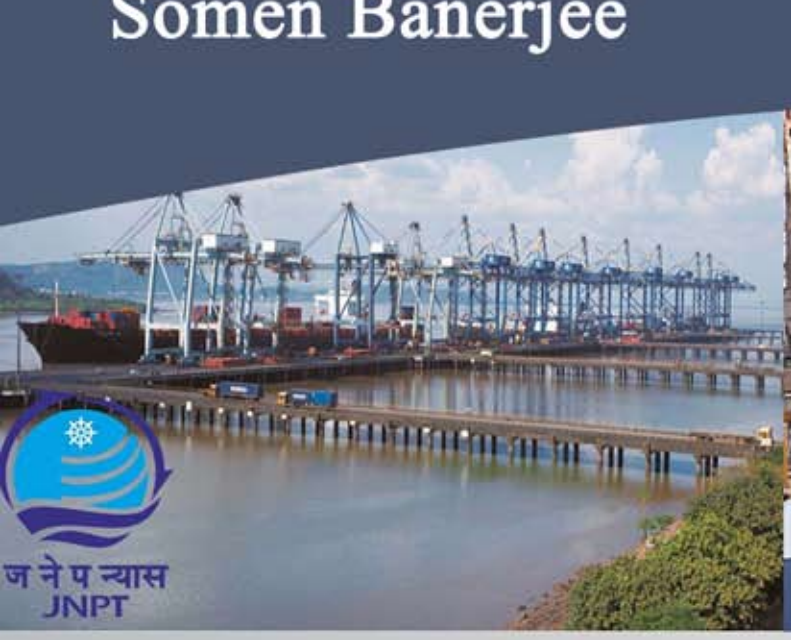
Vivekananda International Foundation

Maritime Transport has the Potential to Reinvigorate Indian Economy

Somen Banerjee



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About the Author

Somen Banerjee is a serving naval officer. Presently, he is a Senior Fellow at the Vivekananda International Foundation researching on maritime policy initiatives while pursuing his PhD from the Mumbai University on Indo-Pacific affairs. He has had extensive exposure to security and governance matters related to the Indian Ocean Region, and is a regular contributor to forums related to strategic and maritime issues.

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Abstract

India has emerged as one of the fastest growing economies of the world. However, the manufacturing sector, which has the greatest potential of absorbing jobs has lagged behind and has been unable to meet the growing aspirations of the burgeoning population. To sustain the momentum of present growth, and expand employment base in the country, diversification into mega infrastructure and manufacturing projects appears to be the only option. In this backdrop maritime transport comprising ports, shipping and shipbuilding assume considerable significance. It offers the potential of not only propelling growth and spurring jobs but also raising skill thresholds of the larger populace. It also resonates with the Prime Minister's visions of 'Make in India' and 'Skill India'. This paper examines the government initiatives that are already underway and additional avenues that need to be explored to transform India's economy through maritime transport.

Introduction

Almost 80 per cent of world trade by volume and 70 per cent by value is shipped through the high seas. Thus, the importance of maritime transport in development and trade cannot be overemphasised.[1] In 2017, the commercial value of the world's shipping fleet amounted to $829 billion. The top five ship owners in terms of cargo carrying capacity (dwt) are Greece, Japan, China, Germany and Singapore with a total market share of 49.5 per cent of dwt. The five largest flag registries are Panama, Liberia, the Marshall Islands, Hong Kong (China) and Singapore accounting for a market share of 57.8 per cent. Just three countries – the Republic of Korea, China and Japan – have constructed 91.8 per cent of world gross tonnage in 2016.[2] In contrast, India has been lagging behind and ranks 18th in terms of dwt and 25th by value with an ownership of 986 vessels (Figure 1).[3]

Rank (dead-weight tonnage)	Country or territory	Number of vessels	Dead-weight tonnage	Foreign flag as a percentage of total (dwt)	Rank (dollars)	Total value (million dollars)	Average value per ship (million dollars)	Average value per dead-weight ton (dollars)
1	Greece	4 199	308 836 933	78.76	3	72 538	17.3	235
2	Japan	3 901	223 855 788	85.89	2	77 898	20.0	348
3	China	5 206	165 429 859	53.97	4	65 044	12.5	393
4	Germany	3 090	112 028 306	90.77	8	38 412	12.4	343
5	Singapore	2 599	104 414 424	39.02	7	39 193	15.1	375
6	Hong Kong (China)	1 532	93 629 750	23.98	9	25 769	16.8	275
7	Republic of Korea	1 656	80 976 874	81.98	11	20 928	12.6	258
8	United States	2 104	67 100 538	85.73	1	96 182	45.7	1 433
9	Norway	1 842	51 824 489	64.62	5	58 445	31.7	1 128
10	United Kingdom	1 360	51 150 767	80.55	6	40 671	29.9	795
11	Bermuda	440	48 059 392	98.93	13	19 691	44.8	410
12	Taiwan Province of China	926	46 864 949	90.62	17	10 857	11.7	232
13	Denmark	920	36 355 509	56.00	15	18 694	20.3	514
14	Monaco	338	31 629 834	100.00	23	7 903	23.4	250
15	Turkey	1 563	27 732 948	71.57	20	9 055	5.8	327
16	Switzerland	405	23 688 303	92.58	22	8 458	20.9	357
17	Belgium	263	23 550 024	67.81	27	6 505	24.7	276
18	India	986	22 665 452	27.35	25	6 938	7.0	306
19	Russian Federation	1 707	22 050 283	67.38	19	9 081	5.3	412
20	Italy	768	20 609 725	29.36	10	23 184	30.2	1 125

Figure 1: Ownership of World Fleet

1. UNCTAD Review of Maritime Transport 2017 Px, accessed June 12, 2018.
2. UNCTAD, p. 21.
3. UNCTAD, p. 30.

In terms of ships registered India ranks 15th with 1674 ships, with a share of only 0.93 per cent of the world shipping in terms of dwt. By value, India ranks further low at 25th position. The Shipping Corporation of India (SCI) ranks 44th amongst shipping companies with a market share of just 0.1 per cent and five ships (2017). The number of ships with the SCI has been declining from 2015 at the rate of one per year. In comparison, Maersk has 621 ships.[4] When these figures are compared with the growth of India's EXIM trade (6.7 per cent export and 7.3 per cent import) the number of ships owned, registered or being built by India are dismal and declining. Shipping provides immense commercial and employment potentials in multitude areas of building, owning, flagging and trade and needs to be tapped by India for both economic and strategic reasons.

