

Analytical Study on Indian Coastal Shipping with Reference to Container Trade

P. Baiju¹, Dr. V. P. Velmurugan², Dr. K. A. Janardhanan³

¹MPhil Scholar, Department of Management Studies, Noorul Islam Centre for Higher Education, Tamil Nadu, India

²Associate Professor, Faculty of Management Studies, Noorul Islam Centre for Higher Education, Tamil Nadu, India

³Professor, Faculty of Management Studies, Noorul Islam Centre for Higher Education, Tamil Nadu, India

ABSTRACT

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India currently has a modest level of container penetration. Approximately 54% of all general cargo that can be transported in containers is actually containerized and exported, which is lower than the average global rate of 80%. Although shipping in containers is more efficient, a sizable portion of domestic general freight is still handled in bulk. However, in the upcoming decades or years, this could drastically change. Continuous GDP growth will raise the volume of containerized imports, while rising industrial production will raise the volume of containerized exports. A multimodal/intermodal transport system was created as a result of the containerization of maritime transport and the merging of maritime and land transport modes. The intermodal transport chains and organizations must use a telecommunications system in order to function. This study will look into two separate but connected research streams in order to gain a wider understanding of coastal shipping concerns and to study the Indian instance in this broader perspective. In contrast to road transportation, coastal shipping can only be used as a link in a multimodal transportation network. The complete multimodal/intermodal chain, including the land legs, must be functional and economical for coastal shipping to be commercially viable. In order to create a successful, multi-modal transport system that can serve present and future business needs, achieve modal balance, and reduce carbon emissions, India should regard coastal shipping as an intrinsic part of its transportation policy.

Keywords : Multimodal Transportation Network, Transportation Policy.

I. INTRODUCTION

Coastal shipping is the movement of goods by water without travelling across an ocean. An Indian-registered ship with a solely Indian crew engaged in

transporting cargo or people by sea between Indian ports is referred to as a coastal vessel. The Director General of Shipping may also grant a coastal trade license to any other ship for a specific time period. According to the 1958 Merchant Shipping Act, only

ships carrying the Indian flag are allowed to transport cargo between Indian ports. If no Indian flag ships are available, however, foreign flag vessels are allowed to deliver cargo between Indian ports. Environmental issues and climate change brought on by Green House Gas (GHG) emissions have forced nations all over the world to prioritise rivers for transportation above roads and trains. Compared to other modes of transportation, coastal shipping has a number of benefits, including better fuel efficiency, lower unit transportation costs, environmental friendliness, and lack of congestion.

In light of the aforementioned, coastal shipping has recently drawn more attention in India as well. The growth rate of maritime coastal freight transportation in India from 2001 to 2010 was 3.3% annually. The majority of the existing domestic transportation demand is met by the road and rail networks, which account for 57% and 30% of the demand, respectively. Coastal shipping contributes only 7% of domestic freight transit, which is extremely low when compared to other prosperous nations [1]. Though Indian seaborne trade has been growing substantially, the Indian shipping tonnage is not growing in pace with the fast growing maritime trade. India has 846 coastal boats as of January 1, 2015, however only 146 of those were cargo ships with a GRT of 0.66 million. Only one vessel was registered under the category "RO-RO" (Roll on - Roll off) with a GRT of less than 1000 tonnes, whereas the biggest number of vessels (287) were registered under the category "Tug" with a GRT of roughly 104 thousand. The average age of Indian coastal vessels, which have a tonnage of 665 thousand GRT, is over 20 years. India is rated fifteenth in the world by gross tonnage and has one of the largest merchant shipping fleets among developing countries. However, the Indian shipping industry only makes up about 1% of the total global fleet in terms of fleet size. The coastal shipping in India also experiences constraints, most of which are infrastructure-related. The government-backed infrastructure development projects, along with the current and planned ports,

create new opportunities for the coastal shipping industry.

II. LITERATURE

This study will look into two separate but connected research streams in order to gain a wider understanding of coastal shipping concerns and to study the Indian instance in this broader perspective. It will look at the studies and reports that different committees and experts conducted in India over the last 20 years. On the other hand, it will look at empirical research done in nations such as those in the Association of Southeast Asian Nations (ASEAN), Australia, New Zealand, Greece, Europe, the United States, etc., where coastal shipping has drawn a lot of interest and where research on the coastal shipping industry is in progress. In regard to the four research objectives, this study will look at the lessons learned from these and other studies.

