ASEAN-INDIA MARITIME CONNECTIVITY REPORT

ASEAN-India Centre at RIS

RIS
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Chairman, AIC, RIS and NSAB

FOREWORD

The promotion of all-round connectivity is one of the priority areas where enhanced cooperation between India and ASEAN is envisaged. Connectivity, in this sense, covers cross-border road, rail, air and digital connectivity, as well as maritime links. Connectivity projects not only promote cross-border trade and traffic, but could also become catalysts for promoting economic development in the regions through which they traverse. In order to deepen the ASEAN-India economic relations, the availability of regular, efficient and affordable shipping is of critical importance.

Both India and ASEAN are maritime nations, with a rich and glorious history of maritime trade. It must be our endeavor to revive and energise those ancient links in a contemporary setting, so that they become a driving force in the Asian resurgence that we are witnessing today.

India has welcomed the Master Plan on ASEAN connectivity. Our effort is to align our plans for cross-border linkages with these important and ambitious platforms for regional integration. The ASEAN Connectivity Coordinating Committee (ACCC) has opened a comprehensive dialogue with India in 2013 to enhance all-round connectivity between India and ASEAN countries.

We must acknowledge that in shipping sector several ASEAN countries are ahead of India and Singapore is one of the world's leading ports and container terminals. Other ASEAN countries are making rapid progress in modernising and expanding their ports and shipping services. India must keep pace with these developments even as it seeks to establish closer maritime links with its South East Asian neighbours.

ASEAN-India Maritime Connectivity Report, prepared by the ASEAN-India Centre at RIS under the guidance of Dr. Prabir De, analyses maritime cooperation as an integral component of ASEAN-India Strategic Partnership. It addresses the prospects and challenges concerning the ASEAN-India maritime relations and provides a framework for strengthening the maritime connectivity. This Report also provides a set of recommendations to strengthen maritime connectivity between India and ASEAN countries, and enhance economic integration between them.

ASEAN-India Maritime Connectivity Report is an outcome of a series of ASEAN-India connectivity studies undertaken at the ASEAN-India Centre at RIS with financial support of the Ministry of External Affairs, Government of India. I am thankful to Ambassador Anil Wadhwa, Secretary (East) and Ms. Renu Pall, Joint Secretary (ASEAN ML) in the Ministry of External Affairs, Government of India for their continuous support to the ASEAN-India Centre.

I trust that this Report will be a valuable reference for policymakers, academics and practitioners.

Shyam Saran

ACKNOWLEDGEMENTS

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ABBREVIATIONS

ACCC	ASEAN Connectivity Coordinating Committee
ADB	Asian Development Bank
ADBI	Asian Development Bank Institute
AEC	ASEAN Economic Community
AFTA	ASEAN Free Trade Area
AGV	Automatic Guided Vehicle
AH	Asian Highway
AIC	ASEAN-India Centre
AIF	ASEAN Infrastructure Fund
AIMTA	ASEAN-India Maritime Transport Agreement
AIS	Automatic Identification System
AITTA	ASEAN-India Transit Transport Agreement
ASEAN	Association of Southeast Asian Nations
APA	ASEAN Ports Association
APEC	Asia-Pacific Economic Cooperation
BOPS	Balance of Payments Statistics
BOT	Build-Operate-Transfer
CADP	Comprehensive Asia Development Plan
CAGR	Compound Annual Growth Rate
CDC	Continuous Discharge Certificate
CLMV	Cambodia-Lao PDR-Myanmar-Vietnam
COC	Certificate of Competency
DCI	Dredging Corporation of India
DSEZ	Dawei Special Economic Zone
EAS	East Asian Summit
EC	Electronic Commerce
EDI	Electronic Data Interchange
ERIA	Economic Research Institute for ASEAN and East Asia
FASA	Federation of ASEAN Shipowners' Association
FDI	Foreign Direct Investment
FEU	Forty Equivalent Unit
FIPB	Foreign Investment Promotion Board
FoB	Freight on Board

FTA	Free Trade Agreement
FTAAP	Free Trade Area of Asia Pacific
FTAAPX	Free Trade Area of the Asia Pacific plus India
GDP	Gross Domestic Product
GT	Gross Tonnage
ICD	Inland Container Depot
ICT	Information and Communication Technology
IDE	Institute of Developing Economies
IMF	International Monetary Fund
IMO	International Maritime Organisation
IMU	India Maritime University
IMTTH	India-Myanmar-Thailand Trilateral Highway
INSA	Indian National Shipowners' Association
IPA	Indian Ports Association
ISPS	International Ship and Port Security
JNP	Jawaharlal Nehru Port
JV	Joint Venture
KDS	Kolkata Dock System
KMTTP	Kaladan Multi-modal Transit Transport Project
LDCs	Least Developed Countries
LEP	Look East Policy
LSCI	Liner Shipping Connectivity Index
MCA	Model Concession Agreement
MEA	Ministry of External Affairs
MIEC	Mekong-India Economic Corridor
MoU	Memorandum of Understanding
MPAC	Master Plan of ASEAN Connectivity
MPA	Maritime and Port Authority of Singapore
MRA	Mutual Recognition Agreement
MSDC	Maritime States Development Council
MTPA	Metric Tonne Per Annum
NTBs	Non-Tariff Barriers
NTDPC	National Transport Development Policy Committee
NMDP	National Maritime Development Programme
NSAB	National Security Advisory Board
NSICT	Nhava Sheva International Container Terminal

NTMs	Non-Tariff Measures
PBDT	Pre-Berthing Detention Time
PCS	Port Community System
PCBs	Policy and Cultural Barriers
POL	Petroleum, Oil, and Lubricants
PPP	Public Private Partnership
PSA	Port of Singapore
RCEP	Regional Comprehensive Economic Partnership
RFID	Radio Frequency Identification
RIS	Research and Information System for Developing Countries
RO-RO	Roll-on/Roll-off
SAR	Service and Rescue
SCI	Shipping Corporation of India
SEZ	Special Economic Zone
SMA	Singapore Maritime Academy
SPV	Special Purpose Vehicle
STCW	Standards of Training, Certification and Watchkeeping
TAMP	Tariff Authority for the Major Ports
TEU	Twenty Equivalent Unit
TFA	Trade Facilitation Agreement
TH	Trilateral Highway
TPP	Trans-Pacific Partnership
UNCTAD	United Nations Conference on Trade and Development
VTMS	Vessel Traffic Management System
WEF	World Economic Forum
WSC	World Shipping Council
WTO	World Trade Organisation

Executive Summary

- Maritime transportation helps strengthen the economic integration – global or otherwise. Countries which built good ports with excellent backend infrastructure remain competitive in the world market. Not only it plays an important role in the development of industries, port has been a direct ingredient in the development of an economy. Performance and efficiency of ports and shipping positively contribute to the growth of trade and vice versa.

- India presently has 212 seaports, of which 12 are major ports and 200 are non-major ports. Around 95 per cent of India's merchandise trade by volume (70 per cent by value) is moved by sea. India has one of the largest merchant fleets in the developing world, and in terms of gross tonnage under its flag occupies 16th rank in the world.

- Barring Lao PDR, ASEAN countries and India have long coastline, dotted with many ports. However, the structural gap in terms of maritime and shipping infrastructure is quite visible within ASEAN and also between India and ASEAN. Within ASEAN, CLMV countries rank far behind of other ASEAN countries and India in cargo volume and shipping tonnage. Predominant ports in ASEAN are located in developing parts of ASEAN and have been growing faster than those are located in CLMV or Mekong sub-region. In the containerised cargo segment, out of world's top 25 ports, seven ports come from ASEAN and only one from India, among which Singapore Port with 31.65 million TEUs in 2012 (about 5 per cent share in world total) occupies the 2nd position in the world. India's Jawaharlal Nehru Port with 4.26 million TEUs ranks 21st position in the world. Indian ports have limited number of direct calls with ASEAN ports, except perhaps Singapore, Klang and Laem Chabang.

- With the FTA for trade in goods between India and ASEAN in effect from 1 January 2010, ASEAN-India Partnership has assumed greater economic depth. In 2012-13, two-way trade between ASEAN and India has crossed US$ 75 billion, with India

contributing US$ 33 billion, and ASEAN US$ 42 billion. ASEAN-India bilateral trade can achieve US$ 100 billion by 2015 and US$ 200 billion by 2020.

- India's rising trade with ASEAN and China calls for a stronger maritime connectivity since the trade through ocean has increased rapidly in terms of both value and volume. This change in trade has also been accompanied by rise in value-volume ratio in last the 13 years, particularly in India's export to China.

- India's containerised trade with ASEAN countries has been growing, but at a slow rate. In 2011-12, India's containerised trade, both export and import, with most of the ASEAN countries decelerated due mainly to slow recovery of economies in the aftermath of the global financial crisis. The sharpest fall was witnessed in case of India's two-way containerised trade with Indonesia during 2009-10 and 2011-12. In contrast, India's trade with China in value terms has exceeded US$ 60 billion 2012-13, and the same trend has been continuing in containerised trade. Today, India's bilateral containerised trade volume with China is estimated to be over 4 million TEUs, thereby indicating service of about 15 container vessels every week between the two countries. This high volume ocean cargo between India and China passes through the Malacca Strait. Besides, cargo produced in India and destined for different locations in Southeast Asia typically moves through the transhipment hub located in Singapore, Tanjung Pelepas and Port Klang. Naturally, the dependency on the Strait of Malacca is high. This sea channel is very important for the world's shipping movement as this connects the growing regions of South Asia and Africa to the economies on the east. Therefore, maritime security is as critical as performance of ports to the growth of merchandise trade between India and Southeast and East Asia. Maritime security must be an important agenda of the ASEAN-India maritime cooperation.