China is already the largest shipbuilder in the world and 24 per cent of her maritime trade is shipped to the hinterland through inland waterways.[5] In other words, China has already realised most of the elements of maritime industry and is now on its way to create a strong navy to protect her maritime interests. India, on the other hand, is a naval power of sorts but lags behind in all other disciplines of maritime enterprise. Thus, in the long run, China's naval power would be sustainable and that of India would become unviable. An analogy of this can be seen in Mahan's comparison of the French and British Navies during the reign of Louise XIV[6] in the 17th century.

A diplomat and a historian, Shri KM Panikkar had once exhorted that a naval power however well-organised cannot count for much, unless it is supplemented by a great national mercantile marine. He had lamented that complete lack of attention to sea by authorities in Shimla and Delhi in the 19th century had led to the monopoly of merchantable marine by foreign interests.[7] Alfred Thayer Mahan too has made similar arguments about the import of mercantile marine in his seminal work, *The Influence of Sea Power upon History.* He had famously written that the profound influence of sea commerce upon wealth and strength of countries was clearly seen before the true principles which governed its growth and prosperity were detected.[8] Though he has been quite emphatic about the necessity of naval power, he has also acknowledged that the economic elements of the seas are indeed very significant for a country's rise.[9]

In a short span of just over four years, significant strides have been made by the present Government to shake-off the old vestiges of sea blindness. India's maritime rise has started to take roots in all its manifestations such as the ports, inland waterways, fisheries, shipping, tourism, naval power and related services. Prime Minister, Narendra Modi, has exemplified the *Blue Chakra* in India`s national flag,

4. UNCTAD p. 31.
5. Sood, Mint June 21, 2016.
6. Mahan, p 152.
7. Panikkar, 1946, p.12.
8. Mahan, 1957, p.1.
9. Mahan, p. 25.

as a metaphor for 'Blue Revolution', emphasising the centrality of maritime economy in the government's policies. The maritime resurgence of India is steadily becoming palpable through an array of policies unveiled by this Government under the overarching rubrics of *Sagamala*, *Neel Kranti* and *SAGAR* Schemes.

The maritime transport sector comprising mega enterprises like ports, shipping and shipbuilding can play a major role not only in creating mass jobs but also in enhancing the technical thresholds of the labour force. This paper examines the government initiatives that are already underway and additional avenues that need to be explored for transforming India's economy through maritime transport. This sector can become the bellwether for the manufacturing industry in the country and diffuse the present stress in the job market. It has the potential to create a domino effect in the society by subsuming all levels of unskilled, semi-skilled and highly skilled workforce.

This Paper examines three issues – shipping, shipbuilding and port development. Under shipping, the paper argues the necessity of improving ship ownership and the options for improving shipping trade in India's favour including cabotage. In shipbuilding, the Paper reflects upon the trends in global trade and identified the sectors where shipping industry is facing a slump, as also those areas where there is a robust demand. Based on the analysis, the Paper recommends the sectors where Indian shipyards need to invest. In addition, the Paper suggests structural changes that would be required to boost the shipbuilding sector. Lastly, the paper discusses the Sagarmala Project and opines as to how it could be synergised with the shipbuilding sector. The Paper also briefly deliberates upon skill development and the implications of maritime transport on job creation.

Shipping

Owner and Flag Register of Shipping - The commercial value of world shipping stood at $829 billion in 2017. Germany, Singapore, Japan, China and Greece are the largest ship owners and together have a market share of 49.5 per cent. Whereas, Singapore, Marshall Islands, Hong Kong (China), Panama and Liberia are the top five flag registries and together have a market share of 57.8 per cent. India has 1674 vessels registered with a world share of 1.8 per cent[10] (by numbers) and 0.93 per cent (by dwt). India owns 986 vessels (18th in world ranking)[11] as on 2016 which has been on steady decline year-on-year. Ownership and registering ships not only accrue commercial gains to a country, but also provide greater leverage on national security, contingency response, enforcement of safety norms, monitoring environment compliance, control over immigrant and refugee movements and management of labour issues. Case studies on major owners and ship registers such as Singapore need to be undertaken for examining the methodology and viability of increasing Indian ownership and registered shipping.

10. UNCTAD, p.32.
11. UNCTAD, p.28.

Cabotage – Cabotage is carriage of cargo between two points within a country. Permission to engage in cabotage is normally restricted to domestic shipping companies. Countries like Brazil or India that have a large coastline, and therefore have a large cabotage potential. However, under such conditions, it has been found that normally neighbouring smaller countries take the advantage by providing hub ports for trans-shipment and benefit from cabotage restriction of the adjacent large country. Montevideo in Uruguay is a case in point and acts as a hub port for Argentina and Brazil. Similarly, Colombo benefits from cabotage restrictions in India, as global liner prefer to call at Colombo Port, from where feeder services connect to seaports in India. Often countries with long coastlines or islands prefer ships to call at more than one domestic port for commercial reasons. Even though Germany has a higher liner shipping connectivity than Brazil, shipping operators in Brazil can call at multiple port.[12] The same is true with India and hence the intra-country container shipping connectivity is quite high and is an important policy consideration.

In 2016, India-Sri Lanka trans-shipment ranked 5th amongst two-country-connectivity with respect to annual Twenty-Foot-Container Equivalent Unit (TEU) capacity (a total of 6982551) and employed 150 ships.[13] Despite the stupendous economic performance of India in the recent past, a vast majority of containers traffic bound for India are still shipped through ports of Colombo International Container Terminal (CICT) and Singapore. This is primarily because of the lack of major deep-water ports closer to international Sea Lines of Communication (SLOC) and restrictive cabotage law for the movement of foreign-flagged vessels in Indian territorial waters.[14]

The Jones Act of 1920 in the US ensures that ships carrying cargo between US ports should satisfy four conditions – owned by US company (at least 75 percen-townership), at least 75 percent US crew, built in US and registered in the US[15]. In contrast, the Government of India has relaxed cabotage restrictions in March 2016 for ports which trans-ship at least 50 percent of EXIM (Export Import) containers. With this cabotage relaxation, foreign vessels can now transport EXIM and empty containers from any port in India to trans-shipment ports and vice-versa. Earlier, the spare capacity onboard foreign flag ships could not be used due to the cabotage restrictions.[16] However, this initiative could discourage indigenous shipping. There is a need to conduct a holistic cost-benefit analysis on balancing Indian and foreign shipping for intra-Indian coastal trade. To boost the shipping sector policies on Customs, Coastal Regulation zone (CRZ), port land allocation, Tariff Authority of Major Ports (TAMP), coastal shipping etc. also need to be reviewed.

