SHIP BUILDING AND REPAIRS- CAN INDIA GRAB A SHARE OF THE MARKET?

Commandant (JG) Animesh Majumdar, 4216-E
(Hovercraft Maintenance Unit Okha)
(Indian Coast Guard)
(HMU Okha, C/o Headquarters, No. 15 Coast Guard Dist. North Guj
Port Okha, Dist-Devbhumi Dwarka, Gujarat- 361 350)
{Email: animesh.mech@gmail.com}

ABSTRACT

India's shipbuilding and repair industry stand as vital components of the nation's construction sector, contributing significantly to the economy amidst robust GDP growth and government-led initiatives like "Make in India." This research paper offers a comprehensive economic perspective on India's shipbuilding industry, exploring key metrics, market trends, and policy frameworks to discern the feasibility and potential strategies for enhancing India's market share in the global shipbuilding and repair market.

Against the backdrop of global economic trends and the evolving dynamics of international trade, the paper investigates India's competitive advantages in shipbuilding and repair, including a skilled workforce, strategic geographical location, and government support. However, it also identifies challenges such as regulatory hurdles, infrastructure constraints, and cost disadvantages that must be addressed to unlock the industry's full potential.

By conducting a SWOT analysis, the paper delineates the strengths, weaknesses, opportunities, and threats facing the Indian shipbuilding industry. It highlights government initiatives like the Shipbuilding Financial Support Policy and the "Make in India" campaign, which provide crucial financial assistance and incentives to Indian shipyards. Moreover, it underscores the importance of addressing infrastructure deficiencies, skilled labour shortages, and regulatory complexities to capitalize on emerging opportunities in the shipbuilding and repair market.

In conclusion, the paper asserts that India's shipbuilding and repair industry holds immense promise for global dominance, provided stakeholders strategically capitalize on strengths and opportunities while proactively mitigating threats and weaknesses. By leveraging government initiatives, fostering innovation, and addressing critical challenges, India can assert itself as a formidable contender in the global maritime industry landscape, further bolstering its economic advancement and stature on the world stage.

Key words: Ship construction, Make in India, Ship Repair, Economy, SWOT, Scrapping industry.

1. INTRODUCTION: The global ship construction industry remains intricately tied to the trajectory of the world economy and international trade. Despite recent fluctuations in the growth of global trade relative to GDP, maritime commerce continues to rely heavily on global economic performance. Comparing recent global economic trends, there has been a

discernible decline in GDP growth, with a decrease from 2.6% in 2015 to 2.2% in 2016. Moreover, between 2001 and 2008, GDP growth averaged at 3.2%. Several factors contribute to this downturn, including negative trends in international trade policies and ongoing conflicts affecting both investment and the export of goods.

global trade by providing vessels for transportation and logistics.

Against this backdrop, this research paper aims to investigate the potential for India to increase its market share in shipbuilding and repair. By analysing current trends, policy frameworks, and economic indicators, the paper seeks to identify opportunities and challenges for India's participation in the global maritime industry. Additionally, it will explore strategies and recommendations to enhance India's competitiveness and capitalize on emerging opportunities in the ship construction market.

1.1. WORLD SEABORNE TRADE

Aligned with global economic developments, the demand for shipping services experienced significant improvement in 2016. Global trade expanded notably, with the growth rate increasing from 1.8% in 2015 to 2.6%, although this remained lower than the historical average of 3% over the past four decades. The overall volume of global seaborne trade surpassed 10,300 million tons, marking an increase of 260 million tons of cargo. Notably, half of this increment was attributed to tanker oils and gas exchange.

