

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

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Abstract

It has been proven scientifically and factually that coastal shipping is the most economical, environment friendly and safer method of transportation for domestic cargo. Yet, India has not been able to fully exploit the potential of coastal shipping in enhancing the country's domestic commerce and economic development.

Despite the efforts of the Government of India to support the growth of coastal shipping through various measures, only about 7% of the country's domestic freight is estimated to have been transported by coastal shipping, whereas other developed maritime nations perceive coastal shipping as an integral part of their transport policy for meeting existing and future business requirements and to achieve modal balance, reduce pollution, congestions and accidents, etc. Presently, about 43% of domestic cargo traffic in Europe, 14% in USA and 30% in China, is being carried by inland/coastal shipping.

A number of committees, consulting agencies and government-supported organizations have made numerous recommendations to the Government of India, particularly during the last 20 years. This paper attempts to examine in depth and detail why coastal shipping still remains underdeveloped in India.

Keywords: Domestic Cargo, Country's Domestic Commerce and Economic Development

1.Introduction

1. 1 Indian Coastal Shipping

Coastal shipping refers to the movement of cargo over water without crossing a major ocean. By definition, coastal vessel means a vessel of Indian registry with exclusive Indian crew, engaged in carriage by sea of cargo or passengers, from one Indian port to another port or place in India, and/or any other vessel having specified period license for coastal trade issued by the Director General of Shipping. According to Merchant Shipping Act, 1958, only Indian flag vessels can carry cargo from one Indian port to another Indian port, however, permission is granted to foreign flag vessels to ply between Indian ports, in case Indian flag ships are not available.

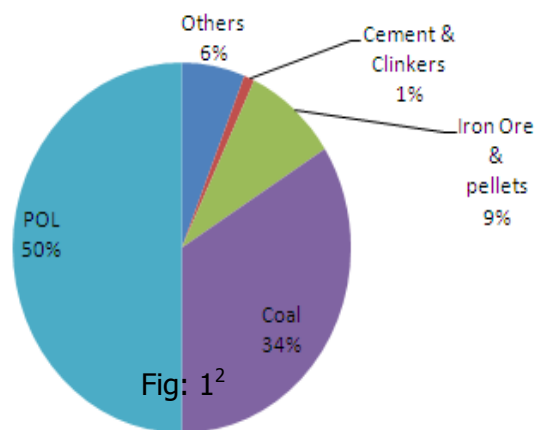
Coastal movement of Indian cargo by sea has grown at a CAGR of 3.3% during the period of 2001-10. However, as already mentioned, present domestic transport demand is being

mainly met by the road and rail system, which account for 57% and 30% respectively. Whereas coastal shipping accounts for only 7% of the overall domestic cargo movement, which is very low compared to the other developed countries¹.

The commodities carried by coastal shipping are mainly bulk and break bulk cargo. Coastal cargo was about 159 million tonnes or about one fifth of the export-import cargo in 2011-12. Though the POL products has the highest share, it is to be noted that the share of liquid /dry bulk cargo has reduced from 94%(2005-06) to 87 % in 2013-14. There has been an increase in the share of "Others" due to increase in containerized general cargo movement such as marble, tiles, clay, plywood etc.

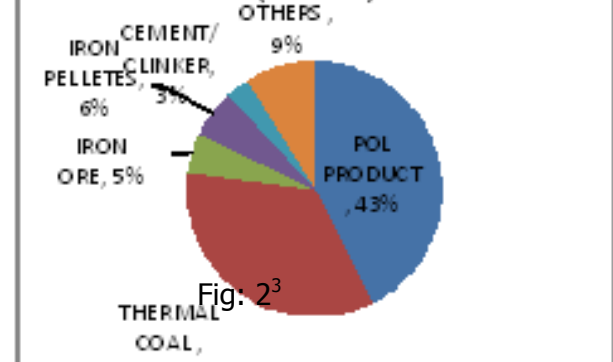
The cargo mix of Indian Coastal Cargo for 2005-06 and 2013-14 are represented in Fig.1.B & 1.B

Cargo mix of Indian Coastal Cargo (2005-06)



Source : IPA Report 2005-06

Cargo mix of Indian Coastal cargo (2013-14)



Source : IPA Report 2013-'14

1.2. An International Perspective of Coastal shipping

Coastal shipping is an important logistic solution for cargo flows internationally and forms a vital link in their overall transportation infrastructure. Europe is termed as the role model of the world for developing short sea transport to its advantage. Today EU transport about 43% of its domestic goods by way of Short Sea shipping (Coastal Shipping). Since 1990, the growth of container traffic has dominated overall traffic growth on the waterway system in China. By 2020, Chinese coastal ports are expected to handle 750m tons and the container throughput of coastal ports is expected to reach 27 million TEU. In the United States, in spite of the *Jones Act* (which requires that all goods shipped among US sea ports be carried by US built, flagged, operated and crewed vessels) about 14% of the domestic freight traffic is moved by waterways.

2. Objective of this study

Despite having an expansive coastline of about 7517km, studded with 12 major and 200 Non-Major (Intermediate) ports, India's water transportation remains largely untapped and underutilized. The objective of this study is to critically examine the reasons for the underutilization of coastal shipping in India.