12. UNCTAD, p.108.
13. UNCTAD, p105.
14. Verma, South Asia Channel, March 3, 2016, accessed April 27, 2018.
15. Transport Institute, (Accessed on 10 August 2018), https://transportationinstitute.org/jones-act/
16. MoS, PIB March 17, 2016.

Shipbuilding

Table 2.9. Deliveries of newbuildings, major vessel types and countries where built, 2016
(Thousands of gross tons)

	China	Japan	Republic of Korea	Philippines	Rest of world	Total
Oil tankers	4 407	1 094	10 500		917	16 918
Bulk carriers	12 346	9 418	2 940	691	540	25 934
General cargo	764	205			169	1 138
Container ships	2 231	599	5 541	397	695	9 464
Gas carriers	553	759	4 887	78	24	6 302
Chemical tankers	561	566	306		39	1 472
Offshore	651	204	603	2	686	2 146
Ferries and passenger ships	105	184			1 148	1 437
Other	561	319	490		76	1 445
Total	**22 179**	**13 349**	**25 266**	**1 168**	**4 295**	**66 257**

Figure 2: Shipbuilding Capacities of Leading Countries (Source: UNCTAD)

Japan, China and South Korea account for 91.8 per cent of world ships construction in terms of gross tonnage. For the fifth year in a row, supply in world commercial fleet has been more than the demand, leading to overcapacity and decline in growth from 3.5 per cent in 2015 to 3.15 per cent in 2016.[17] These trends are unlikely to change soon and need to be factored prior to expanding the shipbuilding capacity in India. Figure 2 represents the ship built by leading countries in 2016.

Trends in Maritime Transport - Shipping not only enables trade but also provides livelihood to millions employed in building, owning, flagging, operating and scrapping. According to the United Nations Conference on Trade and Development (UNCTAD) Review of Maritime Transport 2017, India's average volume of merchandise trade between 2013 and 2016 had appreciated by 5.1 per cent for imports and 4.15 per cent for exports, which is amongst the highest in the world.[18]

The world tanker trade comprising crude, refined oil and gas grew in 2016 by 4.2 per cent to 3.1 billion tons, mainly driven by crude demands of China, India and the US and export of petroleum refined products from China and India.[19] The Liquid Petroleum Gas (LPG) trade rose in 2016 by 10.1 per cent to 87 million tons, which was also driven primarily by the demands of India and China. Weak global investment and industrial performance has had a negative impact on dry and bulk cargo segment, but it still grew at a meek 1.3 per cent largely due to demands from China, though there has been a slump in import of steel and coal by India. The growth of container trade has been a modest 3.1 per cent.

In the aforesaid context and slowdown of the world economy, the growth of seaborne trade in some of the major sectors is rife with uncertainty and risks. For India, it means that investments and capacity enhancement of ports and shipping need to be done with due diligence. However, developing countries like India will

17. UNCTAD, p.21.
18. UNCTAD p.4.
19. UNCTAD, p.9.

still have to bridge the infrastructure gaps of maritime transport to cater for the burgeoning domestic demands and export markets.[20]

Container Shipping - In 2016, world containerized trade had appreciated by 3.1 per cent attaining 140 million TEU in 2016.[21] The growth of mega container ships (over 18000 TEUs) has been weak which has forced the container ship industry to consolidate through mergers, acquisitions and shake ups. Some of the leading container companies have even filed for bankruptcy protection (Hanjin effect). Upsizing of container ships and the opening of extended Panama Canal locks have had a cascading effect on the balance between trans-shipment and direct call patterns.[22] Against the above backdrop, the future of container liners is uncertain as it is difficult to predict at this stage if the current trends are transient or structural. Thus, it would be advisable for India not to venture into large container ships at this stage. However, small container ships to meet domestic demands of feeder ships for coastal and inland operations would be commercially viable. This sector is still undergoing transformation due to a slew of technological developments such as digitalization, internet of things, cloud computing, e-commerce, big data and three-dimensional printing[23] and the need to be factored whilst policy alterations.

Preferable Sectors for Shipbuilding – Despite the volume of international trade reaching 10.3 tons in 2016, the demands for shipping services rose quite moderately by 2.6 per cent. It was marginally better than 1.8 per cent in 2015, but still below the historical average of 3 per cent recorded over the past four decades. One of the factors that need to be considered before formulating policies on India's shipbuilding is the share of dead weight tonnage (dwt) *vis-a-vis* their commercial value in the world market. In terms of dwt, the world shipping fleet is dominated by dry bulk carriers, oil tankers and container ships transporting iron ore or coal. But when viewed from the perspective of commercial value, the order of significance goes to offshore vessels, ferries and gas carriers (Figure 3). Despite these ships being technologically intensive and costlier to build, they accrue greater rates of returns due to the higher unit value of cargo.[24]

In 2016, LPG tankers recorded a high growth of 9.7 per cent and oil and chemical tankers also shown a robust growth of 5.8 and 4.7 per cent respectively. In contrast, general cargo ships registered a negative growth rate of -0.2 per cent. There has been in steady decline in this since 1980. In this backdrop, it would be prudent for India to invest in LPG, oil tankers and chemical tankers and impose a temporary moratorium on expansion of general cargo ships.