- Presently, the liner shipping between major ports of India and ASEAN follows 'hub and spoke' model. Singapore and Port Klang are the two hub ports in ASEAN. Besides direct calls,

these two ports also have feeder services with ports in India and South Asia. Most of the foreign lines connect Indian ports with Singapore or Port Klang through direct call, whereas the further voyage inland is done through feeder services, which often takes relatively higher number of days.

- India's maritime connectivity with Southeast and East Asia, which is at present in very initial stage of development, may appear to be a great facilitator of pan-Asian integration. Well connected ports along with efficiency of shipping services are the major catalysts to greater maritime connectivity between ASEAN and India. Today, only a few ports of India and ASEAN are directly connected by shipping lines. A large number of ports in India and ASEAN are yet to be connected. Transportation costs and time go up substantially when we ship our cargo through feeder routes to reach ports in Cambodia, Indonesia, Malaysia, Myanmar, Thailand and Vietnam, with which India's trade has been growing fast. The opposite is also true. We need to build new shipping routes as the existing route through Malacca Strait is heavily congested and also relatively unsafe. As an alternative, economic corridor-based multimodal connectivity such as *Mekong-India Economic Corridor* may be promoted, which will connect Indian coast with unexplored Southeast Asian coast and beyond, at a shorter time and lesser cost.
- Ports and shipping are the backbone of ASEAN-India trade. Since trade between India and ASEAN is largely conducted through ocean, without a stronger maritime connectivity it would not be possible to realise the full potential of the regional free trade and cooperation agreements, which are already in place or are currently under negotiation. Moreover, ASEAN-India maritime connectivity is the key to production networks. Stronger maritime connectivity will spur global and regional value chains. ASEAN and India have been witnessing various economic corridors. A stronger maritime connectivity between India and ASEAN will enhance connectivity among various economic corridors between the two regions.

- India is one of the key partners of Regional Comprehensive Economic Partnership (RCEP) Agreement, which is being negotiated at present among ASEAN+6 countries. With both sides showing keenness to deepen and widen their economic partnership, there is need to dwell on a range of issues, including maritime connectivity. Building a common market between ASEAN and India may be achieved provided the trade liberalisation is adequately supported by trade facilitation and connectivity. India's growing trade with Southeast and East Asia will depend on how well is our ports and how efficient is our shipping. As the economic integration between ASEAN and India has been witnessing a rise in cross-border production networks, ports and shipping in India and ASEAN have to be sufficiently developed to support the infrastructure demand since land transportation between India and ASEAN is yet to take a proper shape.

- One of the major obstacles to the expansion of trade between India and ASEAN is the high cost of moving goods across the borders. Improved maritime connectivity would reduce trade costs, raise competitiveness and trade flows, expand markets, reduced poverty, and increase country's welfare and quality of life of its citizens. The challenges to ASEAN-India maritime connectivity include, to mention a few, shortage of port capacity, very few direct calls, high port handling charges, lack of skilled human resources, and absence of an institutional mechanism. In particular, the port facilities in some countries are well equipped with technical and electronic equipment, whereas in many countries of the region ports still belong to the ancient period and are far away from automation and modernization. Therefore, to create a functional single market in Asia, it is necessary to overcome the missing links in transportation, the lack of interoperability, and infrastructure gaps reducing the efficiency and weakening the global competitiveness of the Asian industry.

- The terminal handling charges of some ASEAN container ports are appeared to be higher than that of Indian ports. While efficiency of Singapore port is unparallel in the region, higher handling

charges often negate the benefits of geographical links and trade liberalisation initiatives.

- Due to inadequate cargo availability and maintaining the time bound movement of cargo, major container shipping lines prefer not to call directly; rather they prefer to serve the Bay of Bengal market through their feeder alliances connected to the transshipment hubs. We need to connect ASEAN ports in Myanmar, Thailand and Vietnam with Indian ports with regular direct shipping services. At the same time, we also have to attract more feeder operators to link Indian ports such as Chennai, Ennore, Vizag, Kolkata and Haldia with ASEAN ports.

Selected Recommendations

- Allowing coastal shipping (Short Sea Shipping) in Bay of Bengal would perhaps help ASEAN LDCs to increase their market access in India and vice versa. The coastal trade agreement signed by Bangladesh and Myanmar in 2012 may be extended to India and Thailand to start with. Institutional links between ports and the shipping community, regional (and bilateral) short sea shipping, and training and capacity building may pave the way for stronger maritime links in the region.

- ASEAN and India may consider signing of Mutual Recognition Agreement (MRA) in shipping and logistics services once the ASEAN-India Services Trade Agreement is sealed and ratified. Deeper cooperation initiatives can surely play an important role to sign the MRAs.

- As explicitly stated in the Master Plan on ASEAN Connectivity, ASEAN puts emphasis on stronger connectivity with neighbouring countries, including India and other EAS countries. Connecting the archipelagic regions of ASEAN requires efficient and reliable shipping routes in order to enhance intra-ASEAN connectivity. India may join ASEAN's RoRo sector and also cruise segment for brining the two coasts closer to each other. This will also boost the tourism between the two regions.

- We need to identify and develop the maritime route between India's east coast and CLMV countries. ASEAN and India may also decide the possibility of developing RoRo terminal in CLMV coast along MIEC and also in Indian coast in joint venture. To start with, container cargo operation in Chennai-Yangon-Chennai and Kolkata-Haldia-Chittagong-Yangon-Singapore shall be resumed. Once Sittwe port becomes ready for operation, it can be added as a new port of call.

- ASEAN is contemplating Single Shipping Market. India may explore joining the shipping market and may finalise a strategy for joining the ASEAN Single Shipping Market and develop the relevant framework for its implementation.

- Maritime connectivity between ASEAN and India would open considerable avenues and opportunities for trade. Operational efficiency of the ports has to be competitive and on par with the best ports in the world. Modern cargo handling equipment must be introduced to improve port performance. Efforts must be made to enhance the quality of service and productivity levels. In this regard, greater economic and/or commercial cooperation is desired from those ASEAN countries (e.g. Singapore) that have technological expertise on ports and shipping.

- The long coast of Myanmar provides closest and most direct point of maritime connection between India and Southeast Asia, across the Bay of Bengal. Consequently, developing infrastructure along the coast of Myanmar presents a major opportunity for connecting India to the rest of Southeast Asia through Myanmar. This will also enable Myanmar's port-cities to develop and prosper, narrowing regional development gaps. India is rebuilding a port at Sittwe in Myanmar under the Kaladan Multi-modal Transit Transport project. India may also explore developing of the Dawei port and SEZ project in Myanmar in JV.

- Enhancing maritime connectivity between India and ASEAN is a multifaceted task that requires implementing strong policy initiatives. Development of this connectivity would open

significant opportunities for industrial development in India and its trade potential with Southeast and East Asian countries. This connectivity would link the Chennai region to the rest of the world through its maritime infrastructure. Thus, Chennai and Ennore ports have great potential of becoming the gateway ports for India and function as a core node providing centre of business activities with industrial clusters and work as engine to promote regional economic growth.

- The cooperation with Myanmar could be in two functional areas – one being financial and the other being technical. Financial support in form of soft loan or infrastructural credit could be offered to Myanmar, Cambodia and Vietnam to build transportation infrastructure. The other form of cooperation is to make India's presence in the region and build the port infrastructure. This may include capital dredging, berth creation, crane installation and other such infrastructural development.

- Initiating mainline calls in the Bay of Bengal will go long way in instilling confidence in the shippers and traders in east coast of India, Bangladesh and Myanmar, besides acting as a stepping stone in the area of mutual cooperation in maritime transportation. State-owned shipping lines like the Shipping Corporation of India (SCI) shall make the first move in this regard.

- Simple, harmonised and standardised trade and customs, processes, procedures and related information flows are expected to reduce transaction costs between ASEAN and India, which will enhance trade competitiveness and facilitate the regional integration. India and other dialogue partners of ASEAN also need to align customs and trade services with that of ASEAN (e.g., Customs Single Window).

- India may explore signing ASEAN-India Maritime Transport Agreement (AIMTA) with ASEAN subject to adequate safeguard to shipping services. This agreement will help both India and ASEAN to further cooperate and communicate with each other, eliminate barriers hindering maritime transport, and establish

regional maritime transport framework system with the aim to promote maritime transport facilitation between ASEAN and India and beyond.

- As ASEAN-India trade started growing, it is imperative for all the countries in the region to be competitive. India's relation in the field of maritime transport with ASEAN is yet to be formally established. The key priority of ASEAN-India maritime cooperation should lead to achieve a safe, sustainable and efficient transport system in the region. Greater maritime connectivity with Southeast and East Asia is, therefore, a rewarding choice for Indian ports to build additional port capacity and Indian carriers to strengthen their fleets and vice versa. This would help not only to achieve higher performance and efficiency of maritime services but also to increase the growth of trade and investment between ASEAN and India.