3. Methodology, sampling & data collection

This study is based on both descriptive and analytical types of research design. It includes exploratory field interviews and surveys on a limited scale with concerned stakeholders with a view to securing greater insight into the practical aspects of coastal shipping in India. Here the researcher has no control over the variables and she could only present facts as they are.

As the coastal shipping community is comparatively small, a source list of about 90 participants were prepared on a pan India basis. The list was drawn up from a frame of (1) Container Shipping Lines (2) Ports and Terminals and (3) Others – consisting of trade experts, Consultants, Associations such as INSA, SAA, MoS and DG Shipping Office etc. From each of this segment 30 participants were contacted through mail and also on a personal basis. Out of these only 22 participants responded with completely filled up questionnaires, 10 from shipping lines, 6 from port & terminal sector and 6 from others.

A structured questionnaire was utilized, which incorporated Likert scale. This research has adapted and developed a questionnaire which is suitable for the coastal shipping sector. The questionnaire was administered by e-mail and personal interview method. After pre testing the questionnaire, certain items were found inappropriate for the respondents and were restructured based on their appropriateness for the target population.

4. Review of literature

In order to understand and to examine the issues of the Indian Coastal shipping sector, this study reviewed reports and studies conducted in India by a number of committees and consultants over the past two decades. Given below are details of few reports and studies carried out for the promotion of coastal shipping in India for the past 2 decades by study groups/committees/ agencies/consultants etc.

Ports and Shipping Sector Study – India (1990)⁴ , Afsal Purkar Report (1993)⁵ , Report of the expert committee on an integrated approach to the movement of goods in international trade (1999)⁶ , Tenth Five Year Plan (2002-2007), Sectoral Policies & Programmes, Volume II, Transport Sector (2002)⁷ , Study on Development of Coastal Shipping & Minor Ports (2003)⁸ , Infrastructure and Institutional Bottlenecks in the Development of Coastal Shipping (2004)⁹ , Report of the Sub-Group (Coastal Shipping) of the Working Group on Shipping

and IWT for the Eleventh Five Year Plan -2007-2012, (2007)¹⁰, Bottlenecks in the Growth of Coastal Shipping (INRM Policy Brief No.14, Asian Development Bank (2007)¹¹, Transporting growth to the next level –Industry recommendations related to Transportation in India (2010)¹², Maritime Agenda : 2010 -2020 – (2011)¹³, Report of the Sub – Group No. 6 on Infrastructure to support Coastal Shipping, Cruise Shipping and Development of Ship Repair and Maintenance facilities for the Twelfth Five Year Plan- 20012-2017 , (2011)¹⁴, Preparation of strategy road map cum action plan for development of coastal shipping in Kerala (2011)¹⁵, Indian Coastline A New Opportunity (2011)¹⁶, Twelfth Five Year Plan (2012-2017), Economic Sector, Volume II, Transport Sector (2013)¹⁷, Coastal Shipping an Environment Friendly Alternative (2013)¹⁸, Report of the Committee on Standards for Coastal & Inland Vessels, Sea Limits for Inland Vessels, And Incentive Scheme for Modal Shift of Cargo from Road / Rail to Water ways (2014)¹⁹, Insights into India's Maritime Community - Water Transportation in India (2014)²⁰, India Transport Report – Moving India to 2032 (2014)²¹

From the above review of the studies on various aspect of coastal shipping, it is evident that India's coastal shipping has been a problem area for at least the last 4 decades. Lokpur Committee 1957 (Rail Sea coordination committee) was the first to point out the issues , which even exist today. All other groups / committees formed ever since to carry out studies on coastal shipping and its issues repeated the same problems with slight variations.

5. Critical examination of the reasons for the under utilization of coastal shipping in India

Despite its evident advantages over land based modes of transportation, coastal shipping in India has not become an integral part of the country's transport infrastructure. This can be primarily attributed to the fact that the sector has not been given the emphasis it deserves, both from the point of view of the policy as well as that of industry. In such a competitive world it is better to ensure that issues are more deeply and widely understood and then addressed so as to get a workable solution. This study tries to critically examine various reasons for the underutilization of coastal shipping in India.

5.1 Lack of clear policy approach:-The coastal shipping in India is regulated by the Director General of Shipping, mainly under the ambit of Merchant Shipping Act, 1958. This Act deals both with ocean going and coastal vessels and sets equal standards and norms for both. This imposes additional burden on the coastal shipping operator and results in higher operational costs. As presented in Table.1, about 68% of the participants of the survey are of the opinion that a special coastal shipping legislation is essential for promoting coastal shipping and about 77% are of the opinion that an integrated transport policy is required to promote coastal shipping.

Table.1 Policy Approach

Table 1 Policy Approach		Analysis %				
		SD	D	NS	A	SA
1	A special coastal shipping legislation is essential for promoting coastal shipping	0	0	32	9	59
2	Without an integrated transport policy coastal trade will not get promoted	0	0	23	18	59

Legend: SD: Strongly Disagree, D: Disagree, NS: Not sure, A: Agree, SA: Strongly Agree

5.2 Lack of capital investment in shipping sector: -Traditionally, roads, railways and aviation have been the beneficiaries of a host of subsidies, credit facilities, and 5 year plan expenditures in post-independence India with coastal shipping in the country left to compete on unequal terms.