20. UNCTAD, p.18.
21. UNCTAD, p.10.
22. UNCTAD, p,10.
23. UNCTAD, p.14.
24. UNCTAD, p.25.

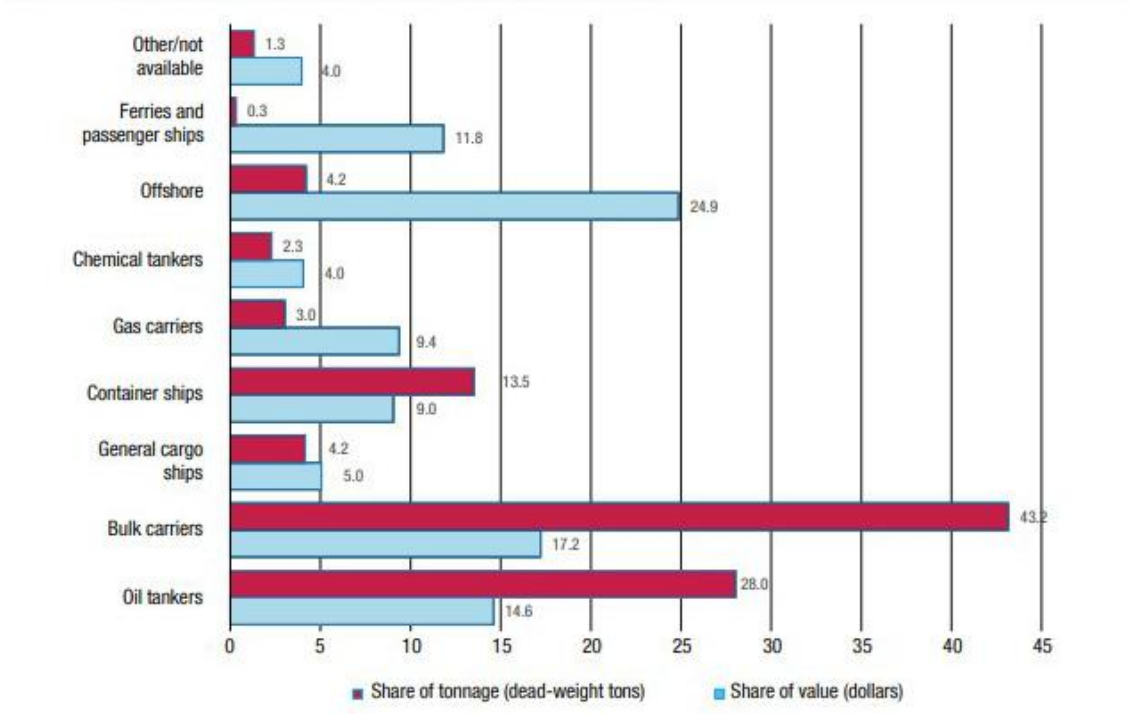

Figure 3: DWT vs Commercial Value of Ships (Source UNCTAD)

While general cargo ships are self-sufficient with their own cranes; container ships, chemical tankers and offshore vessels require high initial investments in ports for creating offloading facilities and storage infrastructure. Thus, a decision to invest in these ships will also be linked to the creation of ports facilities. Another trend that affects developing countries is the export of fresh fruit, fish and meat which necessitates reefers,[25] and has to be factored for a potential increase in domestic demands.

Given the current technological expertise and domestic demands in India it would be prudent to invest in coastal and inland ferries; chemical and oil tankers; dredgers; tugs and dry bulk carriers in the near term (10 year plan). But, at the same time niche areas such as offshore platforms, LPG ships and cruise liners also need to be targeted for creating indigenous expertise at this stage through Joint Venture (JV) and Government-to-Government (G-to-G) training programmes with proficient counties like Japan, China and South Korea. It is in India's long-term interest that the government does initial handholding in these sectors till the private or public players become self-sufficient. India could also invest in shipping support heavy machines such as the shipyard travelifts, hydraulic and electric actuators, machining tools etc.

Status and Initiatives– India currently has around 28 major shipyards, with six under the Central Government, two under State Governments, and the remaining under the private sector, as depicted in Figure 3.[26] Out of the 28 shipyards in India, three public shipyards namely Goa Shipyard Limited, Cochin Shipyard Limited and Hindustan Shipyard Limited and three private shipyards, i.e. Pipavav, Bharati and

25. UNCTAD, p.23.
26. MoS website, accessed June 12, 2018.

Larsen & Toubro (L&T) have the capacity to build large vessels. Figure 4 has two snapshots on shipbuilding capacity as on March 2015 and order books in FYs 2014 and 2015 of nine large shipyards. As on March 31, 2015 the Indian Shipyards had an order book of 258 ships (excluding Alcock Ashdown, Garden Reach, Tebma and L&T Shipyards) with a dwt of 2692.70 thousand tons.[27] To promote domestic shipbuilding UPA Government had announced ambitious objectives for the Twelfth Plan (2012-17), including capturing a world market share of 5% by 2017.[28] But none of the Twelfth Plan targets could be achieved.

Shipbuilding needs to be earmarked as a strategic sector and pursued through long-term plans that are backed by commensurate policies and finances. The current government has approved a Shipbuilding Financial Assistance Policy (SFAP) in December 2015 which provides financial assistance to shipyards of Rs. 4000 crores for a period of 10 years.[29] However, even this amount is meagre as compared to costs of shipbuilding. For shipbuilding to take flight in India, incremental approaches would have to be replaced by transformational changes. Thus, it would be prudent to study the cluster models of successful countries like China, Korea or Japan. This paper briefly discusses the China State Shipbuilding Corporation (CSSC) model.

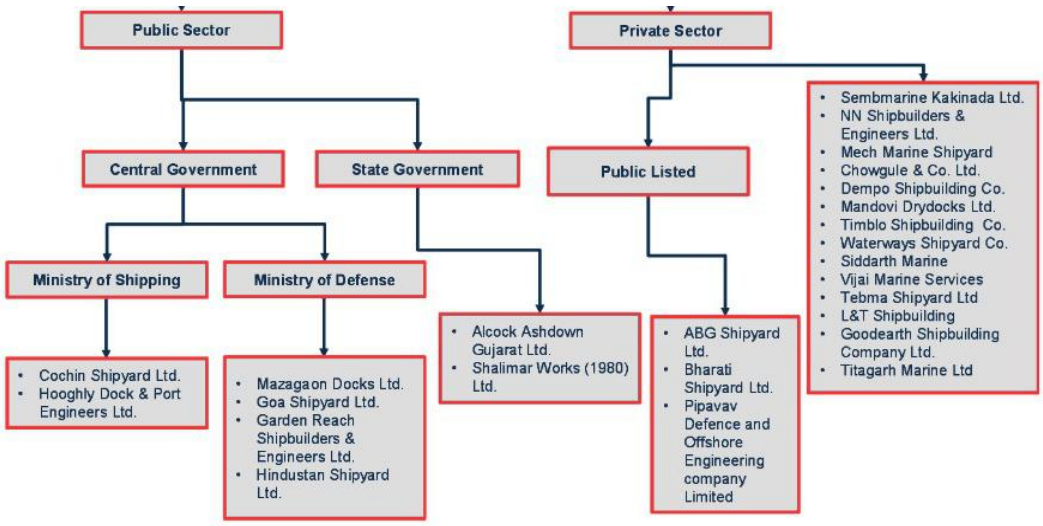

Figure 4:, Shipyards in India (Source: MoS)

