government regulations. However, the local recycling industry has significantly affected the Bangladesh national economy, leading to an average growth of 14% annually since 1980. Its contribution to the overall success of our country is undeniable.

The industry is creating the scope of jobs for people in poverty-prone areas, with a million individuals participating in it either directly or indirectly. It has been estimated that around 60% of materials and machinery for local ship shipbuilding comes from the Ship-recycling industry. Moreover, the ship recycling industry is estimated to generate around \$1 billion for the national economy annually. The country has a strong demand for steel due to rapid economic growth. People are more likely to invest in and build new homes and infrastructure, creating a greater need for steel and other materials. The ever-growing demand for domestic steel has pressured local steel mills to secure raw materials from the ship recycling industry. India, Bangladesh, and Pakistan are the frontrunners in the ship-recycling industry. Despite certain restrictions and limitations, the ship recycling industry of Bangladesh has been significantly contributing to the country's Gross Domestic Product (GDP) and its overall socio-economic development. Its market share has recently been declining due to strict environmental regulations, but that needs to be implemented.

In 2011, two key regulations were implemented by the Ministry of Industry (Mol) to supervise the Ship

Breaking and Recycling Industry (SBRI), these being the Ship Breaking and Recycling Rules 2011 and the Environmental Protection Act 1995. The Ship Breaking Regulatory Authority was then formed to abide by these laws. In order to safeguard the environment, the Ministry of Environment and Forest has laid out the Environmental Protection Rules 1997. These regulations are essential for preventing environmental damage and keeping our planet healthy. The Department of Environment (DoE) is solely responsible for enforcing the regulations. Before participation in any activities, ship recycling yards must acquire authorization from the DoE to continue their operations. This authorization is known as an Environmental Compliance Certificate (ECC). Recycling yards are doing their best to keep their workers safe and have also become aware of the need for environmental conservation. As a result, some have been able to meet international standards in terms of greenship recycling practices.

The Bangladesh Ship Recycling Act was implemented in 2018, and it requires ship-recycling yard owners to abide by the Hong Kong International Convention 2009 (HKC 2009) guidelines by 2023. As of now, only a handful of the active recycling yards have achieved Green Passport certification. Meanwhile, around 85 yards are striving to meet these criteria in order to get certified. Recycling yards in Bangladesh are in dire need of restoration and up-gradation. However, the owners found it slow to invest the substantial amount of money needed, which could be around 300 million BDT for the single ship-

breaking yard. Upgrading of the entire recycling industry (all active yards) as per HKC 2009 role can cost around 35000 million BDT. On the other hand, a huge number of ship-recycling yards in India and Pakistan have already achieved and implemented the HKC standard. Bangladesh is one of the active players in the HKC initiative, along with India, China, and Turkey, who have already accessed it. Bangladesh has set a goal to achieve accessibility and required certification by 2023. Despite the current situation, there are still uncertainties about what can be accomplished in that given time frame. However, at present, there are a few major hurdles for SBRI. It is essential for local ship recycling yards to change their mindset and need to implement corporate culture, and

develop the required SRF infrastructure in order to reach their objectives. By taking inspiration from highly efficient industrial nations and implementing suitable strategies and practices so that local yards can achieve green passports and be certified as per HKC 2009 regulation. Only then, in the long, we will be successful in the ship recycling business and remain competitive in the global market.

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