

Maritime Capacity of India: Strengths and Challenges

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Introduction

The geo-strategic position of the Indian Ocean Region (IOR) has risen in economic and political significance in the last two decades that have witnessed a tectonic shift in international power play from the Atlantic Ocean to the Asia-Pacific—more specifically to the IOR. There is a growing maritime awareness in the IOR as most developmental indices of the littorals are closely linked to the Ocean. The development of maritime capacity, thus, has become an imperative for national progress.

Consequently, India—to realise its economic and political potential—needs to give due importance to the seas by building adequate infrastructure and evolving a “national consensus on the usage of the seas”. It is in this light that the Observer Research Foundation organised a day-long seminar on 'Enhancing Maritime Capacity of India' on August 8, 2012. The event focused on India's capabilities and shortfalls in terms of shipbuilding capacity, ports and harbour infrastructure, shipping, human resource and ancillary fields in this sector—primarily because the maritime domain has a significant role in influencing the nation's economic agenda that envisages a high GDP growth pattern. Moreover, India's desired role of being the net provider of security in the IOR can only be sustained by growth in India's maritime capability.

Indian Imperatives in Maritime Capacity Building

According to Admiral Arun Prakash (Retd.), the maritime potential of India can be realised only if there is a centralised organisation that looks into every aspect of the maritime domain. At present there are as many as sixteen ministries, agencies and departments within the Government of India that oversee policies related to the seas. For example, while fisheries is under the care of the Ministry of Agriculture, offshore hydrocarbons is under the purview of the Ministry of Petroleum. Moreover, these sixteen organisations do not include the Indian Navy and the Coast Guard which report directly to the Ministry of Defence. Consequently, India has failed to coherently exploit the potential wealth of its exclusive economic zone (EEZ) of 2.02 million square kilometres.

The absence of a nodal agency on maritime policies has resulted in 'sea blindness'—a phenomenon that explains the lack of appreciation of ocean related problems, compensating instead with “continental solutions”. Probably, the historical moorings of sea blindness in India can be partially attributed to the fact that throughout history the invasions of the subcontinent have been continental in nature, across the Hindu Kush. Of course, significant invasions from the sea were by the Western powers that marked the advent of colonisation. Unfortunately, even after the end of two centuries of colonial rule, the 'continental' mindset has not witnessed any significant modification.

Sea power is not a synonym for naval might, nor can it be strictly associated with matters military. The enlarged understanding of sea power is the capability of a state to accelerate its technical and industrial progress backed by research and

development in the field of seabed resources, fishing and merchant seafaring with a navy to safeguard these interests.

To realise the extent of maritime wealth across India's coastline, there is a need for a strong and niche leadership which can formulate a cohesive and coordinated maritime vision to encourage shipping, shipbuilding and repair, fishing and allied services as an industry. This would necessitate the creation of a multi-disciplinary maritime agency that would conceptualise plans and oversee their implementation.

The "Maritime Agenda 2010-2020" (MA-20), has made inroads to some extent in this regard. MA-20 is the third such document released by the government within a span of seven years. The first such vision document was "Sagarmala" in 2003, followed by the "National Maritime Development Plan" in 2005.

The MA-20 envisages an ambitious vision to create, build and sustain a maritime infrastructure for the nation by 2020. It has a financial outlay of Rs. 5 lakh crores for the development of ports, cargo handling, shipping, shipbuilding, etc. Some experts have expressed doubts whether the nation has the capability and capacity to absorb and implement such an overarching plan—sceptics view it as overambitious, being 'divorced from the basic realities' and ignoring the existing infrastructural, political and economic conditions in the country.

While the plan's proponents claim that the MA-20 is the result of an exhaustive study on the existing maritime situation in the nation, its detractors contend that it fails to provide a roadmap on executing its goals. Moreover, the document only focuses on a few segments like ports and harbours, leaving out a whole array of infrastructure in the 'maritime domain'. Thus, the limited scope of MA-20 is a stumbling block in addressing the issues in this sector.

Furthermore, the recommendations and suggestions that have been put forth by experts have not been factored in nor has MA-20 addressed the bureaucratic and procedural delays that act as a roadblock in implementing the plan.

A strong shipbuilding (both warship and commercial ships) and shipping infrastructure is imperative for enhancing the maritime capacity of any country. In the Indian context, however, the monopoly of Public Sector Undertakings (PSUs) has stalled progress—largely because of inefficient management practices, resulting in cost and time overruns that eventually nullify national implementation plans.