India's coastal shipping has been a challenge for the last three or four decades. The first to recognise recurring issues was the Lokpur Committee (Rail Sea coordination committee) in 1957. Since then, the same issues have been identified by every panel or committee established to look at coastal shipping and its issues [1-10]. To encourage coastal shipping in India, a number of study groups, committees, organisations, consultants, etc. have published a range of papers and conducted studies during the past 20 years [6]. India Ports and Shipping Sector Research Sector of Coastal Shipping. The 1993 Afsal Purkar Report The Ministry of Surface Transport established a working group to examine the growth of coastal shipping, and a wide range of organisations were represented. One of the suggestions was to remove coastal ships from the strict daily inspection of the Customs Act of 1962. It was also advised to build smaller ports along the coastline and to deepen and enlarge the Pampan Channel to encourage East-West commerce [7].

Report of the Expert Committee on a Comprehensive Approach to Global Product Flow (1999) - The Indian Ministry of Commerce created this committee to provide guidance on a comprehensive approach to product export/import. The committee proposed that all ports should have a minimum container handling facility because the cargo transported by coastal ships will progressively be containerized. Another suggestion made was that coastal shipping be given infrastructure status [8]. The Study on Development of Coastal Shipping & Minor Ports (2003) was carried out by Tata Consultancy Services for the DG Shipping, Ministry of Shipping, Government of India [9]. This article offers a system for encouraging the switch from road/rail to water transportation for products. The study group also recommended an integrated transportation system that includes a road, rail, coastal, and inland waterway network [10].

III. CRITICAL EXAMINATION OF THE REASONS FOR THE UNDER UTILIZATION OF COASTAL SHIPPING IN INDIA

India's already crowded transportation system, particularly its road and rail networks, is put under further stress by its rapidly growing population and a significant increase in freight. Highway congestion and delays can have a severe effect on the safety and security of persons, freight, and vehicles in addition to reducing the overall reliability and predictability of transportation services. Ineffective terminal and intermodal operations are frequently the result of congestion at ports and in transportation networks. Transport operators suffer losses as a result of reduced travel owing to traffic and operational delays, which are frequently passed on to shippers and eventually to consumers. In addition, a large number of ports, terminals, and other intermodal infrastructure are situated in or close to populated regions. Due to the presence of old bridges and limited connecting roads, trucks travelling to or from these sites are usually forced to use local streets and roads that are not strong

enough for huge vehicles. Locally, there is more noise and air pollution as a result of more traffic on the roads and highways. Although rail is a sizable and growing service alternative, its usefulness as a truck replacement is limited by high infrastructure development costs and network capacity constraints. One strategy to reduce the aforementioned consequences and significantly increase the capacity available for freight transfers across the nation is to increase the use of coastal shipping. Coastal shipping in India has not developed into a significant component of the nation's transportation infrastructure despite having obvious advantages over land-based means of transportation. This is partially due to the industry not receiving the attention it requires from a governmental and industrial standpoint. In order to find a workable solution in such a competitive atmosphere, it is preferable to make sure that problems are fully and extensively understood before addressing them. This essay aims to critically examine the various factors that contribute to India's underutilization of coastal shipping.

India's coastal shipping has been a problem for at least the past four decades. Coastal shipping issues were initially brought up in the Rail Sea coordination (Lokpur) committee report, 1957 (ADB & Planning Commission Report (1990)3), and the most of them still persist today. The review of the pertinent literature makes it clear that all groups or committees established in India to study coastal shipping have since repeated the same issues with minor alterations. The coastal shipping industry in India faces policymakers with a variety of exceedingly difficult problems. The growth of coastal shipping is not entirely the fault of the Ministry of Shipping and DG Shipping. It must be coordinated with the State Governments/Maritime Boards, the Ministry of Petroleum and Natural Gases, the Ministry of Railways, the Ministry of Road, Transportation, and Highways, and the Ministry of Finance. India needs a single, integrated ministry with a distinct mission to create a

multimodal transportation network that supports the nation's larger development objectives. The current ministries should be changed into departments in charge of setting up the necessary facilities and offering transportation-related services.

IV. THE EFFECT OF FAST-GROWING CONTAINERIZATION IN CATALYSING COASTAL SHIPPING IN INDIA

The shipping industry, and specifically the container shipping trade, has experienced significant waves of change both globally and in India. The container changed the global economic system by making transportation more affordable. How crucial the container is to the world economy and, consequently, to the Indian economy, cannot be measured. The predominance of sea transport in the transportation of goods involved in international trade has been influenced by containerization, multimodal transport services, advanced marine engineering technology, and computerization. Commodities started to flow directly from Indian producers to retail outlets in the United States, Europe, and other international destinations as container transportation evolved into multimodality and made it possible for the seamless movement of containers between ships, trucks, and trains.