1 Introduction

1.1 India and Southeast Asia enjoy maritime relations that date back to ancient times.[1] In the contemporary period, Southeast Asia is at the heart of India's Look East Policy (LEP). ASEAN-India strengths lie in the fact that the region is home to 1.8 billion people having complementary resources and capacities. In 2012, ASEAN and India celebrated the 20th Anniversary of their Dialogue Partnership and the 10th Anniversary of Summit-level Partnership with, among others, a special "Commemorative Summit" on 20 December 2012 under the theme "ASEAN-India Partnership for Peace and Shared Prosperity". Leaders from all ASEAN countries, who attended the Commemorative Summit in 2012, endorsed elevating ASEAN-India Dialogue Partnership to Strategic Partnership. ASEAN-India Eminent Persons' Report recommends expansion of ASEAN-India connectivity to bring South Asia and Southeast Asia closer.[2]

1.2 Connectivity in its broadest sense encompasses road, rail, waterway, shipping and electronic connectivity. These provide the transmission channels through which development impulses can spread across the region and add dynamism to the economic and social development of both ASEAN countries

as well as India. India has welcomed ASEAN's own connectivity projects for intra-ASEAN linkages. India is one of the two Dialogue Partners that shares both maritime and land borders with ASEAN. Given this close proximity, there is much potential for ASEAN and India to promote connectivity. A true deepening of partnership between ASEAN and India will only happen when regional connectivity and integration between the two are strengthened, particularly through cross-border physical and soft infrastructure such as multi-modal links and cross-border transport arrangements. Thus, enhancing our infrastructure is a cornerstone in the deepening of the ASEAN-India relations.

1.3 This Report presents an overview of the ASEAN-India maritime connectivity and recommends a series of measures to facilitate trade, promote investment and strengthen the martime relations between India and ASEAN.

2 Overview of ASEAN-India Connectivity

2.1 India's regional integration process with Southeast Asia has been following two major systems: Software (Single Window in Customs) and Hardware (ASEAN-India connectivity projects such as Trilateral Highway, Kaladan Multi-modal Transit Transport Project (KMTTP), Mekong-India Economic Corridor (MIEC), etc.). While the first system will lead us to achieve paperless trade, the second one will restore a seamless trade.[3] India's regional connectivity with Southeast Asia is being evolved on two axis – Northeastern India for land transportation and Southern India for multimodal transportation.

2.2 The potential gains from closer connectivity are no doubt large. As part of the work related to the Comprehensive Asia Development Plan (CADP), prepared by the Economic Research Institute for ASEAN and East Asia (ERIA) for the East Asian Summit (EAS) Group, the study found cumulative impacts over 5 per cent of GDP for Cambodia, Myanmar, Thailand and Vietnam, and over 2.5 per cent of GDP for India.[4] In an earlier study, Asian Development Bank (ADB) estimated large gains (about US$ 260 billion, or 2 per cent of GDP) from an East and South Asian free trade area, under conservative assumptions.[5]

2.3 Demand for improved connectivity between ASEAN and India has been rising rapidly. The big challenge is to secure finances for Asia's large infrastructure needs. Asian Development Bank (ADB) and Asian Development Bank Institute (ADBI) in a study, *Infrastructure for a Seamless Asia*, estimated that Asia needs to invest approximately US$ 8 trillion in overall national infrastructure between 2010 and 2020. In addition, Asia needs to spend approximately US$ 290 billion on specific regional infrastructure projects in transport and energy that are in the pipeline.[6] This study also shows that ASEAN countries will require infrastructure investments amounting to US$ 596 billion during 2006-2015, with an average investment of US$ 60 billion per year. Public funds may not be adequate to meet these huge investments, so Public-Private Partnership (PPP) has been encouraged. There is an important role for the cross-border funding, including of multilateral banks and possible new institutions.

2.4 The Heads of the States/Governments of ASEAN and India at the ASEAN-India Commemorative Summit 2012, endorsed enhancing ASEAN Connectivity by supporting the implementation of the Master Plan on ASEAN Connectivity (MPAC) and the ASEAN ICT Master Plan 2015. They agreed to infuse greater momentum to the growing trade and investment linkages between ASEAN and India by calling for an early completion of the India-Myanmar-Thailand Trilateral Highway (IMTTH) and an examination in an integrated manner of the additional possibilities such as its extension to Lao PDR and Cambodia and the new highway project connecting India-Myanmar-Lao PDR-Vietnam-Cambodia as well as developing the Mekong-India Economic Corridor (MIEC) connecting Southeast Asia to South Asia with the best use of all available resources, including financial and technical assistance, investment and public-private partnership to achieve physical, institutional and people-to-people connectivity.

2.5 ASEAN Connectivity Coordinating Committee (ACCC) has opened a comprehensive dialogue with India in 2013 to enhance air, sea and land connectivity between ASEAN and India. India is the third country, after Japan and China, to have this annual dialogue with the ACCC. Korea is the other country, which has opened dialogue with the ACCC. The Inter-Ministerial Group on Transport Connectivity with ASEAN, set up by India in 2012, has been participating in the ASEAN Land Transport Working Group and Maritime Transport Working Group meetings.

3 ASEAN-India Trade, RCEP and Trade Potential

3.1 With the FTA for trade in goods between India and ASEAN in effect from 1 January 2010, ASEAN-India Partnership has assumed greater economic depth. This is set for further strengthening once the FTA for services and investment becomes effective. The trade in goods agreement focuses on tariff liberalisation on mutually agreed tariff lines from both the sides and is targeted to eliminate tariffs on 80 per cent of the tariff lines accounting for 75 per cent of the trade in a gradual manner starting from 1 January 2010.[7] ASEAN and India already met the target of achieving bilateral trade volume of US$ 50 billion ahead of 2010. In 2012-13, two-way trade between ASEAN and India crossed US$ 75 billion, with India contributing US$ 33 billion, and ASEAN US$ 42 billion. Figures 1(a) and 1(b) present the trend of India's exports to and imports from ASEAN, respectively. ASEAN and India expect tariff-free lines to increase beyond the existing level in subsequent years.[8] There is no doubt that continuing economic uncertainties in the global economy have affected the bilateral trade as well. In 2012-13, two-way trade had declined by over 4 per cent. However, in the second half of 2013, ASEAN-India trade was back on its growth path. Despite these fluctuations in the growth, ASEAN-India bilateral trade can achieve US$ 100 billion by 2015 and US$ 200 billion by 2020.[9]

3.2 Intermediate and capital goods are driving the trade between India and ASEAN. Barring minerals and gems, jewellery,

commodities such as electrical machinery, transmission apparatus, motor vehicles, etc., have emerged as important Indian exports to ASEAN. On the other hand, India's imports from ASEAN are primarily driven by electronics, electrical machinery, palm oil, mineral fuels, gems and jewellery, etc. Tables 1(a) and 1(b) present India's top 20 export and import products to and from ASEAN, respectively. However, India's imports from ASEAN are relatively more diversified than its exports to ASEAN or ASEAN+3 countries. India's trade with ASEAN+3 countries has witnessed a compositional shift in recent years. Over time, ASEAN+3 countries have appeared as major suppliers of capital goods to India, and witnessed a rising trend in trade in parts and components for capital goods.

Figure 1(a): Trend in India's Exports to ASEAN

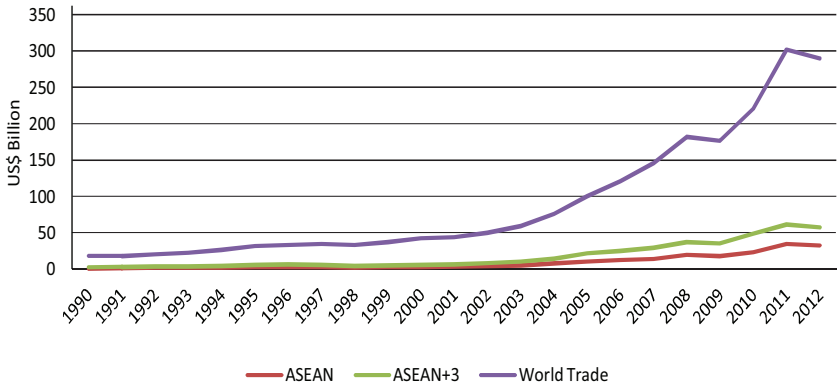
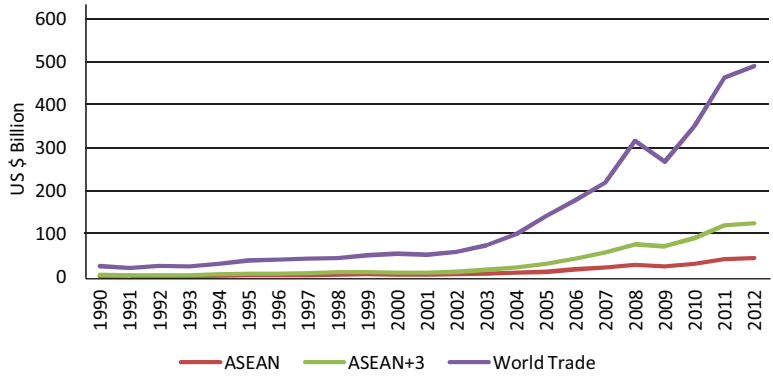


Figure 1(b): Trend in India's Imports from ASEAN



Source: Direction of Trade Statistics, International Monetary Fund (IMF-DOTS).