In 2016, China's strong import demand continued to bolster world maritime

The landscape of international trade and maritime commerce is undergoing significant shifts, influenced by geopolitical tensions, technological advancements, and environmental considerations. In this context, the shipbuilding and repair industry plays a crucial role in facilitating

seaborne trade, despite limited expansion in import demand from other developing regions. However, the global trade landscape witnessed significant shifts in the following years. Between 2016 and 2023, the world economy experienced various

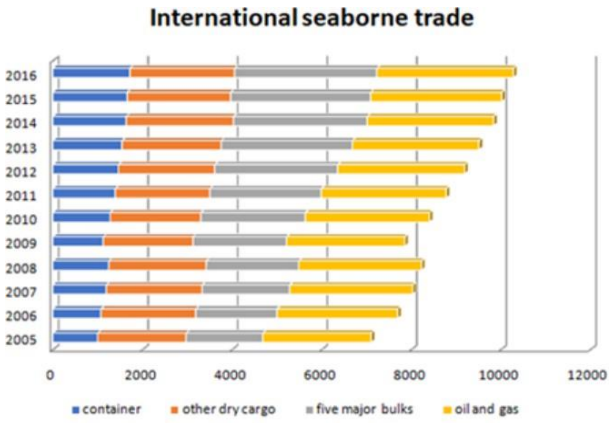

Fig. 1 International seaborn trade trend

challenges, including geopolitical tensions, trade conflicts, and the COVID-19 pandemic.

Despite these challenges, seaborne trade remained resilient, albeit with fluctuations. Global trade volumes experienced both growth and contraction during this period, influenced by economic uncertainties and shifts in consumer demand patterns. China's role as a major importer continued to be significant, although fluctuations in its import demand were observed due to domestic economic policies and external factors.

The evolving dynamics of global trade underscore the importance of the shipping industry in facilitating international commerce. As the world economy navigates through uncertainties and disruptions, understanding the trends and patterns in seaborne trade becomes essential for stakeholders in the maritime sector, including shipbuilders, shipowners, and policymakers. In this context, analysing updated data and trends beyond 2016 provides valuable insights for assessing the prospects and challenges of the shipbuilding and repair industry, particularly in the context of India's ambitions to enhance its market share.

1.2. INTRODUCTION TO ECONOMY OF INDIAN SHIPBUILDING:

The Indian shipbuilding industry comprises approximately 27 shipyards, with 8 of them under public ownership and the rest operated privately. Alongside ship repair and new construction activities, there is a growing demand projected for semi-submersibles and port auxiliary vessels, driven by the increasing shipment needs anticipated in the coming years. The significance of the shipbuilding and repair sector is underscored by its inclusion in the twelfth 05 Year Plan published by the Planning Commission as one of the vital areas for development.

In terms of financial performance, the Indian shipbuilding sector recorded an overall turnover of over a significant milestone. Notably, government-owned shipyards such as Hindustan Shipyard Limited and Cochin Shipyard Limited are among the primary players in India's shipbuilding landscape. While private shipyards outnumber their public counterparts, they often face limitations in terms of size and capacity for both shipbuilding and repair operations.

Looking ahead, the Indian shipbuilding industry is poised for significant growth, with expectations to double its revenue from the 2022 figure of Rs 20,000 crore in the next five years. This growth trajectory reflects the industry's potential to capitalize on domestic and international demand for maritime vessels and services, driven by factors such as economic expansion, infrastructure development, and the government's focus on enhancing the maritime sector's competitiveness.

2. SHIPBUILDING SUBSIDY SCHEME

2.1. INTRODUCTION TO SUBSIDY The Indian Government announced a Shipbuilding Financial Support Policy of rupees 4000 crores over ten years to promote local shipbuilding. Under this scheme, financial assistance is provided to Indian shipyards amounting to 20% of the lower of the "Contract Price" or the "Fair Price" of each ship built by them. This subsidy scheme commenced in 2016-17 and extends for a maximum duration of ten years.

3. INDIA'S COMPETITIVE ADVANTAGES

India possesses several competitive advantages that position it favourably in the global shipbuilding and repair industry, akin to emerging giants like China and Vietnam. These advantages, when leveraged effectively, can propel India's shipbuilding sector towards greater

prominence. Here are some key factors contributing to India's competitive edge:

3.1 LOW LABOR COSTS: Labor costs play a pivotal role in shipbuilding economics, constituting over 10% of the total expenditure. Indian labour remains relatively inexpensive compared to counterparts in countries like Korea and China. Furthermore, the rate of labour cost escalation in India is substantially lower than that of China, indicating sustained cost competitiveness.