Table-2- Capital investment in shipping sector

Capital investment in shipping sector		Analysis %				
		SD	D	NS	A	SA
1	Access to capital is a critical element, as shipping sector (ports/operators) must be able to raise capital quickly in order to make infrastructure improvements to retain existing customers and attract new ones.	0	0	14	36	50
2	Low five year plan expense allocation for coastal shipping compared to aviation, road and railways is the reason for underdevelopment of coastal shipping	5	5	27	23	41
3	Centrally Sponsored Schemes (CSS) for development of coastal shipping infrastructure compensate for the low 5 year plan allocation	5	14	45	18	18
4	Coastal sector does not enjoy subsidies and credit facilities enjoyed by other modes of transport which affects growth of the sector	5	5	45	18	27
5	Coastal Shipping Development Fund (CSDF) for soft lending for the purpose of acquisition of coastal vessels would promote capital investments in the sector	0	9	50	23	18

Legend: SD: Strongly Disagree, D: Disagree, NS: Not sure, A: Agree, SA: Strongly Agree

Ship acquisition is presently burdened with high finance cost and low term of loan. As per the survey analysis results (presented in table.2) 86% of the participants are of the opinion that access to capital is a critical element, as shipping sector (ports/operators) must be able to raise capital quickly in order to make infrastructure improvements to retain existing customers and attract new ones.

5.3 Inadequate growth of Indian Tonnage and Aging Indian fleet:-As per the Indian Ministry of Shipping's statistics, out of the 1204 vessels registered as on 31st December 2014, 846 vessels (70.3%) with 1.22 million GRT were engaged in coastal trade and the remaining 358 vessels (29.7%) with 9.09 million GRT were deployed for overseas trade⁶. Thus the tonnage deployed for overseas trade was 88.7% of total GRT in contrast to 11.8% of the tonnage deployed for coastal trade. Among these vessels the number of actual cargo carrying vessels is negligible.

As per the survey analysis results, presented in table.3, about 63% of the respondents are of the opinion that the available coastal cargo vessels which are suitable for commercial use are not sufficient to meet the existing demand.

Table-3: Coastal fleet status

Coastal Fleet Status		Analysis %				
		SD	D	NS	A	SA
1	Coastal cargo vessels suitable for commercial use is not sufficient to meet the demand	0	32	5	27	36
2	The aging and inefficient coastal fleets cannot compete with the modern foreign ships on reliability and performance.	5	9	14	45	27
3	The slow tonnage growth is due to the high capital cost required to comply with the stringent specifications related to construction, operations, certification, safety etc applied on coastal vessels, though they are much smaller than the FG vessels	5	14	14	36	32
4	shippers often do not want to commit to the service until a vessel is constructed and operators often do not want to invest in new ships unless they have long-term commitments from shippers	0	9	32	36	23
5	Absence of systematic study to evaluate the overall economic benefits and employment potential of the coastal trade cause slow tonnage growth.	0	5	23	36	36
6	Promotion of river-sea vessel will be a solution for tonnage shortage in coastal trade.	0	0	36	32	32
7	"India is more of a shipper, than a shipping nation" hence operators are not interested in investing in tonnage.	9	32	36	14	9

Legend: SD: Strongly Disagree, D: Disagree, NS: Not sure, A: Agree, SA: Strongly Agree

Indian fleet is clearly over aged, around 43% of the coastal fleet are over 20 years of age and overdue for replacement- 1993, *Afzulpurkar Report*^[5]. 72% of the survey participants strongly feel that the aging and inefficient Indian coastal fleet cannot compete with modern foreign ships in reliability and performance. .

There is an opinion that the slow tonnage growth is due to the high capital cost required to comply with the stringent specifications related to construction, operations, certification, safety etc applied to coastal shipping, though they are much smaller than the foreign going vessel which ply in deep sea waters. About 68% of the survey participants agree to this point. Also, 59% of the respondents says another important reason for the slow tonnage growth is that the shippers often do not want to commit to

the service until the vessel is deployed, whereas the operators are willing to invest in new ships only when they have long term commitment from shippers.

5.4 High Operating Cost:-The rising bunker prices and other operating costs continued to threaten the already ailing coastal shipping trade. According to many financial statements, fuel costs are about 30 - 40% of voyage cost of the liners. As per the results of the survey presented in table 4, 73% of the participants have to look into strategies like deployment of energy efficient ships and demolition of older vessels, to curtail the rising cost. Also 90% of the respondents recommend waiving the customs and excising duty on bunkers to reduce the rocketing up operating cost.

Table-4

Operating Cost		Analysis %				
		SD	D	NS	A	SA
1	Usage of fuel efficient new coastal ships with moderate to big size would automatically reduce operating cost.	0	0	27	41	32
2	About 40 % of operating cost is bunker and waiver on customs & excise duties on bunkers will considerably reduce operating cost of a coastal shipping company.	0	5	5	45	45
3	Vessel berthing delays and slow operations due to inadequate infrastructures at ports are main reasons for high operating cost	0	18	14	36	32
4	Additional charges, such as pilotage, berth hire, wharfage and service tax, paid by the coastal vessels makes it unviable compared to land transport	9	27	27	23	14
5	Waiver of high customs duty paid on equipment and spares will automatically reduce operating cost	0	5	23	32	41

Legend: SD: Strongly Disagree, D: Disagree, NS: Not sure, A: Agree, SA: Strongly Agree

Another major factor which attributes to high operating cost is the high customs duty levied on equipment and spares, which results in high equipment-acquisition costs. 73% of the survey participants feel waiver on the customs duty on spares will further reduce the operating cost of a coastal vessel.

