

## Historical Evolution, Global Benchmarking, and Policy Pathways for Strategic Development of the Indian Shipbuilding Industry

\*Manan Sinha, Research Scholar, SLM, MRIIRS

\*\*Dr Arnab Chakraborty, Supervisor, MRIIRS

### Abstract

The shipbuilding industry has historically played an important role in industrial development, trade competitiveness, technological advancement, and employment generation across nations. Countries such as England, Japan, South Korea, and China have demonstrated that a strong shipbuilding ecosystem can significantly contribute to national economic growth. India possesses a long maritime history, a strategic coastline, and emerging industrial capabilities, yet its share in the global shipbuilding and ship-repair market remains limited. This paper examines the Indian shipbuilding and ship-repairing industry through a qualitative review of historical evolution, present capacity, international best practices, and policy requirements for future growth. Using a scoping review methodology based on secondary literature, government reports, industry documents, and policy sources, the study synthesizes evidence on the structural opportunities and constraints affecting the sector. The findings indicate that India has strong foundational advantages including geographic location, public and private shipyard presence, technical capability, and growing domestic demand. However, financial constraints, policy delays, and lack of coordinated long-term planning continue to restrict competitiveness. Comparative insights from China, Philippines, Vietnam, Japan, Korea, Malaysia, and Brazil explain the critical drivers that are essential for shipbuilding success. The paper concludes that India requires strategic industry status for shipbuilding, and policy support to expand its global market presence.

**Keywords:** Indian ship building; Historical Evolution; Global Benchmarking; Policy recommendations.

### 1. Indian Ship-building and Ship-repairing Sector: An Introduction:

The Indian shipbuilding industry can be broadly categorized into three types. The first is the construction of large commercial ships that are mainly used for international trade and coastal cargo movement. The second is small and medium commercial ships such as port service boats, fishing vessels, offshore support ships, inland waterway ships, and other utility carriers. The third category is defence and naval ships and coast guard vessels. Shipbuilding capacity of a shipyard is generally defined by the maximum size of ship it can build (Ministry of Ports, Shipping and Waterways, 2024). This capacity is measured in Dead Weight Tonnage (DWT). DWT refers to the total weight of cargo, fuel, stores, and other materials that a ship can safely carry. One tonne is equivalent to 2240 pounds.

The industry has a participation from both the public and private sector in India (KPMG, 2008). Among the public sector shipyards, Cochin Shipyard Limited (CSL) has the highest shipbuilding capacity (110 thousand DWT). Hindustan Shipyard Limited (HSL) is next with a capacity of around 80 thousand DWT. Goa Shipyard Limited (GSL) has a capacity of about 4.5 thousand DWT. Hooghly Cochin Shipyard Limited (HCSL) and Udupi Cochin Shipyard Limited (UCSL), both have a capacity of approximately 4.0 thousand DWT (Ministry of Ports, Shipping and Waterways, 2024). The chart below depicts the public sector share of shipyards as of 31 March, 2024.

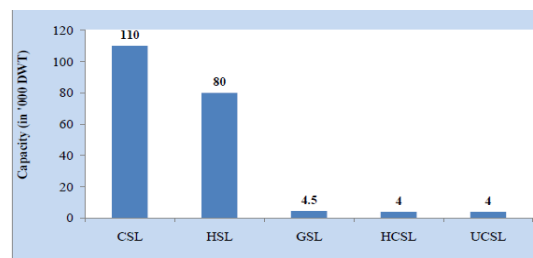


Figure 1.1: Shipbuilding Capacity of Public Sector Companies (31 March 2024)

Source: Statistics of India's Ship Building and Ship Repairing Industry, 2023-24, Govt. of India

When compared within the private sector, Shoft Shipyard Private Limited (SSPL) and Patra Shipping Private Limited (PSPL) have the highest reported shipbuilding capacity, both at around 10 thousand DWT each. These two are followed by San Marine, Mandovi Drydocks Limited (MDD), and Waterways Shipyard Private Limited (WSPL), each with a capacity of about 8 thousand DWT. Chowgule & Co. Limited (C&CL) has a shipbuilding capacity of around 6 thousand DWT (Ministry of Ports, Shipping and Waterways, 2024). The chart below depicts the private sector share of shipyards as of 31 March, 2024.