Examination of CSSC Shipbuilding Model – As a result of Deng Xiaoping's defence conversion programme, the Sixth Ministry of Machine Building was corporatised into China State Shipbuilding Corporation in 1982. China's two state-owned shipbuilders China Shipping Industry Corporation (CISC) and China State Shipbuilding Corporation (CSSC) were put under the control of an independent commission and relieved of the bureaucratic control. This provided the two shipyards to reform their management, raise capital and sell stocks. In contrast, the six large Indian public shipyards are controlled by Joint Secretary level officers in the Ministry of

27. MoS website.
28. MoS website.
29. MoS, PIB November 01, 2017.

Defence and Ministry of Shipping, who are indeed extremely competent officials, but lack the private corporate experience. China adopted cluster approach way back in 1982 when the CSSC worked on the principle of 'cluster' that was given direct control of 153 organisations including shipyards, research and design universities, military and commercial repair facilities, foreign joint venture. Though the CSSC *Jitian* style conglomerate model looked similar to the Japanese *Keiretsu* or the Korean *Chaebol,* it was different in the sense that it remained answerable to the central government, while working like a corporate entity. The six key reasons for the transformation of the CSSC into a mega world-class industry are[30]: Economic liberalisation and bureaucratic freedom; a shift from military to commercial focus; commitment to international market; a healthy balance between domestic and international market; geography; and finally, competitive price advantage from cheap labour.

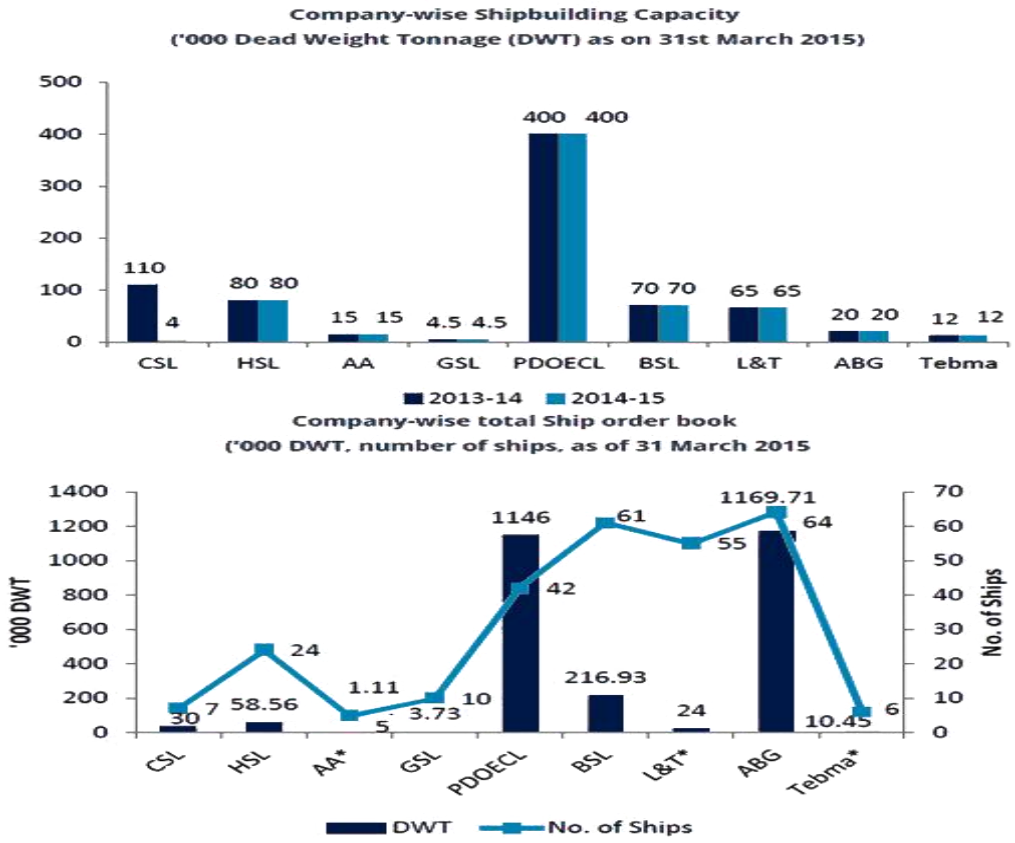

Figure 5 (Source: MoS)

(Note- CSL: Cochin Shipyard; HSL: Hindustan Shipyard; AA: Alcock Ashdown Gujarat Limited; GSL: Goa Shipyard Limited; PDOECL: Pipavav Defence and Offshore Engineering Company Ltd.; BSL: Bharati Shipyard; L&T: Larsen & Toubro Shipyard; ABG: ABG Shipyard; Tebma: Tebma Shipyard)

Maritime cluster is a network of connected maritime industries, R&D institutions and financial companies that have geographical contiguity and are influenced by mutual relationship and dependence.[31] Constituents of a typical cluster are illustrated in Figure 6.

30. Collins, 2008.
31. Med Maritime Integrated Project, CoRinThos, 2016.

Figure 6: A Typical Maritime Cluster Configuration (Source: CoRINThos)

Clusters have emerged as successful and sustainable business models due to their ecosystem approach and mutual competition. A cluster should not be confused with the Indian hub and spoke models of tier 1, tier 2 and tier 3 companies, tier 1 remains the hub. Most successful shipbuilding nations like Japan, Germany, Netherland, Denmark and Norway have flourished due to cluster operations.