Vessel berthing delays and slow cargo operations at the terminals result in adding up operating cost of the coastal vessel and also is the reason for longer transit time compared to road transport. 68% of the survey participants feel that this is another important reason for making coastal shipping non-viable.

Also, coastal vessels are required to pay additional charges such as pilotage, berth hire, wharfage and service tax as compared to the trucking sector which makes it more unattractive. However, 83% of the survey participants from the port and terminal sector strongly disagree to this point.

5.5 Restrictive fiscal climate:-Indian taxes system in various sectors of transport indicates that the prevailing regime is extremely complex. At present there are around 12 taxes, besides the tonnage tax, that the Indian shipping companies are subject to. The survey analysis shows that 59% of the respondents of the opinion that these taxes together reduce the 2-3% tax benefit granted under the tonnage tax regime.

Table-5: Fiscal Climate

Fiscal Climate		Analysis %				
		SD	D	NS	A	SA
1	At present there are about 12 taxes (direct + indirect taxes) that the Indian shipping company is subject to which reduce/nullify the tax benefit granted under tonnage tax scheme (TTS)	0	0	41	23	36
2	Tax incentives are a prerequisite for growth of coastal shipping in India	0	0	14	41	45
3	Financial incentives and subsidies would promote coastal shipping in India (Subsidy for ship building, Ro-Ro jetties, repair jetties, dedicated coastal shipping jetties and financial incentives for building and operating small ports dedicated to coastal ships etc)	0	9	5	36	50
4	Further lowering of port/terminal tariff will improve the share of coastal traffic .	18	23	5	18	36
5	Waiver on service taxes on ocean freight and wharfage for coastal/domestic cargo will boost the modal shift from road / rail to coastal shipping .	0	9	18	32	41

Legend: SD: Strongly Disagree, D: Disagree, NS: Not sure, A: Agree, SA: Strongly Agree

As presented in table - 5, the survey results indicate that, with regard to the financial incentives, 86% of the survey participants strongly recommend to provide subsidy for ship building, Ro-Ro jetties, repair jetties, dedicated coastal shipping jetties and financial incentives for building and operating small ports dedicated to coastal ships etc to promote coastal shipping in India. Also, 73% of the survey participants recommends waiver of service tax on coastal shipping freight and wharfage charges to boost the modal shift from land modes to water ways.

5.6 High manning scale requirements:-High manning scale requirements of coastal shipping increase the imbalance between the demand and supply of seafarers which in turn increase the operational cost, currently plague the sector. As per the survey analysis results presented in table - 6, 59% of the participants agree to the point that there is a shortage of quality man power, especially at the top level in Indian coastal shipping.

In addition to the shortage of manpower, the working conditions in coastal shipping are not as good as those in merchant shipping. 68% of the survey participants strongly feel that the shortage is because of the better perquisites and working conditions offered by the foreign shipping line. There is a high degree of fatigue due to short shuttle voyages, small less spacious accommodation and lackluster ports of call, which discourages seafarers to opt for coastal runs. This results in the non-deployment of right and quality people on coastal trade. 68% of the survey participants agree to this point.

Table-6: Manning Scale & Manpower

Manning scale & Manpower		Analysis %				
		SD	D	NS	A	SA
1	High manning scale requirements can potentially act as a barrier against coastal shipping operations	0	5	27	36	32
2	Relaxing the manning scale requirements without compromising on safety could be considered	0	5	32	41	23
3	There is a huge shortage of quality manpower, especially on higher levels, in coastal shipping	9	9	23	45	14
4	The shortage is because of the better perquisites and working conditions offered by the foreign shipping line	0	0	32	45	23
5	Upgrading the IV crew to RSV crew through bridge courses will reduce manpower scarcity	0	0	64	23	14
6	Employing ITI certificate holders, after proper training on coastal vessels, would be a solution to the man power shortage	0	0	55	23	23

Legend: SD: Strongly Disagree, D: Disagree, NS: Not sure, A: Agree, SA: Strongly Agree

5.7 Inadequate Infrastructure: Indian Major Ports do not have separate berthing facilities or special berthing policies for coastal shipping. As per the survey analysis 72% of the survey participants complaints that Coastal ships calling at major ports often do not receive priority for berthing. As per the survey analysis report, presented in table – 7, 82% of the participants feel that development of Non-Major ports at a reasonable distance along the coasts of India is necessary to develop coastal shipping and 77% of the participants feel ports that can offer berths regularly may be a better option for coastal traffic. Over 70% of the participants suggest to provide pre-designated lay-up areas and repair berths in ports as coastal ships frequently requires maintenance and repair. 86% of the survey participants complaints that the first and last mile connectivity, rail and road connectivity, in the ports are inadequate. About 68% of the survey participants complain that there are not sufficient CFS and warehouses in the port area, especially in the non-major ports. Also 72% of the respondents feel that ship building and ship repairing yards are inadequate.