Table 1(a): India's Top 20 Exports to ASEAN

HS Code	Commodity	Value 2011-12 (US$ Million)	Share* 2011-12 (%)	Value 2012-13 (US$ Million)	Share* 2012-13 (%)
27101119	Other motor spirit	6331.69	17.23	4021.66	12.18
27101950	Fuel oil	2418.03	6.58	1941.66	5.88
2023000	Boneless meat of bovine animals frozen	1337.41	3.64	1616.19	4.90
27101930	High Speed Diesel	2495.66	6.79	1089.87	3.30
10059000	Other maize (corn)	715.21	1.95	1039.43	3.15
27101190	Other light oils and preparations	321.57	0.88	952.84	2.89
71023910	Diamond (other than industrial) cut or otherwise worked but not mounted or set	803.92	2.19	922.48	2.79
89040000	Tugs and pusher craft	646.52	1.76	850.02	2.58
27101990	Other petroleum oils and oils obtained from bituminous minerals	578.38	1.57	730.25	2.21
27101111	Special boiling point motor spirits (other than benzene Toulon) with nominal boiling point range 55-1150c	#	#	710.77	2.15
89059090	Light-vessels, fire-floats, etc., floating docks & platforms, other	1457.51	3.97	703.62	2.13
12022010	Shelled groundnuts kernel	874.74	2.38	638.20	1.93
29024300	p-Xylene	640.59	1.74	631.24	1.91
23040030	Meal of soybean, solvent extracted (defatted) variety	537.61	1.46	608.10	1.84
87041010	Dumpers designed for off-highway use with net wt > 8 tons and maximum pay-load >=10 tons	294.9	0.80	411.81	1.25
52010015	Indian cotton of staple length 28.5mm (1.4/32") and above but below 34.5mm kg	201.17	0.55	301.78	0.91
75021000	Nickel, not alloyed			277.24	0.84
87089900	Other parts and accessories for motor vehicles (heading 8701-8705)	176.85	0.48	276.05	0.84
74031100	Refined copper: Cathodes and sections of cathodes	5.32	0.01	259.25	0.79
27101120	Natural Gasoline Liquid			240.99	0.73
	Total	36744.35		33008.21	

Note:s *Share in total exports to ASEAN. #No trade.

Source: Export Import Data Bank, Department of Commerce, Government of India.

Table 1(b): India's Top 20 Imports from ASEAN

HS Code	Commodity	Value 2011-12 (US$ Million)	Share* 2011-12 (%)	Value 2012-13 (US$ Million)	Share* 2012-13 (%)
15111000	Crude palm oil and its fractions	5644.71	13.39	6637.46	15.48
27011920	Steam coal	3903.34	9.26	6003.27	14.00
27090000	Petroleum oils and oils obtained from bituminous minerals crude	2560.51	6.07	2591.90	6.05
15119020	Refined bleached deodorised palmolein	1517.78	3.60	1414.30	3.30
26030000	copper ores and concentrates	1180.63	2.80	821.60	1.92
44039929	Wood & articles of wood, other	621.85	1.48	669.97	1.56
89052000	Floating/submersible drilling/production platforms	#	#	638.21	1.49
71081200	Other non-monetary unwrought forms of gold	250.7	0.59	637.66	1.49
85171290	Electric apparatus for line telephony, other	420.92	1.00	558.33	1.30
27101930	High Speed Diesel	1129.64	2.68	422.42	0.99
40012200	Technically specified natural rubber	364.46	0.86	419.28	0.98
85423100	Monolithic integrated circuits - digital	395.81	0.94	396.24	0.92
89040000	Tugs and pusher craft	316.64	0.75	388.66	0.91
84733010	Parts and accessories of microprocessors	465.73	1.10	362.39	0.85
7133100	Dried, shelled beans of species vigna mungo, hepper or Vigna radiate, wilczek, whether or not skinned or split	319.79	0.76	356.67	0.83
84717020	Winchester/hard disc drives	311.02	0.74	319.16	0.74
29024300	p-Xylene	301.2	0.71	318.85	0.74
29025000	Styrene	261.31	0.62	309.89	0.72
84082020	Engines of cylinder capacity>250 cc	207.2	0.49	304.12	0.71
40012100	Natural rubber in smoked sheets	392.87	0.93	304.08	0.71
	Total	42158.84		42866.36	

Notes: *Share in total imports from ASEAN. #No trade.

Source: Export Import Data Bank, Department of Commerce, Government of India.

3.3 At present, India has realised a bilateral trade of US$ 76 billion with ASEAN against a potential of US$ 135 billion. Table 2 shows India's trade potential with ASEAN and ASEAN+3 countries. In case of ASEAN+3, India has achieved US$ 182 billion trade, out of an estimated potential of US$ 313 billion. Quite clearly, large amount of India's trade with ASEAN and ASEAN+3 have remained unrealised. The highest unrealisation of trade comes from India's trade with China (US$ 34 billion in 2012). The trade potential between ASEAN and India may touch US$ 169 billion in 2015 and US$ 202 billion in 2018, which in case of ASEAN+3 is estimated to cross US$ 445 billion in 2018.[10]

Table 2: India's Trade Potential with ASEAN and ASEAN+3

Country	2000	2009	2012	2012	2015	2018
	Actual	Actual	Actual	Potential	Potential	Potential
	(US$ billion)					
Brunei	0.003	0.511	1.002	2.143	2.897	4.022
Cambodia	0.009	0.045	0.121	1.028	1.983	3.875
Indonesia	1.308	10.736	20.261	33.443	43.439	50.328
Lao PDR	0.005	0.021	0.168	0.845	1.439	3.023
Malaysia	1.957	8.387	14.171	27.663	34.435	38.825
Myanmar	0.227	1.405	1.875	6.308	8.983	11.559
Philippines	0.249	1.017	1.610	8.852	11.032	13.011
Singapore	2.308	12.769	22.487	26.909	31.122	35.276
Thailand	0.845	4.276	8.966	18.338	21.002	25.635
Vietnam	0.220	2.149	5.599	9.918	12.983	16.230
ASEAN	7.131	41.316	76.261	135.447	169.315	201.784
China	2.207	38.995	68.878	103.328	125.902	148.232
Japan	3.783	9.572	19.202	35.654	40.542	45.111
Korea	1.446	11.589	17.894	38.181	43.992	49.652
ASEAN+3	14.567	101.471	182.234	312.610	379.751	444.779

Note: Estimated potential is based on an augmented gravity model.

Source: De (2014).

3.4 ASEAN is negotiating the Regional Comprehensive Economic Partnership (RCEP) with its FTA partners, including India.[11] Income gain from the RCEP for India is estimated to be

US$ 23.9 billion, highest among all the plus six dialogue partners (Tables 3(a) and 3(b)). Export gain from the RCEP for India is also estimated to be substantial (Table 4). With both sides showing keenness to deepen and widen their economic partnership, there is need to dwell on a range of issues, including trade in services, investment connectivity and development cooperation, which can build a bigger market. Building a common market between ASEAN and India can be achieved provided the trade liberalisation is adequately supplemented by trade facilitation measures and connectivity.

Table 3(a): Effects of ASEAN Integration Scenario Relative to Baseline, 2015

(a) Income Gains

	Income gains (US$ billion)				
	AFTA	**AFTA+**	**AEC**	**AEC+**	**AEC++**
ASEAN	**10.1**	**38.0**	**69.4**	**115.6**	**151**
Brunei	0.2	0.4	0.5	0.6	0.7
Cambodia	0.3	0.5	0.6	0.7	1.2
Indonesia	1.0	6.2	27.6	36.5	43.2
Lao PDR	0.0	0.1	0.2	0.2	0.2
Myanmar	0.0	0.2	0.6	0.7	1.4
Malaysia	2.7	2.9	5.7	21.1	27.9
Philippines	0.9	2.2	4.5	4.4	5.9
Singapore	2.6	14.0	15.1	18.1	19.0
Thailand	1.6	9.8	12.2	19.5	25.8
Vietnam	0.9	1.6	2.4	13.8	25.7
Partners	**0.9**	**-17.4**	**-16.9**	**28.4**	**17.9**
China	0.4	-4.6	-7.8	-6.5	-12.2
Japan	0.1	-1.3	-1.6	9.2	7.3
Korea	-0.2	-1.4	-2.7	10.6	9.1
India	**0.8**	**0.1**	**-0.8**	**23.9**	**23.5**
Australia	0.0	-0.2	0.2	0.3	0.1
New Zealand	-0.1	-0.1	-0.1	-0.1	-0.2
World	**11.4**	**19.4**	**52.7**	**143.4**	**166.8**