Options for India – The Ministry of Shipping (MoS) has already been analysing the cluster approach which can be substantiated from its site *India Maritime Plus (Investment Felicitation Cell)* and had proposed formation of three clusters as follows:[32]-

- Gujarat

  - Combining the steel cluster at Hazira, upcoming automobile cluster at Sanand, Shipyard at Pipavav, Ship-breaking yard at Alang, and Gujarat International Finance Tec-City.

- Tamil Nadu

  - Combining the automotive clusters at Chennai and Ennore and proposed new steel cluster near Chennai/Ennore.

- Andaman & Nicobar

  – Marine cluster to leverage the potential of the region for tourism and possibly Maintenance, Repair and Overhaul (MRO) services for ships passing through the international east-west trade route.

However, the above proposal leaves the defence and private shipyards out of the reckoning. To begin, the central and state government run shipbuilding and ship

32. MoS Website.

repair yards including that of defence need to be organised into four to five clusters of two states each and centred around Gujarat-Maharashtra (NW Cluster); Karnataka -Kerala (SW Cluster); Tamil Nadu-Andhra Pradesh (SE Cluster); Orissa-West Bengal (NE Cluster) and Andaman and Nicobar (Far East Cluster) for MRO operations of international traffic. Subsequently, clusters should be extended to public listed and private companies as well. In addition, growth in shipbuilding sector will require financial assistance for local shipbuilders, exemption of customs and central excise duties, grant of infrastructure status to shipyards, permit 100 per cent Foreign Direct Investment (FDI) in shipbuilding and Right of First Refusal (RoFR) for domestic shipyards.[33] Given the current structure of the Indian Government, the cluster approach will have to be implemented top down and shipyards would have to corporatised.

Port Development

Port development is already underway under the aegis of the MoS under Project Sagarmala and is being steered by Shri Nitin Gadkari. Sagarmala was conceived by Shri Atal Bihari Vajpayee in 2003 and announced by the Prime Minister Shri Narendra Modi in 2014. Project Sagarmala is a port-led development model that is based on four pillars of port modernisation, port connectivity, port led industrialisation and coastal community development. Indian ports lack the necessary draft to handle large (Cape size) ships and can handle the average size of 5000 TEU ships in contrast to 12000 TEU ships being handled by China.

		2025		
Commodity	2014	Base	Optimistic	Total
POL	351	460	80	540
Coal	231	850	128	978
Containers	115	323	53	375
Others	275	527	80	607
Total[1]	972	2,160	341	2,500

Figure 7: Cargo Volume Growth in MPTA (Source: MoS)

The port draft of Jawaharlal Nehru Port Trust (JNPT) is 14 metres as against the required draft of 16 meters for Cape-size ships.[34] As a result over 70 per cent of cargo is trans-shipped to India from international ports. However, this trend has started to change due to a combination of various initiatives instituted by the MoS with regard to coastal shipping, port tariff, infrastructure development and liberalised cab-

33. MoS, Sagarmala Vol III, p.257, accessed June 12, 2018.
34. MoS, Sagarmala, p.15

otage. The volume of cargo is expected to increase by over 200 percent from 972 million tons per annum (MPTA) in 2014 to 2160 MPTA by 2025 (Figure 7).

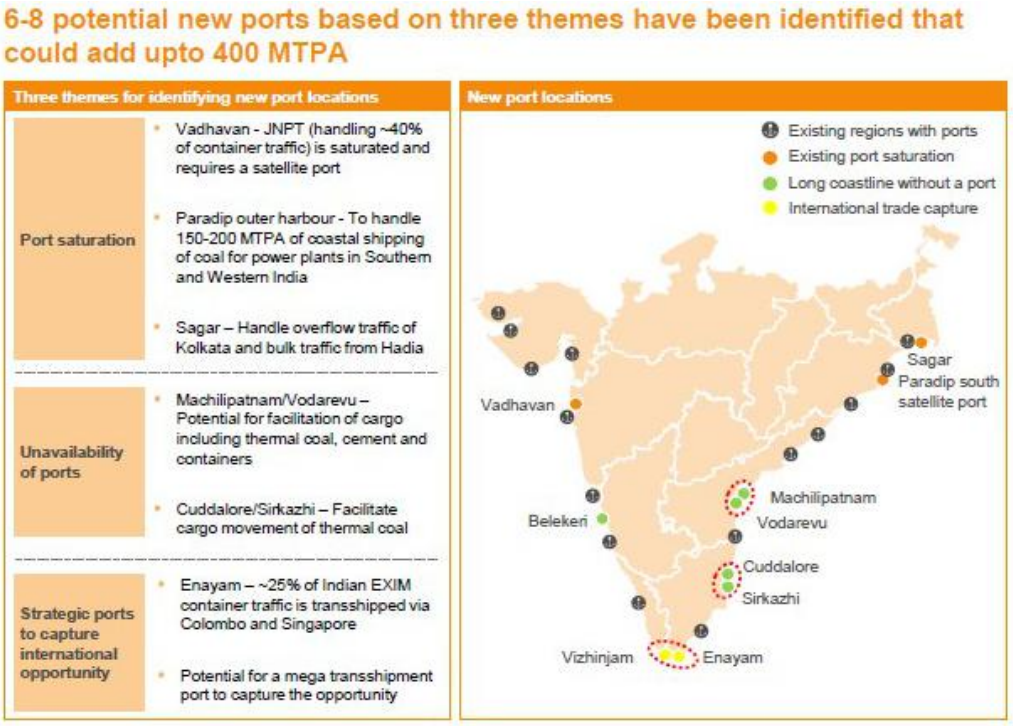

Figure 8: Development of New Ports (Source: MoS)

To cater for increased demands in the future, Sagarmala has envisaged utilisation of existing ports to their maximum potential by improvement of port efficiency, capacity enhancement of major ports and construction of six to eight green-field ports[35] (Figure 8). An efficient maritime logistic network can become the catalyst for economic growth. Development of six to eight new ports is based on three themes: first, decongestion of cluttered ports of JNPT, Paradip and Sagar (WB); second, unavailability of adequate ports being augmented by creation of port at Machlipattnam/ Vodarevu, Cuddalore/ Sirkazi and Belekeri; and the third by capturing strategic ports at Enayam/ Vizinjam.[36]