Table-7: Infrastructure Facilities

Infrastructure Facilities		Analysis %				
		SD	D	NS	A	SA
1	Coastal ships calling at major ports often do not receive priority for berthing, particularly in comparison to large, ocean-going container ships	0	5	23	36	36
2	Ports that can offer berths regularly may be a better option for coastal traffic.	0	9	14	32	45
3	Efficient loading and offloading will help coastal shipping to match the cost, speed, and reliability characteristics of competing land modes	0	9	9	36	45
4	The depth of channels and cargo handling facilities in the existing non-major ports are inadequate for servicing the ships quickly and efficiently.	18	9	14	32	32
5	Require to develop Non-Major ports at a reasonable distance along the coasts	14	5	0	55	27
6	The road /rail connectivity at port is insufficient for the first and last mile connectivity for coastal cargo (door – to – door)	0	0	14	41	45
7	Warehousing / CFS facilities at the ports are inadequate for coastal cargo	0	9	23	36	32
8	The ship building / ship repairing facilities presently available are inadequate	0	9	18	45	27

Legend: SD: Strongly Disagree, D: Disagree, NS: Not sure, A: Agree, SA: Strongly Agree

5.8 Cabotage policy based restrictions:- As presented in table – 8, Over 50% of the survey participants feels absolute cabotage is necessary for the growth of coastal shipping in India. However, the other 50% feel that opening the containerized cargo sector (domestic & foreign) to foreign players will promote the coastal container trade.

Table-8: Cabotage Policy Support

Cabotage policy support		Analysis %				
		SD	D	NS	A	SA
1	Absolute cabotage policy will not help the trade and tonnage boom in coastal shipping	23	18	23	27	9
2	The cabotage policy should be sufficiently flexible for foreign ship operators to participate, thereby ensuring supply chain security for domestic industry.	9	27	5	27	32
3	Opening the containerized cargo sector (domestic & foreign) to foreign players will promote the coastal container trade	9	32	9	23	27
4	Transshipment cargo, with an international Bill of Lading, being discharged in one Indian port and transhipped to its final destination on another vessel should not be defined as “coastal trading	5	14	18	27	36

Legend: SD: Strongly Disagree, D: Disagree, NS: Not sure, A: Agree, SA: Strongly Agree

Considering the current inadequacy of the Indian coastal fleet, and the need to introduce competition and growth in containerisation, 59% of the survey respondents feel that a certain degree of relaxation in cabotage policy might be needed for few years till coastal shipping grows sufficiently.

5.9 Lack of economy of scale and low profit, Market Challenge :-One of the challenges Indian coastal shipping facing is the unavailability of return cargo. 72% of the survey participants agree to this point. According to 91% of the survey participants, Coastal shipping would be much more attractive if costs and benefits to public and private sectors could be quantified.

As per the survey analysis report on issues like market challenge, economy of scale and profitability of coastal service, 86% of the respondents agree that identification of new commodity types and new traffic lanes amenable to coastal shipping operations is required to increase the trade and in turn to make the services more profitable. 73% of the participants recommend proper "port partnering" (Major & Non-major ports) to make coastal shipping more viable and attractive.

Table-9: Market Challenge, Economy of scale and profit

Market Challenge, Economy of scale and profit		Analysis %				
		SD	D	NS	A	SA
1	Bunching of coastal players in the established routes/ customers/commodities is the major market challenge and one of the reasons for thin profit.	5	9	45	36	5
2	Proper analysis of existing traffic lanes is required for a better understanding of why the existing services are not used to their full potential.	5	9	32	41	14
3	The inability of coastal shipping operators to market their services effectively is leading to the invisibility of the sector	5	14	41	32	9
4	Stake holders have only limited understanding of the costs and benefits associated with coastal shipping.	5	9	27	45	14
5	Coastal shipping would be much more attractive if costs and benefits to public and private sectors could be quantified	0	0	9	55	36
6	Proper "port partnering" (Major & Non-major ports) would make coastal shipping more viable and attractive	0	14	14	41	32
7	Frequency, reliability and flexibility of existing service does not meet shipper requirements.	0	14	14	45	27
8	Identification of new commodity types and new traffic lanes amenable to coastal shipping operations is required to increase the trade and in turn to make the services more profitable.	0	0	14	45	41
9	"Divided capacity of a number of small players hampers economy of scale in coastal shipping. " Joint ventures / consortiums/alliances of coastal players will be a solution to overcome this situation	0	5	23	45	27

Legend: SD: Strongly Disagree, D: Disagree, NS: Not sure, A: Agree, SA: Strongly Agree

With a number of small players currently dominating the sector, the resultant divided capacity hampers economies of scale which in turn increases the cost. According to 72% of the survey respondents, shipping lines should form alliances to share costs, optimum utilisation of capacity and streamline their operations, which would be beneficial for the trade also.

5.10 Lack of effective program for modal shift from road/rail to coastal shipping:- As presented in table – 10, 95% of the survey participants, detailed study on mode choice of cargo is needed to identify the key features necessary to induce switching to sea mode from land mode.