Unfortunately, the captive customer base of these PSUs, in form of ships for the Indian Navy and the Coast Guard, has prevented the modernisation and upgradation of the state-owned maritime facilities. The limited participation of private players in this field has been due to the cautious approach of the State. Thus, in the absence of patronage and experience, the Indian private sector shipbuilding industry has been discouraged from undertaking important maritime projects for the nation.

To overcome this serious lacuna and to encourage a level playing field, India would have to maximise the participation of all stake holders in this sector, especially the private sector.

Challenges in Shipbuilding

In the changing global environment, where economic activity is paramount, the maritime sector has gained substantial importance. Trade, the most essential aspect of a nation's economy, is largely sea-based. India's trade figures resemble those of other littorals—70 per cent in value and 90 per cent in volume of the country's trade is by sea. The need to secure the merchant fleet and to safeguard the sea lines

of communication (SLOC) has resulted in the strengthening of both the capability and capacity of the Navy. Another imperative for increasing the capability of the Indian Navy is that the Indian Ocean region is India's strategic backyard where many traditional and non-traditional security challenges are being played out.

Consequently, there is a growing need for India to project itself as a formidable sea power. To realise this, the nation should have the wherewithal to design and build state-of-the-art ships, both for the Navy and the Merchant Navy. In this respect, indigenous development of components is of utmost importance.

The importance of dredging to local shipbuilding was highlighted by Cmde M Jitendran (Retd.), who said that all maritime activity relies on ships/vessels which require a minimum draft of water to operate. There is a need to conduct an extensive survey on the siltation patterns along the coastline. The survey could also be a strategic exercise with implications on coastal security. Dredging facilitates shipping; hence, shipyards are a necessity near dredged waterways.

There is an urgent need to augment the capacities and efficacy of Indian yards to design, build and deliver ships within a prescribed cost and timeframe. However, given the present demand of warships for the Indian Navy—in terms of replacement and induction of new vessels—Indian yards do not have the capacity to construct larger vessels for civilian use.

The existing shipbuilding capacity of India is approximately 40 ship standard units (SSUs) as against the required capacity of 100 SSUs for a country of the size and maritime needs of India. The reason for this large shortfall can be attributed to the lack of modern infrastructure in Indian shipyards (at present there are eight PSU yards). These are also plagued by cost and time overruns—to construct a

frigate/destroyer class vessel in Indian yards takes three times longer than it does in foreign yards.

Vice Admiral Bhasin highlighted the situation in Indian PSU yards: the turnover of the Mazagon Docks Limited (MDL) was \$0.5 billion in 2011 and \$0.55 billion in 2010. MDL currently has orders worth \$19 billion. Under present circumstances, it would take MDL 35-40 years to deliver all its standing orders; foreign yards have the capacity to meet such orders within 2-3 years. According to the Vice Admiral, the trends for other yards, like Garden Reach Ship Builders, Hindustan Shipyard Limited and Goa Shipyard Limited, are similar to that of MDL.

There is an urgent need to improve the overall efficiency of all state-owned shipyards. Some of the steps that can be taken include: introducing multi-skilled tradesmen, modernisation of shipyards by introducing modular concepts of shipbuilding that would improve the efficiency of the yards by nearly 50 per cent.

Efficiency can also be increased by incorporating information technology and advanced 3D modelling in design and construction of ships. Indian yards need a complete transformation in terms of equipment, practices and work culture. This would entail additional financial outlay by the exchequer as capital and capacity building costs and other such large investments of this nature would be recovered by improved efficiency resulting in reducing the cost of individual vessels. Such a reduction in per unit costs will logically result in an increase in demand.

The above measures are needed to meet the growing requirements of the Indian Navy and Coast Guard as they envisage a force structure of over 150 vessels and 80 vessels, respectively, by 2022. As already mentioned, the current SSUs of Indian yards stand at 40, far short of the target. There is a need to capitalise on the

existing infrastructure and capabilities available in the country's private shipyards which could help meet the shortfall.

The participation of private yards can be in the form of stand-alone orders or as joint ventures/partnership (JVs) with PSUs. According to Cmde M Jitendran, collaboration between private yards and PSUs would bring forth a whole host of advantages. The PSUs have experience in warship building; the private yards, for their part, can provide efficient managerial skills and decision making capabilities, thereby limiting time and cost overruns. Joint ventures and partnerships between the private and public sector could result in private yards gaining much needed experience to design and build ships indigenously and the public yards mastering modern managerial skills.