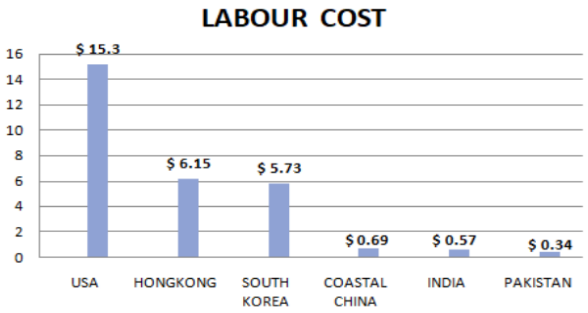

Fig.2 Labour Cost Comparison

3.2 STRONG DOMESTIC DEMAND: India's shipping trade continues to flourish, underpinned by robust economic growth averaging around 7%. Domestic shipping lines are witnessing significant expansion, with increased orders placed on both domestic and global shipyards. Moreover, industries such as power and steel are ramping up demand for ships to facilitate efficient transportation from international mines. Government initiatives promoting Coastal and Inland Water Transportation further bolster demand for new vessels.

3.3 SUPPORTING INDUSTRY INFRASTRUCTURE: India boasts a robust industrial infrastructure capable of manufacturing essential shipbuilding materials. The country's competitive steel manufacturing, light engineering, and IT/ITES sectors offer critical resources at competitive prices. However, the scale of production in these industries remains constrained by the current state of shipbuilding activity in the country.

3.4 LONG COASTLINE: With a coastline exceeding 7,500 km and numerous deepwater ports, India offers favourable locations for establishing shipyards. These ports provide strategic advantages for shipbuilding and repair activities. Despite regulatory challenges, India's extensive coastline remains an asset for the maritime industry.

3.5 GOVERNMENT SUPPORT AND POLICY INITIATIVES: The Indian government supports the shipbuilding sector through policies and financial incentives like the Shipbuilding Financial Support Policy, announced in 2016. However, challenges such as regulatory hurdles, infrastructure limitations, and cost disadvantages persist, hindering the industry's full potential. Moreover, the evolving global maritime landscape, marked by technological advancements and environmental concerns, presents further complexities.

To address these challenges, India needs a strategic approach focusing on innovation, efficiency, and sustainability. By leveraging its competitive advantages and aligning with global trends, India can increase its market share and emerge as a key player internationally.

3.6. SWOT evaluation of the Indian shipbuilding industry

STRENGTHS:

- **Government Initiatives**: Government initiatives such as "Make in India" and the Shipbuilding Financial Support Policy provide crucial financial assistance and incentives to Indian shipyards. These initiatives aim to promote domestic shipbuilding, enhance competitiveness, and attract investment in the industry.
- **Skilled Workforce**: India boasts a skilled labour force, particularly in engineering and technical fields, which is essential for shipbuilding and repair operations. The availability of skilled manpower contributes to the quality and efficiency of production in Indian shipyards.
- **Strategic Geographical Location**: India's strategic geographical location, with a vast coastline and proximity to major international shipping routes, offers logistical advantages for shipbuilding, repair, and maritime trade. It facilitates easier access to raw materials, markets, and international shipping lanes.
- **Growing Domestic Demand**: India's robust economic growth and expanding maritime trade contribute to a growing demand for ships and vessels for both domestic and international markets. The government's focus on enhancing coastal and inland water transportation further boosts demand for new vessels.