Table-10: Modal shift from road and rail to costal shipping

Modal shift from road and rail to coastal shipping		Analysis %				
		SD	D	NS	A	SA
1	Coastal shipping may be a viable option to shippers only if it is proven through high-visibility demonstration projects and studies	0	5	0	59	36
2	Reasons for shippers to switch modes/operations have not been effectively demonstrated or communicated		0	5	14	41
3	The key factors impacting the modal shift are service frequency, transit time, freight distance, direction (head haul /backhaul), reliability, and price offered by the operator .	0	0	9	50	41
4	Detailed study on mode choice of cargo is needed to identify the key features necessary to induce switching to sea mode from land mode	0	0	5	50	45
5	Modal switching to coastal shipping could be induced by imposing an additional eco-tax on road transport	0	9	14	36	41
6	Or, substitute eco-tax with incentives/subsidy to catalyze shifting of cargo from road to sea	0	5	9	36	50
7	Levelling the playing field for Indian operators with foreign-flag operators will not have much effect on modal shift	9	32	14	18	27
8	Rather, the modal shift be possible only with improving the infrastructure, procedural reformations and economic viability of coastal shipping	0	0	18	36	45
9	A well developed / integrated multi modal transport system, with the longest leg serviced by coastal shipping , would be an ideal modal choice for domestic supply chain logistics.	0	0	14	36	50
10	For a modal shift to occur towards coastal shipping, there must be an attitude change by the ship operators themselves.	0	14	27	27	32

Legend: SD: Strongly Disagree, D: Disagree , NS: Not sure ,A: Agree , SA: Strongly Agree

95% of the survey respondents feel that the customers will chose coastal shipping as a viable option of transport mode, only if it is proven through high-visibility demonstration projects and studies. Also, 81% of the survey participants are of the opinion that the modal shift be possible only with improving the infrastructure, procedural reformatations and economic viability of coastal shipping. To meet the customer requirements and demands for end-to-end logistics, 86% of the participants suggest making coastal shipping as a part of a well-developed and integrated multi modal transport system. Another suggestion for catalysing the modal shit to coastal shipping is to impose an additional eco-tax on road transport, 77% respondents suggests this measure. 87% of the survey participants recommend substituting eco-tax with incentives/subsidy to the users to promote modal shift from land mode to water mode.

5.11 Lack of Data base sharing and training / awareness program:- As specified in table – 11, 64% of the survey respondents a data sharing mechanism is a pre-requisite for promoting coastal trade. 95% of the survey participants complains that publicly available data are not detailed enough (commodity wt/value, port pairing, voyage costing etc) to fully assess the potential coastal shipping market.

Table-11: Data base sharing, training / awareness programmes

Data base sharing ,training/awareness programmes		Analysis %				
		SD	D	NS	A	SA
1	Data availability in costal trade , especially in container trade, is almost nil.	0	14	36	41	9
2	Publicly available data are not detailed enough(commodity wt/ value, port pairing, voyage costing etc) to fully assess the potential coastal shipping market.	0	0	5	59	36
3	A data sharing mechanism is a pre-requisite for promoting coastal trade.	0	0	36	55	9
4	All the stakeholders are not aware of all policy and procedure changes happening in this sector	0	5	14	50	32
5	Periodical trainings /workshops /awareness programme required for the operators and users to update new policies and procedures , which would promote coastal shipping	0	0	18	55	27

Legend: SD: Strongly Dis agree, D: Dis agree , NS: Not sure ,A: Agree , SA: Strongly Agree

Also, periodical trainings, workshops, awareness programme required for the operators and users to update new policies and procedures, which would promote coastal shipping. 82% of the respondents strongly feel this is an absolute necessity to clear the doubts of cargo owners and other stake holders.

6. Action plan for developing Indian coastal shipping

The actions required to be taken for addressing the issues and challenges faced by the stakeholders in coastal shipping are discussed here. These suggested actions, when implemented are expected to promote the growth of coastal shipping in India.

6.1 Development of physical infrastructure

a. Ports related Infrastructure:- India should develop dedicated transport corridors in a planned way. Selected minor ports should be developed so as to identify specific origin – destinations on which identified cargo could be moved at lower cost through coastal shipping. Adequate berthing facility such as number of berths, sufficient length for proper berthing of the vessels etc, to be provided at the ports for coastal vessels so as to ensure faster turn-around . Further, dedicated berths should be provided for coastal ships at Major Ports to avoid long waiting times. Also, the port terminals should have mechanised and sophisticated cargo handling equipments to facilitate faster operations which would help quick turn-around of vessels. Due to frequent repair requirements, pre-designated lay-up areas and repair berths at ports are required where in repairs can be undertaken.

b. Strategic Location of Mega Ports and Transshipment terminals:- At present, there is no comprehensive and coherent strategy for developing the existing ports or in deciding the location of new ports in India. A key government priority should be to invest in 2 to 3 Mega ports with transshipment (Hub) terminals on each coast. The strategic location of transshipment terminals makes them ideal for the inter-coastal movement of domestic Indian containers through coastal shipping. The hub port can attract additional cargo volumes which could be feedered out to smaller ports in the country.

c. Need to promote a robust Indian coastal fleet:- As per the Ministry of Shipping's statistics, the tonnage deployed for coastal trade is only 10.9% of the total tonnage. Among these vessels the number of actual cargo carrying vessels are negligible. Sufficient Roll on – Roll off (Ro-Ro) vessels, which are designed to carry wheeled cargo and Load on – Load off (Lo-Lo) services are also not available along the Indian coast at present. Introduction of such efficient multimodal transport system will make coastal shipping more attractive. Greater harmonisation of the River Sea Vessels (RSV) and Inland Vessels (IVs) will inject fresh dynamism into this sector and hopefully this would be an answer to the present shortage of tonnage for domestic run.