However, for active participation of the private sector, the government would have to revisit the existing bureaucratic system. For example, the Department of Defence Production, which is in-charge of all defence related production activities, also has the responsibility of managing and overseeing the performance of all defence PSUs and ordnance factories. At the same time, this department is also a part of the decision making apparatus of the Ministry of Defence. Vice Admiral Bhasin believes that this creates a conflict of interest since the role of the ministry results in the government unduly favouring the PSUs, thus limiting the possibility of private entities making inroads into defence production. The government-owned units also get tax benefits, unlike their private counterparts.

As envisaged in the Defence Procurement Procedure 2012, engagement with foreign yards should also be encouraged. This would facilitate absorption of foreign technology by Indian yards and shipbuilders.

Weapon systems and sensors are important aspects of warship building and design—and key to survivability. However, the technological superiority of warships is not solely dependent on sensors and systems alone but also on how they are designed and constructed. 3D computer software with allied application software to automate the design process with necessary checks and balances and transfer of data and drawings accentuates the shipbuilding process. Such a course, if undertaken, would entail changing the existing practices and role of human resources in this sector.

According to Rear Admiral Arun Saxena, the nation should focus on indigenously developing critical technologies for the Navy. Future conflicts would be a mix of conventional, irregular and asymmetric engagements spread over land, sea, air, space and cyberspace that would demand tactical and technological superiority. Therefore, the focus would have to be in areas of network centric warfare, action information organization, combat management systems, and command and control. A warship of the future would have to be a multi-role and multi-mission vessel that is capable of undertaking operations ranging from anti-submarine warfare (ASW) to countering mine warfare. Therefore, the need is for research and development in specialised areas, including submarine warfare and allied weapon systems, gunnery weapons and sensors, surveillance and electronic warfare, advanced navigation tools and secure communication systems along with specialised air assets. The dependence on foreign sources for such systems and platforms should be reversed through a process of incremental indigenisation.

On a slightly different note, and with regard to the lack of ships in the Indian merchant fleet, India should cease to be dependent on foreign flag vessels to carry out its international trade. Currently 90 per cent of its trade is carried out in such vessels. Moreover, the existing Indian merchant shipping fleet is not only woefully

inadequate to handle the level of trade but is also ill-equipped to meet specific merchant cargo demands: for example 'there are no Indian owned LPG carriers.

Infrastructural Hurdles in Maritime Capacity Building

Currently, ports and harbours in India are governed by a number of laws resulting in a lack of standardisation and management. There is also no clarity on how ports are defined. For example, the definition of a major or minor port is not based on its cargo handling capacity or its financial capacity/turnover, but instead on its inception at the outset as an entity under the law.

At present all major ports are classified under the Major Ports Act of 1963. However, the Ennore Port in Tamil Nadu comes under the Companies Act. Moreover, the Indian Ports Act of 1908 allows coastal states to set up their own port systems. According to Capt. S. Narula, the overall administrative structure of port infrastructure in India is inconsistent. Also, compared to foreign ports Indian ports are inefficient. This is due to flawed management, both in terms of human resources and administration, and not necessarily lack of capabilities. The efficiency of the Dubai and Salalah ports, manned by alumni of Indian ports, is testimony to the capabilities that exist in this sector in India. In India, ports are seldom managed by experienced professionals. The top management of these ports comprises officers of the Indian Administrative Service, who do not have specialised knowledge of this sector.

Increased turnaround time in Indian ports is another problem. The best ports in the world ensure that a vessel does not dock for more than a day. While in Colombo and Hong Kong the turnaround time is around 16 and 13 hours respectively, the average time in Indian ports is a phenomenal 3.79 days. This delay is largely due to

the use of outdated and obsolete equipment and rigid management, customs and labour practices.

Another area that needs a complete overhaul is the cargo handling capability of ports—which would also help to redefine 'major' and 'minor' ports. The target set by the government in MA-20 is handling of 3.2 billion tonnes of cargo by 2020. However, to meet this target, major investments would have to be made in the capacity enhancement of all ports and harbours, irrespective of their status—major or minor, public or private.