WEAKNESSES:

- **Limited Infrastructure:** Despite government support, the shipbuilding industry in India faces infrastructure constraints, including inadequate port facilities, lack of specialized equipment, and outdated shipyard infrastructure. These limitations hinder the scale and efficiency of shipbuilding and repair operations.
- **Regulatory Hurdles**: Complex regulatory frameworks, including tax structures, licensing requirements, and environmental regulations, pose challenges for Indian shipyards. The variance in tax rates and duties between India and other nations adds to the cost burden for domestic shipbuilders.
- **Skills Gap**: While India has a skilled workforce, there is a shortage of trained engineers and skilled labour specifically tailored to the shipbuilding and repair industry. This skills gap affects productivity, quality, and innovation within Indian shipyards.

OPPORTUNITIES:

- **Domestic Market Expansion**: The growing demand for ships and vessels in India's domestic market, driven by infrastructure development, offshore exploration, and coastal shipping, presents significant opportunities for local shipbuilders to capitalize on emerging trends and fulfil domestic needs.

- **Technological Advancements**: Rapid advancements in shipbuilding technologies, including automation, digitalization, and green technologies, present opportunities for Indian shipyards to upgrade their capabilities, improve efficiency, and enhance competitiveness on a global scale.
- **Export Potential**: India's competitive advantages, such as low labour costs and a skilled workforce, position it favourably for exporting ships and vessels to international markets. With the right strategies and investments, Indian shipbuilders can tap into the global market and increase their export share.

THREATS:

- **Global Competition**: Intense competition from established shipbuilding nations such as China, South Korea, and Japan poses a threat to India's market share. These countries have larger shipbuilding capacities, advanced technologies, and extensive government support, making it challenging for Indian shipyards to compete on a global scale.
- **Economic Volatility**: Fluctuations in global economic conditions, trade tensions, and geopolitical uncertainties can impact the demand for ships and vessels worldwide. Economic downturns or trade disruptions may lead to a decrease in orders and affect the financial viability of Indian shipyards.
- **Environmental Regulations**: Stringent environmental regulations aimed at reducing emissions and promoting sustainable practices in the maritime industry can increase compliance costs for Indian shipbuilders. Failure to meet environmental standards or adopt eco-friendly technologies could hinder market access and competitiveness.

By addressing these SWOT factors and implementing appropriate strategies, such as investing in infrastructure, enhancing regulatory frameworks, fostering innovation, and promoting skill development, India can mitigate weaknesses and threats while capitalizing on strengths and opportunities to strengthen its position in the global shipbuilding and repair market.

3.7 NEW SHIPBUILDING:

New building shipyards are predominantly active in defence and commercial shipbuilding. Commercial ships are primarily constructed for European owners and Defence ships are for the Indian Navy and Indian Coast Guard. Shipyards mainly build vessels for European country owners are ABG Shipyard, Bharati Shipyard, Modest, Pipavav Shipyard, L&T Shipyard, Cochin Shipyard, etc.

3.8 SHIPBUILDING CAPACITY:

Shipbuilding capacity of a unit is described with regard to the number of ships built and their carrying ability measured in terms of Dead Weight (DWT).

4. INDIA'S SHIP-REPAIRING INDUSTRY

Indian ship repairing industry comprises about 25 ship repair units (SRU's), including Alcock Ashdown & Co. Limited, Chennai Port Trust, Mumbai Port Trust, Hindustan Shipyard Limited (HSL), Cochin Shipyard Limited (CSL), Garden Reach Shipbuilders & Engineers (GRSE), and Mazagon Dock Shipbuilders Limited (MDL), among others, which have been approved as permanent SRU's.