d. Promote usage of foreign containers for domestic use:- As per the Customs notification No: 450/69/2000-CUS IV dated 30th October 2001 foreign marine containers are permitted to use for domestic traffic for a period of 6 months. Coastal liners should utilize this facility at least to expand their reach to the special container market like open top, flat rack, tank containers and reefers without purchasing or leasing the containers until steady volume is built up. This move would considerably minimize container imbalances and

repositioning cost of both overseas and domestic carriers. However, very few lines utilise this facility at present.

e. Improve Connectivity: - The first and last mile connectivity is indispensable for attracting cargo to coastal shipping as it cannot serve the door-to-door requirements of the customer. This will require better connections between ports and the rail and inland waterway networks together with improvements in the quality of port services. Given the near saturation of rail/road connectivity to Major Ports in particular, it is imperative to explore connectivity options through water mode wherever feasible.

f. Provide adequate Container Freight Stations and Storage facilities: - Modern and technologically advanced CFSs have a significant role in effective custom clearance activities in the port, and thereby shorten the turnaround time of ships. More CFSs need to be developed in the vicinity of export clusters across the country to promote consolidation (LCL) and containerization of cargo. Domestic ports suffer from inadequate storage facilities, which result in delay in consignment delivery. Many multi-modal logistics parks should be developed across the country near the transportation hubs and at major industrial centres.

6.2 Implement right policies and procedures in the domestic shipping sector

a. Clear Policy Approach: - Coastal shipping being less prone to the complex nature of overseas shipping requires much simpler terms. There is also a need to have an integrated approach to the entire subject of coastal shipping, Inland waterways, ports, terminals connectivity and land transport. India lacks an integrated transport system that provides various choices to the customer at the lowest cost. Further, a continuous evolution of policies and procedures is required to ensure that bottlenecks are addressed and the momentum maintained.

b. Declare Infrastructure Status for Coastal Shipping: - Declaration of infrastructure status makes the industry eligible for tax holidays for the first ten years on commencement of operations and tax concessions at a stipulated percentage of the net profits for the next five years, exemption from levy of Minimum Alternate Tax. If infrastructure status is extended, the associated fiscal benefits will encourage the coastal shipping companies to pass on the benefits to their shippers thereby reducing the logistics cost. Also this action would attract more foreign investment to the sector.

c. Provide Financial Support: - In order to promote coastal shipping, the government has to provide additional financial support by means of funds infusion to this sector. The Indian shipping industry needs cheaper funding avenues to boost acquisition of tonnage. The funding can be organized from budgetary allocations, State and Central Government grants, Borrowings from banks / financial institutions, Funding / lending from multilateral agencies such as Asian Development Bank / World Bank and also through Public-Private Partnership (PPP).

d. Provide Favourable Fiscal Climate:-The rising bunker prices and other operating costs continued to threaten the already ailing coastal shipping trade. Indian ship operators have to pay duties on bunker sale totalling around 33%. This makes shipping on the Indian coast more expensive relative to international shipping, as well as coastal shipping in other countries. Further, the inconsistency in provision of fuel subsidy between road/rail and shipping (no subsidy) creates price distortion. With a view to promoting coastal shipping; the government should remove the duty on bunkers for coastal shipping. Further, the VAT relaxation on fuel should also be extended for coastal vessels. Also, Government should exempt coastal shipping crew's salary from the ambit of income tax.

Considering the other transport mode, coastal maritime highways have hardly any maintenance charge and also coastal shipping impose the lowest external cost on environment and society. Taking these facts into consideration Government should extend the service tax exemption for coastal shipping at least to the extent of 75%, similar to the road transportation.

e. Cabotage Policy Relaxation:- In the present scenario, imposing absolute Cabotage by India, might be impractical as we have a long way to go before becoming self-reliant in supporting the needs of coastal sea transport. The cabotage restrictions may discourage the growth of coastal shipping as Indian tonnage is not adequate to cater to the present and future demands. It may be worthwhile to consider imposing absolute cabotage only after achieving self-reliance in this sector. Restrictions on foreign-flagged vessels from plying coastal routes as part of their international operations should be relaxed to allow them to carry bulk/ general cargo and transhipped EXIM containers, including empty containers to make use of the considerable spare capacity on these ships.

f. Simplify Customs Procedures and Documentation:- Another area which requires immediate attention and modernization is the documentation and other procedures required by the customs and other government agencies. The bureaucratic impediments imposed by the customs and other officials will have to be removed for the smooth sail of coastal trade. As per the Central Board of Excise & Customs circular notification number No. 16/98-Cus dated 11/3/98, it has been indicated that the vessels carrying exclusively coastal goods will not be required to file IGM/ EGM. Same is not done in practice. The coastal shipping being inland transportation should be free from customs requirements.