Table 3(b): Effects of ASEAN Integration Scenarios Relative to Baseline, 2015

(b) Change from Baseline

	Change from Baseline (%)				
	AFTA	**AFTA+**	**AEC**	**AEC+**	**AEC++**
ASEAN	**0.78**	**2.92**	**5.34**	**8.89**	**11.61**
Brunei	2.56	5.38	7.00	9.29	10.62
Cambodia	2.74	5.42	6.26	7.23	12.34
Indonesia	0.22	1.40	6.21	8.21	9.71
Lao PDR	0.63	2.50	3.59	3.76	4.56
Myanmar	0.33	1.22	4.39	4.8	9.31
Malaysia	1.41	1.55	2.99	11.16	14.7
Philippines	0.61	1.59	3.24	3.16	4.29
Singapore	1.64	9.00	9.68	11.59	12.16
Thailand	0.65	3.93	4.90	7.82	10.38
Vietnam	1.10	1.81	2.82	16.00	29.83
Partners	**0.0**	**-0.04**	**-0.04**	**0.07**	**0.04**
China	0.01	-0.1	-0.16	-0.14	-0.26
Japan	0.0	-0.02	-0.03	0.17	0.14
Korea	-0.02	-0.15	-0.27	1.07	0.92
India	**0.06**	**0.01**	**-0.06**	**1.67**	**1.64**
Australia	0.0	-0.02	0.03	0.03	0.01
New Zealand	-0.05	-0.07	-0.08	-0.05	-0.15
World	**0.02**	**0.04**	**0.10**	**0.26**	**0.30**

Notes: AFTA: ASEAN Free Trade Area. Completion of AFTA by reducing all remaining tariffs on intra-ASEAN trade. AFTA+: Intensification of AFTA by removing NTBs, including regulatory barriers such as diverging standards and testing requirements (lacking detailed information on these measures, the simulation assumes a horizontal reduction of trade costs equal to 5 per cent of trade values). AEC: Further reforms that improve the investment climate, modelled via increasing FDI inflows to levels similar to those in the most open ASEAN countries. AEC+: Additional bilateral FTAs with other RCEP economies. AEC++: Additional bilateral FTAs with the United States and the EU.

Source: Adapted from Petri and Plummer (2013).

3.5 India's rising trade with ASEAN and China calls for a stronger maritime connectivity since the trade through ocean has increased rapidly in terms of both value and volume. Tables 5(a) and 5(b) present India's export to and import from selected ASEAN countries, respectively, both in terms of value and volume. This change in trade has also been accompanied by rise in value-volume ratio in the last 13 years, particularly in India's

export to China. Rise in value-volume ratio, in other words, support the notion that value-added maritime transportation services between India and ASEAN should be a core component of maritime development strategy.

Table 4: Export Effects of TPP, RCEP, and FTAAP

Economy	Export 2025 (US$ billion 2007)	Export gains (US$ billion 2007)				Change from baseline (%)			
		TPP12	TPP16	RCEP	FTAAPX	TPP12	TPP16	RCEP	FTAAPX
Brunei	9	0.2	0.3	0.9	1.2	2.6	3.8	10.5	13.3
China	4,597	-43.7	-107.8	638.3	1590.1	-1.0	-2.3	13.9	34.6
India	869	-5.2	-13.2	237.9	536.1	-0.6	-1.5	27.4	61.7
Indonesia	501	-3.9	98.3	52.6	119.3	-0.8	19.6	10.5	23.8
Japan	1,252	139.7	202.5	225.1	419	11.2	16.2	18.0	33.5
South Korea	718	-7.0	94.5	173.6	244.2	-1.0	13.2	24.2	34.0
Malaysia	336	40.0	44.2	20.2	56.1	11.9	13.2	6.0	16.7
Philippines	163	-1.4	33.5	10.8	27.5	-0.9	20.6	6.6	16.8
Singapore	712	-4.0	-17.5	-40.3	-5.0	-0.6	-2.5	-5.7	-1.9
Taiwan	476	-5.1	82.7	34.7	150.8	-1.1	17.4	7.3	21.2
Thailand	263	11.3	13.3	-5.7	74.6	4.3	5.1	-2.2	15.7
Vietnam	239	67.9	92.1	29.9	139.3	28.4	38.6	12.5	58.3
Australia	332	11.1	15.7	42.8	59.0	3.4	4.7	12.9	17.8
New Zealand	60	4.1	4.7	2.7	6.5	6.8	7.8	4.4	10.8
World	28,415	305.2	654.7	1383.7	4048	1.1	2.3	4.9	14.2
Memorandum									
ASEAN	2,021	108.2	362.9	145.5	420.3	5.4	18	7.2	20.8

Notes: TPP: Trans-Pacific Partnership. TPP12: Current Trans-Pacific Partnership members comprising United States, Australia, Brunei Darussalam, Chile, Canada, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, and Vietnam. TPP16: TPP12 nations plus Korea, Indonesia, Philippines and Thailand. FTAAP: Free Trade Area of Asia Pacific. Members are Bangladesh, China, India, South Korea, Laos, Nepal, Sri Lanka and Philippines. RCEP: Regional Comprehensive Economic Partnership comprising ten ASEAN Member States and its Free Trade Agreement Partners Australia, China, India, Japan, the Republic of Korea and New Zealand. APEC: Asia-Pacific Economic Cooperation having 21 members. It includes Australia, Brunei, Canada, Chile, China, Hong Kong, Indonesia, Japan, Korea, Malaysia, Mexico, New Zealand, Papua New Guinea, Peru, Philippines, Russia, Singapore, Chinese Taipei, Thailand, United States and Vietnam. FTAAPX: Free Trade Area of the Asia Pacific plus India. It includes all economies that are members of TPP, RCEP, and/or APEC.

Source: Adapted from Petri and Plummer (2013).

Table 5(a): India's Export to Selected ASEAN Countries and China through Maritime Transport

Country	2012-13	2000-01	CAGR 2000-12 (%)	Value-Volume ratio 2012-13 (US$ per TEU)	Value-Volume ratio 2000-01 (US$ per TEU)
China					
Value (US$ Million)	12909.90	638.56	28.47	2.10	1.68
Quantity (Million TEUs)	2.71	0.11	30.90		
Thailand					
Value (US$ Million)	2576.60	314.33	19.16	0.79	1.22
Quantity (Million TEUs)	0.20	0.04	14.92		
Indonesia					
Value (US$ Million)	3146.44	365.39	19.65	1.23	2.13
Quantity (Million TEUs)	0.39	0.08	14.31		
Vietnam					
Value (US$ Million)	3760.11	192.91	28.08	0.89	2.68
Quantity (Million TEUs)	0.33	0.05	16.81		

Source: Calculated based on Export Import Data Bank, Department of Commerce, Government of India.

Table 5(b): India's Import from Selected ASEAN Countries through Maritime Transport

Country	2012-13	2000-01	CAGR 2000-12 (%)	Value-Volume ratio 2012-13 (US$ per TEU)	Value-Volume ratio 2000-01 (US$ per TEU)
Thailand					
Value (US$ Million)	3455.45	266.38	23.81	0.75	0.50
Quantity (Million TEUs)	0.26	0.01	28.04		
Singapore					
Value (US$ Million)	3706.47	774.80	13.93	0.33	0.66
Quantity (Million TEUs)	0.12	0.05	7.66		
Malaysia					
Value (US$ Million)	5555.38	883.68	16.56	0.74	1.97

Table 5 (b) continued...

Table 5 (b) continued...

Quantity (Million TEUs)	0.41	0.17	7.49		
Indonesia					
Value (US$ Million)	8168.76	828.28	21.01	0.76	2.01
Quantity (Million TEUs)	0.62	0.17	11.56		
Vietnam					
Value (US$ Million)	1113.89	11.02	46.91	0.90	0.89
Quantity (Million TEUs)	0.10	0.00	46.97		

Source: Calculated based on Export Import Data Bank, Department of Commerce, Government of India.

4 Removing Non-Tariff Measures (NTMs): Key to Economic Integration

4.1 Non-Tariff Measures (NTMs) have gained immense importance as tariff-based barriers to trade have gradually declined. Table 6 shows a comprehensive index of non-tariff measures for ASEAN+3 countries. The index ranges from 0 to 100, where a higher value indicates higher NTM. As on 2012, the Philippines has most NTMs, whereas Cambodia has the least. India has improved its rank from 48 in 2009 to 17 in 2012. India and ASEAN have to remove the impediments to trade and investment such as high NTMs, lack of connectivity – physical, digital and social, and regulatory barriers, to mention a few.[12]

Table 6: Non-Tariff Measures Index for ASEAN+3 (0-100 worst)

Year	2009		2010		2012	
Country	**Score**	**Rank**	**Score**	**Rank**	**Score**	**Rank**
Cambodia	4.24	14	6.93	16	4.68	1
China	22.63	35	23.77	34	n/a	n/a
India	34.09	48	29.88	44	37.64	17
Indonesia	44.95	66	43.27	71	40.89	19
Japan	65.39	88	61.99	84	63.18	29
Malaysia	17.11	28	16.92	27	16.61	2
Philippines	64.53	86	88.01	90	75.3	58
Singapore	23.80	38	19.92	31	29.11	10
Thailand	26.90	40	69.26	86	53.94	26
Vietnam	34.89	50	21.56	32	22.36	5

Source: The Global Enabling Trade Report, World Economic Forum (2012).