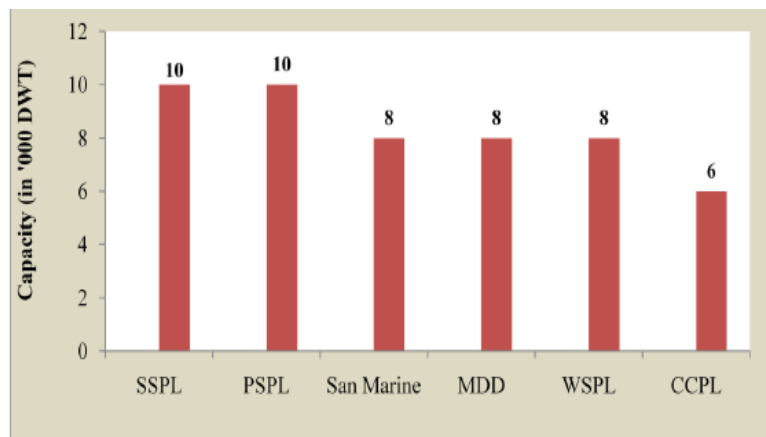


Figure 1.2: Shipbuilding Capacity of Private Sector Companies (31 March 2024)

Source: Statistics of India's Ship Building and Ship Repairing Industry, 2023-24, Govt. of India

The Indian ship-repairing industry also shares a parallel story. Ship-repairing capacity is also measured in terms of Dead Weight Tonnage (DWT). As per the Indian government data for 2023-24, among the public sector shipyards, Cochin Shipyard Limited (CSL) has the highest ship repair capacity (125 thousand DWT). Next is Hindustan Shipyard Limited (HSL) with about 80 thousand DWT. Goa Shipyard Limited (GSL) has a repair capacity of nearly 4.5 thousand DWT, and Hooghly Cochin Shipyard Limited (HCSL) has a capacity of around 4 thousand DWT (Ministry of Ports, Shipping and Waterways, 2024). The chart below depicts the public sector share of shipyard repairing capacity as of 31 March, 2024.

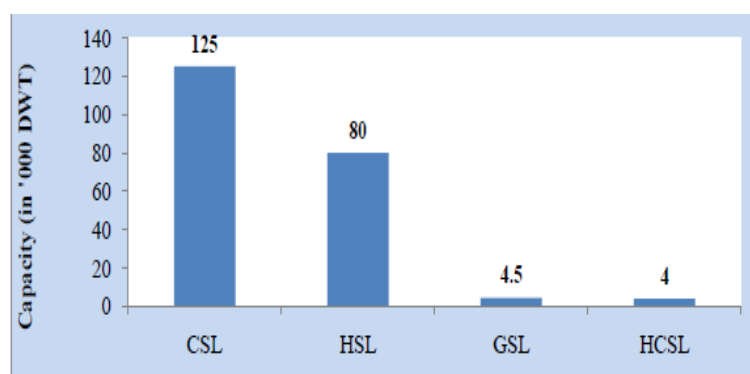


Figure 1.3: Ship-repairing Capacity of Public Sector Companies (31 March 2024)

Source: Statistics of India's Ship Building and Ship Repairing Industry, 2023-24, Govt. of India

When compared to the private sector, Patra Shipyard Private Limited (PSPL) reported the highest ship repairing capacity in the year 2023-24 (nearly 10 thousand DWT). Next was Waterways Shipyard Private Limited (WSPL) with about 8 thousand DWT. San Marine had nearly 7.8 thousand DWT of capacity, and Modest Infrastructure Private Limited (MIPL) had around 6 thousand DWT (Ministry of Ports, Shipping and Waterways, 2024). The chart below depicts the private sector share of shipyard repairing capacity as of 31 March, 2024.