6.3 Ensure Effective and Efficient System Management

a. Resolve Manpower Issues in Coastal Ships:- High manning scale requirement of Indian shipping cause the imbalance between the demand and supply of certified crew on board (particularly in senior ranks) which in turn increases the operational cost. Though the DG Shipping issued new guidelines with relaxed manning scales in coastal shipping, the authorities could consider further relaxing manning scale requirements without compromising on the safety aspects. Also, could consider upgrading the IV crew to the RSV crew, which would reduce the manpower scarcity to a certain extent. Suitable cadre

development programs such as marine cadre on the lines of Indian Technical Institutes (ITI) and training facilities should be promoted to overcome this situation.

b. Ensure Cargo Support:- Unavailability of return cargo is a big problem area for Coastal shipping. The coastal container shipping companies could not tap the consolidated cargo sector currently monopolized by the road traffic. The containerization of the consolidated domestic cargo (LCL) will solve the present issue of unavailability of return cargo to a certain extent. Additionally, the Government may provide cargo support by making it mandatory to divert at least a part of cargo for government agencies / companies to coastal shipping. When there is enough cargo to support the route, the tonnage growth would automatically follow.

c. Formulate Attractive Modal Shift Programmes:- India needs a viable scheme to incentivize and support a modal shift of cargo to water transportation from road and rail. The authorities should initiate an appropriate modal shift action such as an incentive scheme, which focuses on shifting as much freight as economically meaningful under current market conditions from road to coastal shipping and inland waterways. The government may also formulate a Start-up aid programme for new services in the coastal shipping sector by providing them the required monetary and cargo support for a specific period. This will induct more players in the coastal shipping industry and this in turn will attract more cargo to this mode.

d. Create Awareness:- Coastal shipping may be a viable option to shippers only if it is proven through high-visibility demonstration projects and studies. Reasons for shippers to switch modes/operations have not been effectively demonstrated or communicated to them. Awareness needs to be created among users on the benefits of coastal shipping as well as integrated multi-modal service models. Customer Support centres should be opened at all ports, ICD/CFS, economic clusters etc to clarify customer doubts, ensure transparency and to provide required information and support to the users. Awareness programmes should be organised to promote coastal shipping sector and also to familiarize the latest customs /port procedures with an overall objective of promoting intermodal solutions. This can be done through periodical trainings /conferences and troubleshooting workshops. Also, success stories in this sector should be advertised. For this purpose INSA/ ICC should utilise the facilities of local Steamer Agents and Custom House Agents' Associations.

e. Meet the Market Challenge:- Another major challenge a coastal shipping operator faces is the low profitability. One of the reasons for low profitability is the lack of economies of scale in this sector. Hence, like the international shipping sector, Indian coastal liners should form Joint ventures / consortiums/alliances to find economies of scale to lower the operation costs and improve the customer service aspect. Shipping lines should also analyze the existing traffic lanes for a better understanding of why the existing services are not used to their full potential and also should identify new commodity types and new traffic lanes amenable to coastal shipping operations to increase the trade and in turn to make the services more profitable.

f. Create a Single Electronic Window for Traceability and Visibility :-The integration of the maritime link into the overall door-to-door transport chain, such as a single electronic window, for the exchange of information between the service providers and users is required to make it more customer friendly. A one stop-shop integrating administrative issues, coordination of timetables, common marketing and single invoicing, covering the whole intermodal chain should be established. According to the NTDP report⁵, to create an interconnected network of ports and ensure consistency in ICT policies, ICT infrastructure and the business processes being covered, it is required that the Ministry of Shipping lays down the ICT policy and roadmap for India's maritime sector.

7. Conclusion: Coastal Shipping is the need of the 21st century

The globalization and the constant effort to improve production processes have increasingly become features of economic development in India too. Consequently, transport networks have become the basis of a high value-added function called "**logistics**". Thus water transport mode, being the fuel efficient, eco-friendly, offers lower unit transportation cost, has gained importance as an alternative to road transport, the predominant mode in India. However, a review of overall transport policies in India shows that the current view of coastal shipping as an alternative to road transport is probably too narrow to exploit the full potential of this mode of transport. The competitive position of the Indian shipping industry needs to be strengthened further.

Rather than merely regulating and controlling the national fleet, India should have policies in place which proactively encourage and promote investments in International shipping services under the Indian flag and should change legislations to permit it. Opening access to transport markets would encourage competition within and between modes. At the same time it gives customer a wider choice of transport mode, so that they can optimize their logistics chains. A comprehensive and strategic transportation plan, national and intermodal in its scope, is the need of the hour.

The issues facing the coastal shipping sector is something that any one party alone to address. All stake holders should work together to make sure that the issues are more widely understood and then addressed. The rules and procedures that make the physical infrastructure work are as important as the infrastructure itself. Hence the authorities should ensure that regulatory issues are addressed too – whether it is the policies, MS /Customs / Port / Income Tax Acts, customs procedures or pricing in the ports.

A relatively modest investment in coastal sea routes with appropriate policy changes would bring in substantial benefits by reducing the burden on present transportation system, traffic congestion and pollution. India needs to pick up the pace and work together to improve both physical and legislative infrastructure. Therefore, coastal shipping should be put on fast-track development, as it would not only lead to reduced cost of transportation but also reduced social and environmental costs.

The researcher envisages an Indian Marine Transportation System which is safe, secure, which is in harmony with the environment, globally compatible and nationally integrated, which will ensure seamless and reliable movement of trade along the national maritime highways, inland waterways and intermodal connections. To achieve this desired end state, this paper has highlighted the policy decisions need to be taken, strategies to be followed and investments to be made.

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