4.2 Since merchandise trade between India and ASEAN is largely conducted through ocean, without a stronger maritime connectivity it would not be possible to realise the full potential of the regional free trade, which are already in place or are currently under negotiation. Moreover, ASEAN-India maritime connectivity is the key to production networks. There are some appealing reasons for a stronger maritime connectivity between ASEAN and India such as:

- One, higher transaction costs and time at port would certainly diminish the potential of India (and ASEAN countries too) joining global or regional value chains.[13] Since trade facilitation and logistics performance matter significantly more for trade in parts and components, which typically circulate within production networks, than for trade in final goods, stronger maritime connectivity will spur global and regional value chains.
- Two, ASEAN and India have been witnessing various economic corridors. A stronger maritime connectivity between India and ASEAN will also enhance connectivity among various economic corridors between the two regions.
- Three, according to the World Shipping Council (WSC), the emissions from ships are one sixth of that by road and one half of those emitted by rail. On environmental ground, ocean transportation is, therefore, relatively more preferred than other modes of transportation.

5 Performance of Indian Maritime Sector

5.1 Ports are nodes for linking different modes of transport and important element in global supply chain. It is important to provide connectivity and other infrastructure both within the port and to hinterland. It allows goods to reach the consumers from source of production in shortest possible time and most cost-effective way. Linkage with ports can be through three modes, namely, rail, road and inland waterways. Ports and shipping are the major infrastructure responsible for merchandise trade between ASEAN and India.

5.2 India presently has 212 seaports, of which 12 are major ports and 200 are non-major ports.[14] Indian ports are regulated by the Indian Ports Act 1908, where the Government of India looks after the major ports, and the non-major ports are managed by the Indian states. As noted in Table 7, Indian ports together handled 934.01 million tonnes of cargo in 2012-13, of which major ports had a share of 58.4 per cent (546 million tonnes) and non-major ports shared 41.57 per cent (388 million tonnes). Non-major ports in India have been growing much faster than the major ports. The volume and share of non-major ports in Indian total cargo have grown rapidly since beginning of the last decade, whereas the major ports have witnessed an opposite trend (Table 7).

Appendix 3 presents the time trend of cargo handled by major and non-major ports of India. Within major ports, Mumbai, Jawaharlal Nehru and Kandla ports are running with over capacity (Table 8). Kandla is the biggest port, which has over 17 per cent share in total cargo handled by all major ports of India.

Table 7: Cargo Handled by Indian Ports

Year	Major Ports		Non-Major Ports		All Ports	
	Volume (Million tonnes)	Share* (%)	Volume (Million tonnes)	Share* (%)	Volume (Million tonnes)	Share* (%)
2000-01	281.13	76.29	87.37	23.71	368.50	100.00
2005-06	423.57	73.83	150.12	26.17	573.69	100.00
2012-13	545.79	58.44	388.23	41.57	934.01	100.00
CAGR 2000-12 (%)	5.68		13.23		8.06	

Note: *Share in total cargo.

Source: Calculated based on Update on Indian Port Sector (30 September 2013), Ministry of Shipping, Government of India..

Table 8: Trends in Port-wise Cargo Handled

Port	2000-01		2012-13				
	Traffic (MT)	Share* (%)	Traffic (MT)	Share* (%)	Capacity (MT)	Share* (%)	Capacity Utilisation (%)
Kolkata	12.00	4.26	11.84	2.17	17.14	2.46	69.08
Haldia	18.00	6.40	28.08	5.14	50.75	7.29	55.33
Paradip	19.90	7.07	56.55	10.36	80.30	11.53	70.42
Vizag	44.69	15.88	59.04	10.82	66.33	9.52	89.01
Ennore	#	#	17.89	3.28	31.00	4.45	57.71
Chennai	41.22	14.65	53.40	9.78	83.19	11.94	64.19
Tuticorin	12.58	4.47	28.26	5.18	33.34	4.79	84.76
Cochin	13.14	4.67	19.85	3.64	41.86	6.01	47.42
New Mangalore	17.89	6.36	37.04	6.79	50.97	7.32	72.67
Mormugao	19.63	6.98	17.69	3.24	41.90	6.02	42.22
Mumbai	27.06	9.62	58.04	10.63	44.53	6.39	130.34
Jawaharlal Nehru	18.58	6.60	64.49	11.82	64.00	9.19	100.77
Kandla	36.74	13.05	93.62	17.15	91.22	13.10	102.63
Total	281.43	100.00	545.79	100.00	696.53	100.00	78.36

Note: *Share in total. # Not in operation. MT - million tonnes.

Source: Calculated based on Basic Port Statistics of India, various issues, Government of India.

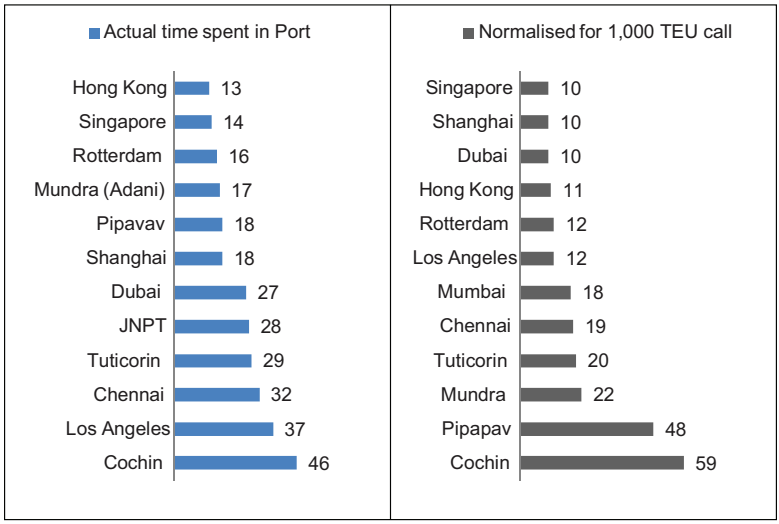
5.3 Over the years, handling capacity of major ports has increased to cater to the growing volume of international trade. Today, Indian major ports handle 546 million tonnes of cargo against a capacity of 697 million tonnes, thereby showing 78 per cent utilisation of capacity in 2012-13 (Table 8). But, three ports acted differently, namely, Mumbai, Jawaharlal Nehru and Kandla; all of them witnessed overutilisation of capacity (Table 8). While ports in west coast have flourished more rapidly than the east coast over time, some major ports have also witnessed fall in their respective shares in Indian port sector such as Kolkata, Haldia, Vizag, Chennai, and Cochin; most of them are located along the east coast facing Southeast Asia. In sharp contrast, distribution of containerised cargo across Indian major ports appears to be relatively balanced, where east coast ports like Chennai, Vizag, etc., handle higher container cargo, compared to many west coast ports. With 4.26 million TEUs (55.25 per cent share in total container volume), Jawaharlal Nehru port has become India's top container port (Table 9). Chennai port comes next. Incidentally, these are the two major ports, which are largely privatised since India adopted port reform process in late 1990s and are also relatively well connected with ports in Southeast and East Asia.

5.4 In case of composition of cargo handled at major ports in 2012-13, the largest commodity group (in terms of percentage share in total cargo handled) was POL (34 per cent), followed by container traffic (22 per cent), other cargo (19 per cent), coal (19 per cent), etc.[15] Total container traffic at major ports has increased, both in terms of tonnage and number (TEUs) by 2.7 per cent and 1.3 per cent, respectively, in 2012-13, where Jawaharlal Nehru Port (JNP) has emerged as the leading container port with a share of 55 per cent in Indian total container traffic (Table 9).

5.5 Performance and efficiency of ports and shipping positively contribute to the growth of trade and vice versa.[16] With rise in competition, performance of Indian ports has improved drastically in the last two decades. Noted in the *Economic Survey 2012-13*, some prominent port-related performance indicators in Table 10 show improvement over time. The average output

per ship-berth-day improved to 13,374 tonnes for all major ports during 2012-13 (April-September), compared to 12,825 tonnes in the corresponding period 2011-12. The average turnaround time at major ports also improved to 4.15 days in 2012-13 (April-September), compared to 5.29 and 5.05 days in 2010-11 and 2011-12, respectively and ranged between 1.54 days at Cochin Port to 6.27 days at Kandla Port. The average pre-berthing detention time (PBDT) for all major ports declined from 2.32 days in 2010-11 to 1.79 days in 2012-13. While this indicates greater performance of ports, it could also be due to the lower volumes handled by ports with the global downturn that we had few years back. However, except for average output per ship berth day, the other two indicators have not shown much improvement over the years. Figure 2 shows vessel turnaround time at Indian ports in comparison with other countries. Indian ports have much longer vessel turnaround time than global best practices. Therefore, the performance of Indian ports has to be improved further. To improve the efficiency, there are some important lessons that Indian ports can draw from Southeast and East Asian countries.