For many years, the shipping industry's fastest-growing sector has been the container trade. India's increased container traffic is highly dependent on the state of the world economy and the growth of containerization. Only a few businesses currently run on restricted routes. To make the trip economically possible, some of the ships make port calls in Pakistan and Sri Lanka. Ports on the east coast are quickly catching up to west coast ports in terms of the container trade. In India, containerization levels increased at a CAGR of 15% from 1993 to 2013, compared to a global CAGR of 7%. The growing

containerization of goods like electronics, textiles, and autos may be to blame for this impressive expansion.



Note: 'Year' stands for the financial year ending March
Source: Indiastat, IFA, KPMG Analysis

Figure 1. India : Container Traffic

However, India now has a general cargo containerization rate of about 54%, which is lower than the global average of 73%. The containerization of bulk items like rice, wheat, maize, and sugar is expected to increase over the coming years. It is projected that increased containerization penetration will increase domestic traffic volumes. The total expansion of traffic on the inland waterway system around the world has been dominated by container traffic since 1990. Containerization is expected to be one of the key reasons boosting coastal shipping in India as well. Currently, containerized coastal shipping, which has a very minor function, is only used to deliver clay, tiles, marble, plywood, white goods, and chemicals. Before the era of units and containers, general merchandise including spices, tea, coffee, cashew nuts, and coir was transported down the coast by Indian coastal ships.

By the time road and rail sectors took up the movement of containerized cargo, coastal shipping in India had just recently adopted containerization. Comparatively, from 1990 onwards, the number of containers transported by domestic shipping in Europe and China increased by roughly 38.6% annually⁴⁰. It should be noted, too, that containerization has been progressively increasing in Indian coastal shipping as well, increasing by 3.2% between FY2004 (14.8%) and

FY2010 (18%). Due to the segment's comparatively modest volume, shipping corporations have not yet found it to be appealing. The coastal containerized freight movement is depicted in the IPA statistics under "others," and an analysis of this data from 2005–2006 to 2014–2015 is displayed in the Table 1 which exhibits a trend of increasing increase. This is mainly due to increase in containerized general cargo movement.

ANALYSIS OF CONTAINER COASTAL TRAFFIC IN COCHIN - 2006-2013

Year	Container Throughput at ICTT, Vallarpadam, Cochin	Total Coastal Container Traffic	% of Coastal on total traffic
2006	217518	25167	12
2007	239723	39646	17
2008	268341	66459	25
2009	277032	85412	31
2010	310578	92236	30
2011	303904	85322	28
2012	323836	93760	29
2013	341762	118214	35

Source: DP World, Cochin & Various Shipping Lines

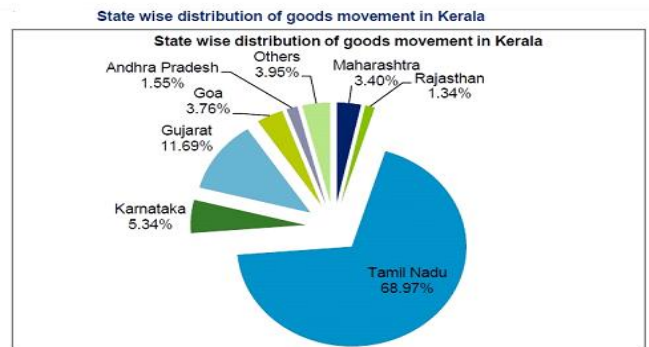
Table 1. An analysis of coastal container growth

Only a few businesses currently run on restricted routes. To make the trip economically possible, some of the ships make port calls in Pakistan and Sri Lanka. Ports on the east coast are quickly catching up to west coast ports in terms of the container traffic. One of the busiest west coast coastal container routes, the Gujarat Cochin route, displays a considerable increase rate in container traffic in this industry. From 12% in 2006 to 35% in 2013, coastal container traffic's share of ICTT, Vallarpadam's overall traffic has increased. Due to the ships' need to go throughout Sri Lanka, there is a restriction on the transit of containers between the East and West coasts. In this industry, railroads are preferred for the movement of containers. Nevertheless, M/S Shreyas Shipping has begun a liner service connecting India's East and West coastlines, which is anticipated to increase container trade between the two coasts. The rapid expansion of India's railway and road systems directly threatens container shipping by sea. The road is the ideal means of transportation for containers travelling less than 300 kilometres. The ratio of container transit by road and

rail for routes between 300 and 500 kilometres is roughly 50:50. However, trains are currently the preferred mode of transportation for any routes longer than 500 kilometres.