The present onshore infrastructure also needs to be synchronised with the current generation of merchant vessels. This subset has progressed to the 'seventh' generation of vessels, whereas the port infrastructure has not. Thus, all further investments in this sector should be based on leapfrogging to shipping practices of the future. There is need for greater use of information technology (IT) to improve the efficiency of Indian ports.

Transshipment facilities also need to be upgraded. To transform India into a hub for global transshipment, the first and foremost necessity is to improve the efficiency of the ports. The second requirement is of large tracts of coastal land. All transshipment hubs, unlike ports, require extensive land for operations. The lack of availability of large tracts of land and the escalating price of land acquisition have made the creation of transshipment hubs an unattractive proposition.

The cost and competitiveness of hubs are also important issues. At present, the rates for Indian transshipment in Colombo are favourable, and thus the need to develop such facilities in India has not found enthusiastic takers due to the economic disadvantage.

Apart from infrastructure, there is also a pressing need to focus on coastal defence. Coastal security includes preventing ships from running aground and a host of other challenges like smuggling, piracy, maritime terrorism, etc. In addition to these aspects, the environmental impact of offshore economic activities like fishing also has security implications for the country.

The Indian government has initiated a number of coastal security measures has set up radar and monitoring facilities that cover the entire coastline of India. Marine police forces have been raised by state governments to address coastal security concerns. The establishment of multi-agency centres to coordinate with all stake holders in addressing safety and security concerns has been a step in the right direction. Apart from these steps, investments have been made in automated vessel traffic management systems, vessel identification systems and other monitoring and communication systems.

Conclusion

The importance of infrastructure in the maritime domain is underscored by history. During the early twentieth century, Germany was an advanced industrial nation but not a great power since its maritime footprint was small because of low infrastructural capacity. Similarly, today considerable progress has been made by many nations in Asia but, unfortunately, this has not always been matched by a proportional investment in their maritime infrastructure. Hence, it is imperative for Asian littorals that are dependent on the seas for their economic existence to develop their maritime capability.

In case of India, the government should begin by stipulating a change of status of various entities that are part of the maritime domain. To begin with, ports,

shipbuilding, ship repair, deep sea shipping, coastal shipping and offshore economic activities need to be grouped together and given the status of an Infrastructure Sector or Strategic Sector, highlighting their importance and placing emphasis on their rapid development.

Moreover, the government should revisit its existing policies in this sector and focus on domestic capacity building. Ninety per cent of India's international trade is being carried out by foreign vessels. In addition to this, the national merchant fleet does not possess sufficient vessels to undertake specialised operations like transport of LPG. Further, India also lacks the financial capability to underwrite/finance and insure freight from conflict zones. These issues need immediate consideration and political will; failure to address them would be detrimental not only to the health of the sector, but to the larger national interest as a whole.

There is also a need to revisit the country's tariff and tax policies to provide a level playing field to Indian shipping entities. This is important as foreign shipping companies do not have to bear an unfavourable tariff regime unlike their Indian counterparts. At the same time, this argument can also be stretched to other aspects of the maritime sector: Cochin Shipyard Ltd constructs specialised vessels for deep sea oil exploration for Norway. However, Indian firms that are involved in deep sea oil exploration depend on foreign owned and operated vessels to carry out their operations even though such vessels are built in India. Thus, in such instances, the nation is dependent on foreign participation despite having the wherewithal to address the challenges domestically.

Above all, there is a need for the creation of a nodal organisation that would formulate policy and regulatory roadmaps and monitor all developments in the

maritime field. This organisation could be staffed with competent professionals representing all stakeholders in this domain. Hence, it could include naval and Coast Guard personnel, customs officials, representatives from financial institutions (representing insurance and other finance companies that are associated with the shipping and chartering), shipyards and ship operators, officials from fisheries and hydrocarbons, security agencies, etc. The organisation could look into all aspects of the maritime domain and would have the expertise to manage and intervene when needed.

It is also necessary to have a dedicated organisation for education and training of personnel engaged in this domain. This would serve to address human resource problems currently affecting this sector. The institution could help imbibe the latest technological regimes, professional management and administration methodologies in this sector

The term 'maritime infrastructure' not only covers coastal infrastructure like ports and yards but also includes roads and railheads, warehouses, financial institutions, legal assistance and allied services that facilitate maritime activity. An incremental enhancement of these support facilities is equally important for the main infrastructure to function optimally.

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