Figure 2: Vessel Turnaround Time of India and Other Countries
Vessel Time Spent in Ports (hours), 2010



Source: Derived from several months of Maersk Line's recorded statistics of port entry and exit times of their vessels, available at http://www.maerskline.com/

Table 9: Container Traffic at Major Ports

Port	2000-01		2006-07		2012-13		CAGR, 2000-13
	Volume (MTEUs)	Share* (%)	Volume (MTEUs)	Share* (%)	Volume (MTEUs)	Share* (%)	(%)
Kolkata	0.14	5.67	0.24	4.33	0.46	5.97	10.61
Haldia	0.05	2.02	0.11	1.99	0.14	1.82	8.58
Paradip	0.00	0.00	0.00	0.00	0.01	0.13	#
Vizag	0.02	0.81	0.06	1.08	0.25	3.24	23.30
Chennai	0.35	14.17	0.89	16.06	1.54	19.97	13.08
Tuticorin	0.16	6.48	0.38	6.86	0.48	6.23	9.68
Cochin	0.14	5.67	0.23	4.15	0.34	4.41	7.35
New Mangalore	0.00	0.00	0.02	0.36	0.05	0.65	30.32
Mormugao	0.00	0.00	0.01	0.18	0.02	0.26	14.35
Jawaharlal Nehru	1.19	48.18	3.30	59.57	4.26	55.25	11.21
Mumbai	0.32	12.96	0.14	2.53	0.06	0.78	-13.29
Kandla	0.09	3.64	0.18	3.25	0.12	1.56	2.10
Total	2.47	100.00	5.54	100.00	7.71	100.00	9.95

Notes: *Share in total. # Not applicable. MTEUs - million TEUs.

Source: Calculated based on Basic Port Statistics of India, various issues, Government of India.

Table 10: Some Performance Indicators of Ports in India

Indicators	1990-91	2000-01	2008-09	2009-10	2010-11	2011-12	2012-13
Average Turnaround Time (Days)	8.1	4.24	4.2	4.63	5.29	4.8	4.15
Average Pre-berthing Detention Time (Days)	2.16	1.19	1.63	2.16	2.32	2.05	1.79
Average Output per Ship-berth-day (Tonnes)	3372	6961	9669	9215	9140	12825	13374

Source: Ministry of Shipping, Government of India.

5.6 A number of new technologies have been introduced to implement the International Ship and Port Security (ISPS) code. All the major ports in India are ISPS compliant. Table 11 shows some key maritime facilitation services started under this compliance programme. Various activities are performed for an efficient implementation of e-Governance in the DG Shipping and to comply with best international practices. Table 12 shows existing status of some e-Governance projects.

Table 11: Maritime Facilitation Services under ISPS

Name of the Project	Details of the Project & Scope of Service
Maritime Security and Surveillance Systems: Automatic Identification System (AIS)	Maritime Surveillance System is used worldwide to collect information, classify and track threats, monitor the correct answer and personnel, and control entry to ports and inland waterways. Integration of this system with Automatic Identification System (AIS) technology provides situational awareness by identifying the approaching ships. The software analyses the data and identifies situations which are out of specification, and transmits alerts to the relevant authorities. When an unidentified ship approaches inland waters the operators are alerted with warnings. The system also provides support for emergency responders in emergency rescue and emergency situations. Maritime Surveillance System includes wireless monitoring, remote monitoring, night vision systems and video analysis. It compiles data from a variety of sensors and other sources and processes the data to critical decision support for coastal, port and waterway authorities.
Electronic Commerce (EC)/ Electronic Data Interchange (EDI)	EDI is an indispensable part for maintaining the efficient ports operation and for the entire trade and transport cycle.
Port Community System (PCS)	It combines the electronic flow of information and function as a central hub for Indian ports and other stakeholders, such as shipping lines or agency, surveyors, stevedores, banks, container freight stations, government regulators, customs house agents, importers, exporters and railways through a common interface. It is accessible through a secure and personalised web browser. PCS also works as a data repository for research and analysis. Ship, cargo, containers, transport finance related news and e-payment module with 12 banks are available online. Non-major ports like Pipavav, Mundra, and Dahej have adopted PCS. Efforts are on to transform other non-ports to PCS.

Source: Report of the Working Group for National Transport Development Policy Committee (NTDPC) (2012), Ministry of Shipping, Government of India.

Table 12: Implementation of e-Governance in DG Shipping

Name of the Project	Details of the Project & Scope of Service
e-Samudra project	This project is one of the most important e-Governance initiatives to be implemented in the Directorate and its allied offices. Scope of the project includes computerisation of various business functions of DG Shipping. It involves the development of different modules resulting in process automation and creation of huge database which contains important information about different business units such as ships, licenses, testing, Continuous Discharge Certificate (C.D.C.), etc.

Table 12 continued...

Table 12 continued...

e-Pariksha Project	This project aims to implement online competitive examinations for nautical and technical wings. This project would be carried out over all the test centres across the country.
Vessel Traffic Management System (VTMS)	It is a real-time system providing full information on arrivals, departures and transits among the maritime parties. The information is used by the port authorities to manage port traffic and monitor waterways. The VTMS ensures safe navigation services for ships in port and serves as a command centre for crisis management operations, such as Service and Rescue (SAR), oil spill detection and anti-terrorism activities. Besides monitoring the waterways, regulatory compliance enforces safe navigation and protection of ships carrying dangerous cargo. VTMS systems collaborate with Coast Guard and other agencies to ensure safety in port waters. VTMS contains special sensors and systems for oil and gas connections to ensure safety of the ship during transit and sunlight.
Harbour Craft Transponder System	Maritime authorities of many countries, in cooperation with the Coast Guard and Navy follow implementation of the Harbour Craft Transponder System and monitor small powered harbour and pleasure craft. All harbour craft must carry a transponder that provides real-time data such as ship's identity, position, speed, course and other information which are transmitted to the host system in shore by wireless network. The craft can also alert the control centre if there is a security threat or emergency.
Radio Frequency Identification (RFID) and Container Tracking System	Port of Singapore (PSA) employs RFID transponders in container yard to create a multi-dimensional tracking network. PSA tracks thousands of cargo containers and manages arrival and departure of up to 50 ships daily. A centralised system manages placement and location of the container ships. RFID transponder guides Automatic Guided Vehicles (AGVs). All container transfers are controlled by AVGs and unmanned cranes perform batch work without human intervention. RFID automated terminals are more efficient than their manned counterparts.

Source: Report of the Working Group for National Transport Development Policy Committee (NTDPC) (2012), Ministry of Shipping, Government of India.

5.7 In discussing maritime transport, a distinction must be made between the owner of the ship, on the one hand, and, the owner of the cargo, on the other. The two are rarely the same. Prior to 1973 (first oil crisis), most oil companies owned maritime transport subsidiaries. Today, major oil producers outsource maritime transport to specialist companies who are more flexible in their organisation. Although shipping plays an immensely important role in building merchandise trade,[17] shipping of containerised cargo in India has been mostly managed by the foreign lines, primarily due to lack of fleet capacity of the Indian shipping lines. The composition of the Indian fleet is

largely made up of bulk carriers and POL carriers. As noted in Table 13, foreign lines alone handled 9.49 million TEUs, out of a total of 10.02 million TEUs, in 2011-12. Indian lines, such as Shipping Corporation of India (SCI), handled a paltry volume of half a million TEUs.[18] Private shipping lines in India have largely failed to strengthen adequate fleets. Barring Great Eastern Shipping, Mercator Lines and Essar Shipping and Logistics, the other companies are yet to make any presence in terms of gross tonnage or number of fleets (Table 14). Indian shipping companies face problems of restricted cash inflows due to very low charter hire and freight rates in all segments of shipping (INSA 2014). In other words, the shortage of adequate ships in Indian lines has actually contributed in favour of foreign lines. According to the Indian National Shipowners' Association (INSA), the foreign container lines continue to carry India's cargo without their participation in the Indian flag or creation of any shipping assets in India.[19]

Table 13: Container Traffic Handled by Shipping Lines at Major Ports

	2000-01	2005-06	2011-12
		(million TEUs)	
Export			
(i) Indian Lines	0.14	0.27	0.28
(ii) Foreign Lines	1.25	2.31	4.72
(iii) Total	1.39	2.58	5.00
Import			
(i) Indian Lines	0.13	0.26	0.26
(ii) Foreign Lines	1.17	2.33	4.76
(iii) Total	1.31	2.59	5.02
Total			
(i) Indian Lines	0.27	0.53	0.54
(ii) Foreign Lines	2.42	4.64	9.49
(iii) Total	2.70	5.17	10.02

Source: Ministry of Shipping, Government of India, New Delhi.

5.8 There has been a sharp decline in the share of Indian ships in the carriage of India's overseas trade from about 40 per cent in the late 1980s to 10.4 per cent in 2011-12 with 17.05 per cent share in India's oil imports. Given the relatively low participation of Indian ships in India's trade and ageing of the Indian ships and the average age of the Indian fleet increasing from 15 years in 1999 to 16.83 years as on 31 December 2012 (with 41.59 per cent

of the fleet over 20 years and 11 per cent in the age group 16-20 years) – there is an urgent need to increase the shipping fleet so that it is at least adequate to meet India's trade volumes. In order to make the Indian shipping industry more competitive at the international level, the Government of India has introduced tonnage tax regime for the shipping sector in 2004 by which taxation for Indian shipping companies has been brought in line with international fiscal regime. Further, the Indian shipping industry has been provided cargo support through right-of first refusal and policy of imports at *fob* rate for the Government-owned/controlled cargoes. Chartering of vessels for movement of cargo on private account is regulated through the Director General of Shipping, taking into consideration the availability of Indian flag vessels.