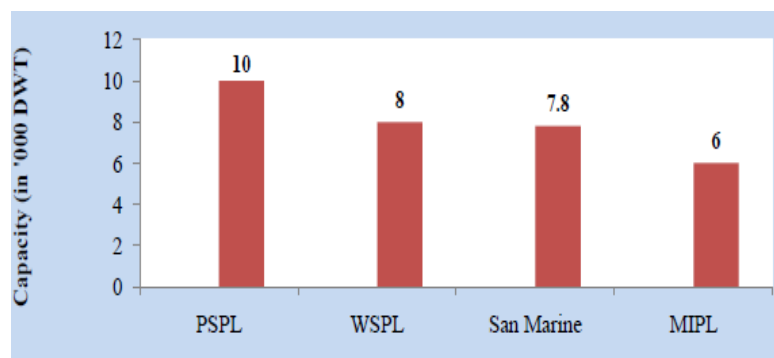


Figure 1.4: Ship-repairing Capacity of Private Sector Companies (31 March 2024)

Source: *Statistics of India's Ship Building and Ship Repairing Industry, 2023-24, Govt. of India*

## 2. Historical Evolution of Shipbuilding in India

India has a old history in shipbuilding and maritime activities, tracing back to ancient times. Archaeological findings show that one of the world's earliest tidal docks was built at Lothal around 2300 BCE during the Indus Valley Civilization (Agrawal, 1998; Indian Navy, n.d.; Rao, 1987). The dock at Lothal, located in present-day Gujarat near the Gulf of Khambhat, was made using burnt bricks (Agrawal, 1998; Wikipedia, 2023). This gives us evidence that Indians at that time had good knowledge of tides and ship movement. The ships at the Lothal dock were of medium sized around 18–20 meters in length (Agrawal, 1998). Even the Rig Veda, the ancient and oldest Indian text, mentions the use of large ships for trade and travel. This gives us evidence that shipyards were significant source of navigation in early Indian history (Indian Navy, n.d.).

Between the 9<sup>th</sup> and 13<sup>th</sup> centuries came the rule of Chola dynasty. The evidence shows that shipbuilding sector further boomed during this medieval period. The kings of this time period used ships for military and trade purposes. They had strong links and trade routes with the present-day countries like Indonesia, Malaysia, and Thailand (Indian Navy, n.d.; Rajendra & Kulke, 2009). A significant example is of the naval campaign of Rajendra Chola I in 1025 CE. During his time, ships were used as a major resource for reaching to trade centres and controlling markets (KPMG & National Productivity Council, 2020; Hexagon, 2025). This rise of ship ecosystem in India started declining by the end of the 15<sup>th</sup> century when European colonial powers came to India (Rao, 1987). The dominance in sea trade showed a sharp downward trend and shipyard control and navigation went in hands of European colonial powers (Indian Navy, n.d.; Wadia, 2021).

After independence, an attempt was made to revive ship manufacturing sector in India. Its role in the country's economic growth and development was duly emphasized and stated. Shipbuilding was recognized as a sector important for investment and employment generation (Department-related Parliamentary Standing Committee on Transport, Tourism and Culture, 2024). Over time, India gradually developed the capability to build different types of ships, including complex and high-technology vessels. Even though Indian shipyards have demonstrated the ability to construct world-class ships, the overall shipbuilding capacity of the country is still limited when compared to leading global nations. India has a long coastline and several major ports. India's share in the global shipbuilding and ship repair market remains low, around 1–2 percent. This shows that there is a large untapped potential for growth in the shipbuilding and ship maintenance industry in India (Jena, 2025).

## 3. Global Best Practices: Country-wise Policy Support and Operating Models

Many countries that are strong in shipbuilding have treated this industry as a strategic sector. They have clear policies, finance, and long-term planning. A review of a brief country-wise understanding from global practices will help the Indian sector to pick up the models and customize them as per feasibility.

**China:** China has received very strong government support for its shipbuilding industry. One important practice is extending easy credit lines to foreign shipping companies, but with the condition that ships are built in Chinese shipyards (Strategic Development of Shipbuilding Sector: Institutional Support System and Policy Framework in

India and Select Countries – Working Paper Series, Paper No 32). This helps Chinese yards get continuous orders and maintain large order books. China also provides seller's and buyer's credit at very low interest rates, around 2.7 percent. Due to this support, China today has a very large number of shipyards, equipment manufacturers, and skilled workers. It is now nearly one-fifth of the global shipbuilding market.