V. OPPORTUNITIES FOR CONTAINER COASTAL SHIPPING

One of the benefits of containerization is India's growing domestic market. The Indian retail sector is swiftly emerging as the next big growth area. The domestic LCL market, which combines tiny packages to create a full container load, is unexplored. The domestic LCL market should be promoted appropriately because it has enormous potential for coastal container traffic. States like Kerala rely heavily on services. Kerala is a consumer state, hence the majority of its needs for all goods are met by imports from other states. From other states, these items are primarily carried by road.



Source: Commercial Taxes Department, Deloitte analysis

Figure 2. State wise distribution of goods in Kerala

Over 20,000 cars are thought to transport goods from neighbouring states to Kerala every day. An additional 2000 trucks are reportedly transporting supplies from Kerala to neighbouring states. When feasible, these commodities, ranging from food items to durables and industrial goods, might be aggregated, packed into containers, and transported by coastal shipping.

India is becoming one of the world's most popular outsourcing locations for manufacturing, giving higher containerization possibilities. India's increasing

VI. CONCLUSION

industrialization will enhance containerization in the country. Original equipment manufacturers (OEM), such as Samsung and LG Electronics, as well as providers of electronics manufacturing services (EMS), such as Solectron, Flextronics, and Jabil, have already constructed facilities in India. Components of products are typically produced as semi-manufactured goods, re-exported in containers, and incorporated into finished products for modern manufacturing processes. These finished goods may also be exported in containers. In recent decades, the increase in semi-manufactured items and the usage of transshipment have contributed to the expansion of container throughput.

Movement of Over Dimensional Cargo (ODC), often known as project cargo, is the burgeoning activity within the logistics industry. It includes transporting machinery and materials of varying sizes in containers with open tops and flat racks. The movement of project cargo is increasing in industries such as electricity, oil and gas, mining, etc. The government's decision to achieve energy independence has resulted in the approval of the construction of power plants around the nation.

Even though all survey respondents believe that containerization is one of the important trends that will push Indian coastal shipping to greater heights, the development of this sector requires resolving several difficulties that are becoming obstacles for the expansion of Indian coastal shipping. India requires a programme to incentivize and assist the transition of container transportation from road and rail to water. By 2030, the European Union plans to transfer over fifty percent of its road and rail freight to short marine transportation. For any policy intervention to be effective, a thorough analysis and comprehension of a number of sector-specific challenges are necessary.

India's economic development has been more characterised by globalisation and the continual effort to improve industrial processes. And manufacturing and distribution organisations integrate transport activities under their managerial responsibilities. Due to its fuel efficiency, environmental friendliness, and reduced unit transportation cost, water transport has become a viable alternative to road transport, which is the primary method in India. Most international gateway ports are also connected to all three modes of transportation (road, rail, and sea coastal/IWT), allowing for the efficient evacuation of cargo, which reduces port congestion and boosts productivity. India too should follow suit to ensure uninterrupted domestic supply chain. In addition, as the Indian economy becomes increasingly intertwined with global supply networks, container penetration will expand. Instead of just managing and supervising the national fleet, India should adopt policies that actively encourage and promote investments in International shipping services under the Indian flag and amend its laws to facilitate this.

All stakeholders should collaborate to ensure that some of these difficult problems are better understood by the business community through various means. However, the Indian shipping industry's competitive position must be enhanced further. In addition, as the Indian economy becomes increasingly intertwined with global supply networks, container penetration will expand. The difficulties affecting the coastal shipping sector cannot be resolved by a single party alone. All parties involved should collaborate to ensure that these difficult issues are better understood and then solved. As crucial as the physical infrastructure itself are the rules and procedures that govern its operation

The researcher envisions an Indian Marine Transportation System that is safe, secure, environmentally friendly, globally compatible, and nationally integrated in order to ensure the uninterrupted and reliable flow of commerce along the

national maritime highways, inland waterways, and intermodal connections. Several policy decisions, tactics, and investments must be executed in order to reach this desired end state.

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