Developments along the coastline are envisaged through Coastal Economic Zones (CEZ), of which ports are an integral part. The CEZs are envisaged to have multiple industrial sectors within 100 km. Integrating shipyards and clusters into the CEZ would enable synergising shipyard clusters with port clusters. By 2025, it is expected that 14 coastal zones would be created to synergies with the five industrial corridors (Figure 9), namely, the Delhi–Mumbai Industrial Corridor (DMIC), Bengaluru–Mumbai Economic Corridor (BMEC), Chennai–Bangalore Industrial Corridor (CBIC), Visakhapatnam–Chennai Industrial Corridor, (VCIC) and the Amritsar–Kolkata Industrial Corridor (AKIC).[37]

35. MoS, Sagarmala, p.13.
36. MoS, Sagarmala, p.19.
37. MoS, Sagarmala, p.309.

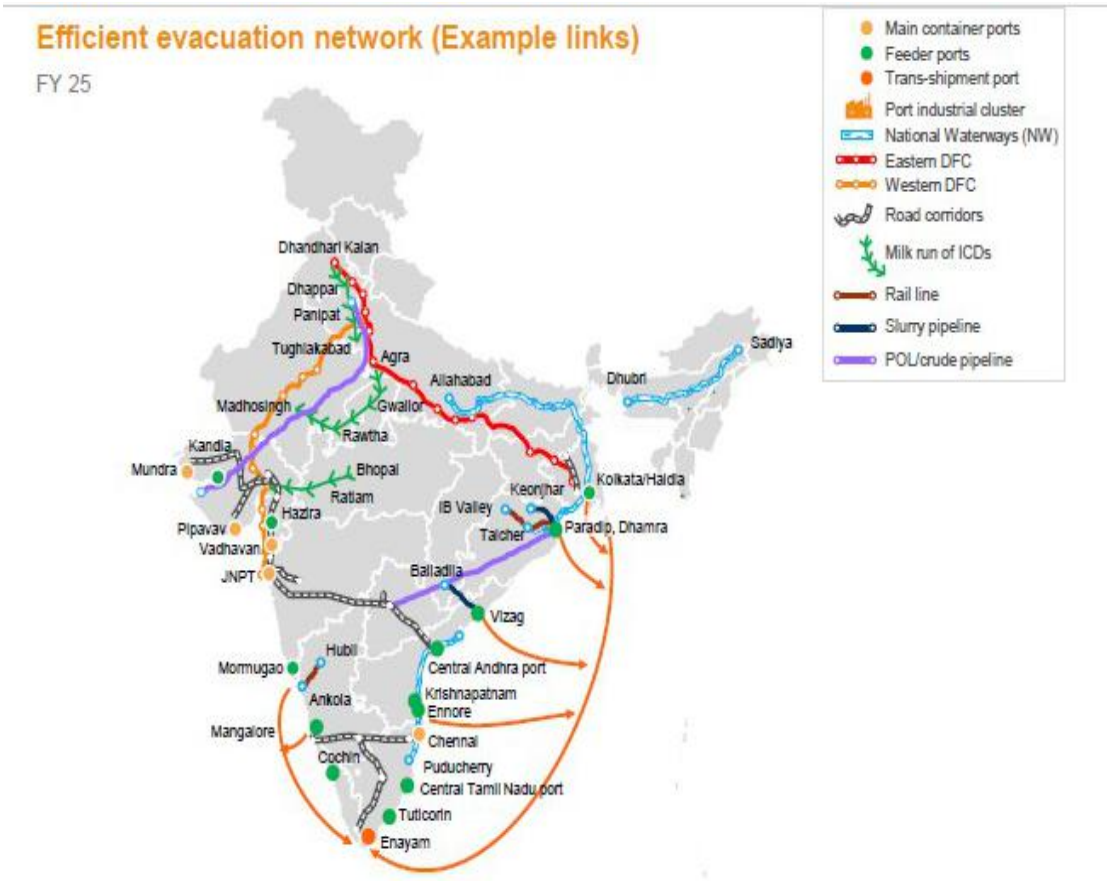

Figure 9: Alignment of CEZs with Industrial Corridor (Source: MoS)

Skill Development

The World Economic Forum had stated in the Global Human Capital Report 2017 that "how nations develop their human capital is a more important determinant of their long-term success than virtually any other factor".[38] According to the United Nations Industrial Development Organisation (UNIDO) White Paper 2017, the Government of India in 2009 had identified skills and knowledge as driving forces of economic growth and social development, and set the ambitious target of training 500 million people by 2022.[39] The National Skills and Qualification Framework (NSQF) was introduced in December 2013 which supersedes all earlier frameworks. Commencing December 2018, compliance with NSQF shall be mandatory for all training and educational programme. *Skill India* is another government initiative that was implemented in 2015 to empower youth who comprise 65 per cent of the working age group of the country. Under the Skill India initiative, the Government has published a new policy, the 'National Policy on Skills Development and Entrepreneurship 2015', which will enhance skills in India based on the maxim, "one nation, one standard".[40] Ministry of Skill Development and Entrepreneurship has been the nodal ministry and has published reports on 24 sectors covering a wide range of en-

38. WEF, Global Human Capital Report 2017, accessed June 12, 2018.
39. UNIDO White Paper 2017, p. 30, accessed June 12, 2018.
40. UNIDO, p,32.

terprises. Interestingly, the manufacturing sector comprises eight sectors: automobile, IT hardware, furniture, leather, handlooms, pharmaceutical, telecom and textile. There are no reports on heavy industries like railways, aerospace, shipbuilding, defence equipment etcetera which employ a large section of the population in the country but have to depend upon foreign imports for high-end technologies.

The Annual Report on Skill Development 2016-17 has estimated that the training requirement in the port and maritime sector alone to be 2.5 million up to 2022.[41] Despite engineering colleges and maritime universities churning out highly educated professional every year, lack of formal ecosystem to absorb the skills is leading to over employed youth in informal sectors. The overall need for training in India up to 2022 is 126.87 million.[42] In collaboration with industry leaders, National Skill Development Corporation has set up Sector Skill Councils (SSCs) as autonomous bodies for 40 sectors. The SSCs create occupational standards, develop competency framework, conduct train the trainer programmes, affiliate Vocational Training Institutes, conduct skill gap studies, generate Labour Market Information system and certify trainees in accordance with National Occupational Standards.[43] In this regard, the SSCs are pooling the resources of all the stakeholders – industry, labour and academia. Whilst 34 SSCs have been tabulated in the Skill India report -2017, no SSC has been earmarked for maritime transport.