**Philippines:** The Philippines gave a major push to shipbuilding through the Domestic Shipping Development Act which was introduced in 2004. The government allowed 100 % foreign direct investment (FDI) in shipbuilding (Thangam & Kumar, 2015). Shipyards were given tax exemptions on imported equipment, machinery, spares, and capital goods. This proved to be an important step in building and upgrading Philippines shipyards. These incentives helped the shipyard sector grow and thus, making Philippines a shipbuilding nation globally within a short period (Ibid).

**Vietnam:** Vietnam declared shipbuilding industry as a priority sector and offered many incentives. Shipyards companies were allowed to keep corporate income tax with them and reinvest the same for further investments. Low tax rates were offered to shipbuilding companies and import duty exemptions were given to buy machinery and equipment. The Government of Vietnam also promoted joint ventures to enable latest technology transfer. Vietnam also focused strongly on modern technology adoption and development of ancillary industries (Strategic Development of Shipbuilding Sector: Institutional Support System and Policy Framework in India and Select Countries – Working Paper Series, Paper No 32).

**Japan and Korea (Benchmarking Leaders):** Japan and Korea are another two examples that focused on benchmarking and productivity improvement. Japan adopted modular construction lines to decrease the manufacturing time and enhance quality of shipyards (Chhabra, 2015; OECD, 2015). Korea followed a cluster-based model in which its shipyards, suppliers, R&D centres, and training institutions grew together with government coordination (Chhabra, 2015). Both countries also invested early in automation, large dry docks, and skill development (Tan, Lim, & Yap, 2020).

**Malaysia:** Malaysia adopted development bank to support shipbuilding and ship repairing sector in their country. This bank offers loans at low interest rates (between 4 to 6 percent) and has a long repayment period (Strategic Development of Shipbuilding Sector: Institutional Support System and Policy Framework in India and Select Countries – Working Paper Series, Paper No 32). In order to reduce financial pressure and heavy debt on industry, a grace period is given before payment begins. This ease out and manages the industry' long construction cycles.

**Brazil:** Brazil has an exclusive Merchant Marine Fund to address the finance burden of its shipbuilding sector. This dedicated fund is unique in a way that it offers long-term loans of up to 15-20 years and that also at a low interest rate between 4 to 6 percent. More than 90 % of the project's cost is covered with this allocated fund. This also strengthens country's domestic demand and provides financial stability for shipyard manufacturing.

#### **4. Current Indian Scenario**

India has a long-standing maritime tradition. Shipbuilding ecosystem in India dates back to Indus Valley Civilization. Besides having a long coastline and coastal regions covering both eastern and western areas, India's shipbuilding industry today has nearly 1-2% share in the global shipbuilding market. In contrast, its neighboring countries like China, South Korea, and Japan, have a huge share in shipyards and are dominant players of global shipbuilding sector (Civilstap Himachal, 2025; Department-related Parliamentary Standing Committee on Transport, Tourism and Culture, 2024.; OECD, 2015). It means India lags behind its neighboring and global competitors in terms of scale, speed, and competitiveness in ship manufacturing sector (Press Information Bureau, 2025; Sahu, 2022).

Various changes need to be reformed at system, function and policy levels if India has to grow its shipbuilding industry (Liker & Lamb, 2000). The industry does not standalone. It is dependent on various ancillary and support industries and all need to develop if the ship manufacturing sector wants to achieve its global ambitions (Ullah, 2019). The commercial shipping, government orders, and export markets are to be aligned for the growth and development of the sector (John, Dixit, & Srivastava, 2011). Without this combined demand, shipyards will continue to face uncertainty and poor capacity utilisation (Vohra & Ramanna, 2009). The workable approach will

be to sustain long-term commercial and merchant shipbuilding programs. A planned order pipeline, long-term visibility, and assured execution timelines can help maintain continuity in shipbuilding activities (Defence Research and Studies, 2024). Dedicated financial support and better policy measures are also needed for the shipbuilding sector to grow in a sustainable way. These measures should apply to the industry as a whole and not remain limited to a few selected shipyards (S&P Global, 2025). Better coordination and decision-making at the highest levels of the Government of India are required at the administrative level (Sonowal, 2025; Lee, 2024).