As of the latest available data, the ship repairing capacities of selected shipyards in India are as follows:

Nationalized Companies:

- Cochin Shipyard Limited (CSL): Maximum capacity for ship repairing - 125 thousand DWT
- Hindustan Shipyard Limited (HSL): Ship repairing capacity - 80 thousand DWT
- Garden Reach Shipbuilders & Engineers (GRSE): Ship repairing capacity - 26 thousand DWT

Private Sector Companies:

- Larsen & Toubro Ltd: Maximum capacity for ship repairing - 400 thousand DWT
- Bristol Boat: Ship repairing capacity - 54 thousand DWT
- ABG Shipyard Ltd: Ship repairing capacity - 30 thousand DWT
- Bharati Shipyard Ltd: Ship repairing capacity - 30 thousand DWT

Table I (Shipbuilding and Ship Repairing Capacities of Selected Shipyards in India**)**

Shipyard	Ownership	Shipbuilding Capacity (DWT)	Ship Repairing Capacity (DWT)
Cochin Shipyard Ltd	Public	200,000	125,000
Hindustan Shipyard Ltd	Public	150,000	80,000
Garden Reach Shipbuilders	Public	100,000	26,000
Larsen & Toubro Ltd	Private	300,000	400,000
ABG Shipyard Ltd	Private	250,000	30,000
Bharati Shipyard Ltd	Private	200,000	30,000

Note: Shipbuilding and ship repairing capacities are measured in Dead Weight Tonnage (DWT). Data is based on publicly available information and may be subject to change.

4.1. NUMBER OF SHIPS REPAIRED

In the fiscal year 2022-23, 520 ships underwent repairs, with private shipyards handling 360 ships and government shipyards repairing 160 ships, a slight increase from the previous fiscal year's total of 500 ships. Among these, 75 were foreign ships repaired by Indian shipyards, reflecting the nation's growing presence in the global market. Cochin Shipyard Limited (CSL) led in the government sector, repairing 95 ships and earning Rs. 425.75

crores. Goa Shipyard Limited repaired 30 ships, earning Rs. 210.32 crores. In the private sector, Chidambaram Shipcare Ltd. repaired 170 ships, earning Rs. 19.82 crores. Dempo Shipbuilding & Engineering Ltd. repaired 85 ships, earning Rs. 15.37 crores. Larsen & Toubro Ltd. repaired 40 ships, earning Rs. 55.21 crores, while Submarine Kakinada Ltd. repaired 35 ships, recording profits of Rs. 85.67 crores.

4.2. FISCAL POSITION OF SHIPBUILDING AND SHIP REPAIRING COMPANIES

The fiscal review of the shipbuilding/ship repair companies in terms of gross earnings implies that amongst government companies, the highest income earned during 2015-16 was Rs. 35552 Crore by Cochin Shipyard Ltd, followed by Hindustan Shipyard Ltd of Rs. 15042.89. In terms of income, the maximum profit was earned by Goa Shipyard Ltd (Rs 17094.97) Shalimar Work Ltd (RS127.84crore).

In the private sector, the highest income earned during 2015-16 was by Larsen & Toubro Ltd (Rs 4484.8 crore) followed by ABG Shipyard Ltd (Rs. 2081 crore) and Pipavav defence (Rs700 crore).

5. MAKE IN INDIA- SHIP BREAKING

In 2016, India, Bangladesh, Pakistan, and China accounted for 94% of ship demolishing. Data from the United Nations conference on trade and development shows a trend of industry consolidation, with different countries specializing in maritime sectors. Emerging countries are increasingly participating in various maritime sectors. Turkey has a niche market for scrapping gas carriers, ferries, and passenger ships. Other countries combined made up only 1.8% of the total.

6. CONCLUSION

In conclusion, the Indian shipbuilding and repair industry holds immense promise for global dominance, given the focused implementation of government initiatives and policies. With initiatives like Make In India and subsidy schemes, the industry stands on the brink of exponential growth, leveraging its inherent competitive advantages. However, it is essential for stakeholders to address critical challenges such as infrastructure deficiencies, skilled labour shortages, and regulatory complexities. By strategically capitalizing on strengths and opportunities while proactively mitigating threats and weaknesses, the Indian shipbuilding and repair sector can not only bolster the nation's economic advancement but also assert itself as a formidable contender in the global market. With concerted efforts and aligned strategies, India is well-positioned to capture a significant share of the world market, further solidifying its stature in the maritime industry landscape.

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