Stress in India's Jobs Market

According to the International Labour Organisation (ILO), employment generation has been the maximum in South Asia with an increment of 13.4 million in 2016, the majority of which was created in India,[44] which vindicates the Government's relentless efforts towards creating jobs. Despite the reduction of unemployment in India in percentage terms, (3.5 to 3.4), in absolute terms unemployment has increased by 100,000 between 2016 and 2017 (from 17.7 mn to 17.8 mn).[45] According to the Centre for Monitoring Indian Economy (CMIE), the global Labour Participation Rate (LPR) average is 63 per cent and China has an LPR of 71 per cent. In comparison, India's LPR fell from 46.6 per cent in 2016 to 43.9 per cent in 2017.[46] These are indeed ominous signs for India's future and needs to be corrected with immediacy.

In the given situation, policy-makers have four options to boost employment: Firstly, invest in port infrastructure development which can absorb unskilled labour in large numbers; secondly, to diversify into shipbuilding sectors that can incorporate the skilled and semiskilled workforce; thirdly, to adopt cluster approach to make shipbuilding and ports more efficient and competitive and lastly unleash policy

41. Ministry of Skill Development and Entrepreneurship (MoSDE), Skill India Annual Report 2016-17, p. 12, accessed June 12, 2018.
42. MoSDE, p.15.
43. MoSDE, p. 40.
44. ILO 2017 Report, Social outlook trends, p.24, accessed June 12, 2018.
45. ILO, p. 25.
46. Vyas, CMIE January 9, 2018, accessed June 12, 2018.

changes to attract FDI in the maritime transport sector under the banner of *Make in India*, relax norms for land lease and CRZ norms and align trade policies with industrial policies.

Concluding Remarks

India has once again been imbued with her civilisational confidence, which has provided impetus to maritime transport comprising ports, shipping and shipbuilding. Maritime transport can play a major role not only in creating mass jobs but also in enhancing the technical thresholds of the labour force. Despite recording one of the highest job growth in 2016, the Labour Performance Rate (LPR) of India is as low as 43.9 per cent as compared to the world average of 63 per cent. In this situation, there is a requirement to invest in port infrastructure development which can absorb unskilled labour in large numbers, diversify into shipbuilding sectors that can incorporate the skilled and semiskilled workforce, and adopt cluster approach to make shipbuilding and ports more efficient and competitive.

Shipbuilding - Due to the slowdown of the world economy, the growth of seaborne trade in some of the major sectors is rife with uncertainty and risks. For India, it means that investments and capacity enhancement of ports and shipping, needs to be done with due diligence based on market demands. The future of container liners is uncertain as it is difficult to predict at this stage if the current trends are transient or structural. However, there is a robust demand for LPG, chemical and oil tankers. Thus, it would be advisable for India:-

- NOT to venture into large container ships;
- To invest in small container ships to meet domestic demands of feeder ships for coastal and inland operations would be commercially viable;
- To invest in coastal and inland ferries; chemical and oil tankers; dredgers, tugs and dry bulk carriers in the near term (10 year plan);
- To invest in training in niche areas such as offshore platforms, LPG ships and Cruise liners also need to be targeted for creating indigenous expertise at this stage through JVs and G-to-G training programs;
- To hand-hold shipbuilding in niche sectors till the private or public players become self-sufficient;
- To invest in shipping support heavy machines such as the shipyard travelifts, hydraulic and electric actuators, machining tools etc.

Cluster approach for Shipbuilding - Cluster approach has been adopted for shipbuilding by leading nations and is the most cost-effective approach in a highly competitive market as it accrues benefits of economy of scale. The following way ahead is recommended:-

- Central and state governments run shipbuilding and ship-repair yards including that of defence need to be organised into four to five clusters of two states each, and centred around Gujarat-Maharashtra (NW Cluster); Karnataka-Kerala (SW Cluster); Tamil Nadu-Andhra Pradesh (SE Cluster); Orissa- West Bengal (NE Cluster) and Andaman and Nicobar (Far East Cluster) for MRO operations of international traffic.
- Subsequently, clusters should be extended to public listed and private companies as well.
- Allow foreign investments in shipbuilding, exemption of customs and central excise duties.
- Grant of infrastructure status to shipyards, permit of 100 per cent FDI in shipbuilding and RoFR for domestic shipyards.

Ownership and Registering – Ownership and registering ships not only accrue commercial gains to a country but also provide greater leverage on national security, contingency response, enforcement of safety norms, monitoring environment compliance, control over immigrant/refugee movements and management of labour issues. Case studies on major owners and ship registers such as Singapore need to be undertaken for examining the methodology and viability of increasing Indian ownership and registered shipping.

Port Development – The MoS has already embarked on comprehensive port and port led development under the aegis of Project Sagarmala. Developments along the coastline are envisaged through the CEZ, of which ports are an integral part. The CEZs are envisaged to have multiple industrial sectors within 100 km. Integrating shipyards into the CEZ would enable synergising shipyard clusters with port clusters.

The Annual Report on Skill Development 2016-17 has estimated that the training requirement in the port and maritime sector alone to be 2.5 million up to 2022. Despite engineering colleges and maritime universities churning out highly educated professionals every year, lack of formal ecosystem to absorb the skills is leading to over-employed youth in informal sectors, and job stress. The Ministry of Skill Development has already identified 34 SSCs to cover all sectors. An additional SSC for maritime transport would be essential for providing impetus to the sector.

India's maritime rise has started to take roots in all its manifestations such as the ports, inland waterways, fisheries, shipping, tourism, naval power and related services. The maritime transport sector can serve as a wellspring of technology for many an ancillary industry and transform the entire ecosystem of India's manufacturing capacity due to the wide spectrum of equipment and skills that are employed in ports and shipbuilding. Thus, the Government should consider declaring 'maritime transport' as a 'strategic sector' for the resurgence of India's economy.

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