### **5. Recommendations for Growth of Shipyards**

Based on the literature above, the following policy framework is needed to promote shipbuilding in India-

- Shipbuilding should be given the strategic industry status (Kheireldin, 2021; Liker, 2006; Phogat, 2013). The sector creates large-scale direct and indirect employment and supports long-term economic growth.
- Government support at the highest policy level is required. The ministries of finance, shipping, industry, and transport, should work together as shipbuilding cannot grow in isolation (ICRA, 2025)
- India needs a dedicated financial support system for shipbuilding. It is a capital-intensive industry with long construction cycles that requires consistent funding (SuperKalam, 2025).
- Shipyards face serious working capital shortages. Most payments are received only at the delivery stage, while expenses start much earlier.
- Interest rates on working capital in India are very high (around 10–11%), making Indian shipyards uncompetitive compared to global shipyards. India should provide low-interest, long-tenure loans for shipbuilding. It should be comparable to global practices (4–6% interest with long repayment periods).
- Special financial institutions or funds can be created to support shipbuilding and ship repair projects (Press Information Bureau [PIB], 2019); S&P Global, 2025).
- Payment mechanisms in government contracts should be improved. Stage payments should be made more quickly instead of bank guarantees to reduce financial stress on the industry.
- Auditors should act as facilitators rather than controllers to ensure smooth cash flow and a healthy ecosystem.
- Shipyards should be given greater autonomy in human resource decisions. Hiring, firing, and fixing pay for specialist talent should be free from stricter government rules and policies.
- Experienced retired professionals should be retained as mentors to transfer critical skills and knowledge.
- India should focus on export promotion of Indian-built ships, especially to emerging economies trading with India.
- Export credit lines should be provided to foreign buyers to highlight Indian shipyards as cost-effective options.
- Indian shipyards should be benchmarked against global leaders like China, Korea, and Japan to improve productivity and cost efficiency (Chhabra, 2015; Invest India, 2025).
- Performance-linked incentives should be introduced based on benchmarking results.
- Development of modular construction practices should be encouraged to reduce construction time and improve efficiency.
- The ancillary industry supporting shipbuilding must be strengthened, as most ship value comes from equipment and systems.
- OEMs should be given incentives for full technology transfer, not just license production.
- Foreign shipyards supplying ships to India should be required to source some marine equipment from Indian suppliers.

- The tax structure for shipbuilding and shipping should be rationalised to match global standards.
- Indian shipbuilders should not be taxed more heavily than foreign shipbuilders operating in India.
- Tax exemptions and duty relief should be provided for shipbuilding equipment, raw materials, and capital goods.
- Uniform tax treatment should apply to Indian and foreign flag vessels to create a level playing field.
- India should introduce commercial shipbuilding laws that give preference to Indian-built ships for domestic trade.
- Cluster-based shipbuilding development should be promoted, especially involving MSMEs as suppliers.
- Special funding should be provided for research and development, especially for dual-use and advanced technologies (Nair, 2025).

#### **6. Conclusion:**

India possesses strong historical legacy, geographic advantages, strategic demand conditions, and emerging industrial capability in shipbuilding and ship repair. However, these strengths have not yet translated into substantial global market share. International evidence shows that leading shipbuilding nations succeeded through coordinated policy support, targeted finance, ecosystem development, and long-term strategic commitment rather than through market forces alone. For India, the next phase of growth requires moving beyond individual yard-level improvements toward a national maritime industrial strategy integrating finance, taxation, technology, exports, suppliers, and workforce development. If such reforms are implemented consistently, India can significantly expand its presence in global shipbuilding and ship-repair markets while strengthening industrial growth, employment generation, and maritime self-reliance.

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