5.9 A large and modernised shipping fleet will not only lead to higher growth, employment and higher earning/saving of foreign exchange, but also increase India's bargaining power with foreign liners who carry Indian cargo as per their schedule and also discriminate in the rates.[20] India shall promote the growth of national shipping. Countries in Southeast and East Asia have built strong national shipping assets, which could provide important lessons to India, while strengthening domestic shipping lines as well as sourcing new fleets.

Table 14: Distribution of Indian Tonnage#

Sr. No.	Name of the Company	Ships	Gross Tonnage (Million GT)	Share* (%)
1	Shipping Corporation of India	86	3.3954	32.59
2	Great Eastern Shipping Co. Ltd.	35	1.4755	14.16
3	Essar Shipping & Logistics Ltd.	22	0.2703	2.59
4	Mercator Lines Ltd.	18	0.5669	5.44
6	Varun Shipping Co. Ltd.	8	0.3271	3.14
7	Sanmar Shipping Ltd.	6	0.1901	1.83
8	Radiant Shipping Ltd.	4	0.0906	0.87
9	Five Stars Bulk Carriers Ltd.	4	0.2059	1.98
10	Chowgle Steamships Ltd.	3	0.0679	0.65
11	West Asia Maritime Ltd.	3	0.0703	0.68
12	Others	955	3.3753	32.40
	Total	**1154**	**10.4170**	**100.00**

Notes: *Share in total. # As on 31 December 2012.

Source: Ministry of Shipping, Government of India.

5.10 India has recently allowed domestic shipping lines to operate foreign flag vessels. So far, Indian operators were not allowed to own foreign flag vessels — at most, they could charter these for specified periods. Also, they could not employ foreigners on Indian flag-bearing ships. Essentially, removing the restriction would mean Indian companies will be able to register ships in these jurisdictions and yet operate them out of India. This will bring them on par with competition that extensively uses dual flags. The change in rules means that Indian ship owners will not have to set up foreign subsidiaries and the revenue from these operations will come to India. The tonnage carried would be counted towards the Indian company's tonnage, helping them raise foreign funds more easily.

5.11 Within India, majority of the cargo augmentation occurs at the Jawaharlal Nehru Port. Shippers prefer this port due to availability of better mainline liner services along with competitive ocean freight rates. Mundra and Pipavav (both in the west coast) in recent years have attracted the attention of some of the major shipping lines, and as a result the cargo handling at these new ports has increased. However, on the east coast, containerised cargo volumes are low. This is due to lesser industrialisation (for finished goods) and lesser port handling capacity. Therefore, the presence of direct liner service in east coast is minimal, compared to the west coast. It has been observed that some shippers, located near the east coast ports, also prefer Jawaharlal Nehru port as gateway for their cargo due to better service availability and competitive freight rates. Developing adequate port capacity along with ancillary infrastructure is, therefore, essential, especially for the cargo destined to or originating from the eastern neighbour.[21]

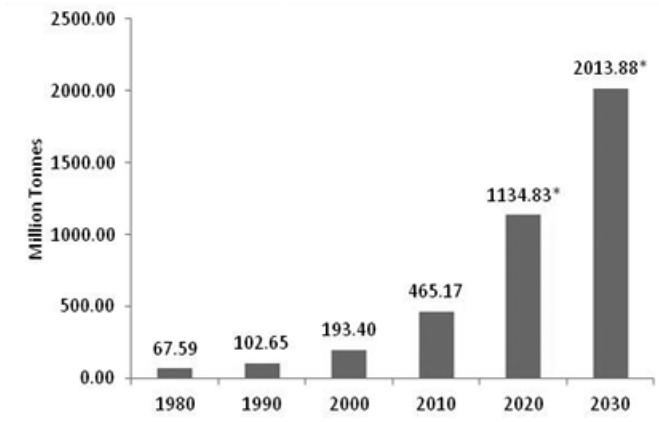
5.12 The *Maritime Agenda 2010-20* of the Government of India has indicated 1.21 billion tonnes of cargo for major ports of India in the year 2019-20. According to an *RIS* forecast, Indian major port traffic is likely to touch about 1 billion tonnes by turn of this decade and about 2 billion tonnes by 2030 (Figure 3).[22] The volume may

go-up substantially if we factor in the cargo handled by the non-major ports, which we had to exclude in this study due to non-availability of statistical data. Commodity-wise traffic forecast is given in Figure 4. The bottom line is that the port capacity has to be augmented to cater to the rising traffic. The Government of India has been following the strategy of increasing investment in infrastructure through a combination of public investment and PPP. According to the Planning Commission, the Twelfth Five Year Plan with an outlay of Rs. 30.57 billion (gross budgetary support) for the port sector envisages an increase in the capacity of major ports to 1229.29 million tonnes by the end of 2016-17 from the pre-Plan base level of 696.5 million tonnes with 12 per cent average annual growth in capacity addition. The projected capacity, according to the Planning Commission, during the terminal year of the Twelfth Five Year Plan period for the major ports would be 1229.29 million tonnes, nearly 1.76 times of the existing capacity. The total Plan outlay projected to augment the capacity by 532.71 million tonnes is Rs. 672.96 billion; most of the investment is expected to flow from the private sector, i.e. Rs. 510.36 billion (76 per cent of total) and the remaining share of 24 per cent is anticipated from internal resources and budgetary support of the Government of India. Plan-wise projected investment is outlined in Figure 5. Therefore, it appears that most of this investment has to come from the private sector including foreign direct investment (FDI). FDI up to 100 per cent under the automatic route is currently permitted for construction and maintenance of ports and also for shipping.[23]

5.13 While efforts are being made to improve the port infrastructure, there is need to upgrade the facilities at existing ports with regard to cargo handling, stevedoring, pilotage services, bunkering services and warehousing facilities; increase the drafts to facilitate transhipment of Indian cargo, which otherwise take place outside the country; and rationalise the different port charges to make them comparable with best practice levels. The *Maritime Agenda 2010-20* covers some of these issues like full mechanisation of cargo handling and movements, having draft of not less than 14m

in major ports and 17m in hub ports, and shifting of transhipment of Indian containers from foreign ports to Indian ports.[24]

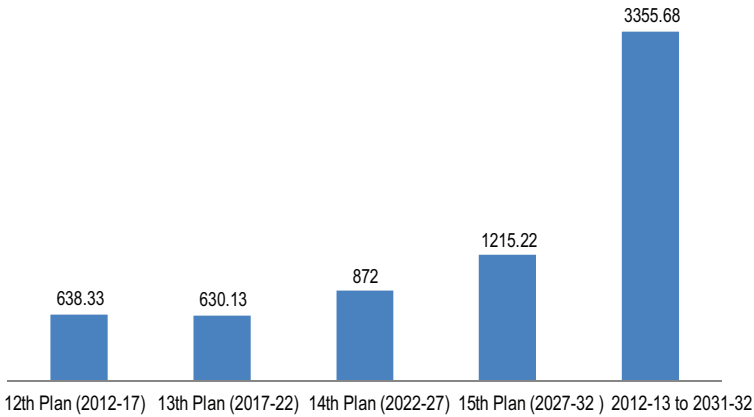
Figure 3: Traffic Forecast for Major Ports of India, 2030



Note: *Forecast.

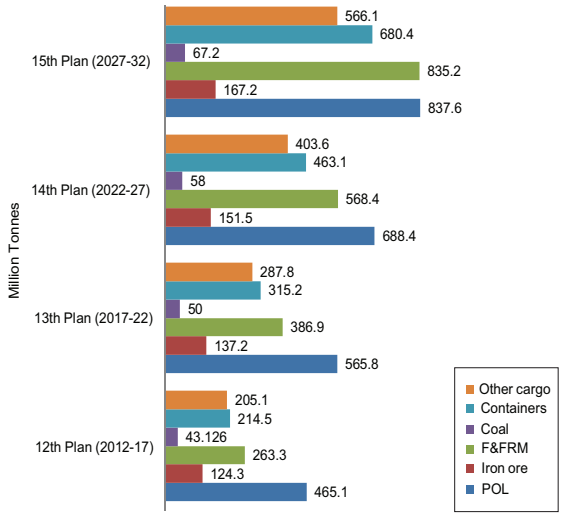
Source: RIS.

Figure 4: Commodity-wise Traffic Projections, 2016-17 to 2031-32



Source: Working Group Report on Ports and Shipping, NTDPC (2012).

Figure 5: Projected Investments, 2012-32



Source: Working Group Report on Ports and Shipping, NTDPC (2012).

5.14 All Indian ports are regulated under the Indian Ports Act 1908. This law governs jurisdiction of the federal and state governments over ports, and lays down the basic rules for safety of navigation and maintenance of port facilities. It regulates issues related to management of port dues, pilotage fees and other charges. The Ports Wing in the Ministry of Shipping develops and manages all major ports. The Tariff Authority for the Major Ports (TAMP) is the economic regulator for main ports and is charged with fixing and revising tariffs, including tariffs of private terminals. Guidelines from 2008 include a tariff cap, which is set in advance, before tender of a PPP project. With respect to tariff increases in existing terminals, a cost-plus approach is applied as per 2005 guidelines.

5.15 New proactive policy initiatives in the port sector include: new land policy guidelines, tariff reform for market-linked tariff, streamlining security clearance mechanism, enhanced delegation of power to expedite project approvals, procurement of new dredgers by DCI, setting up of two new major ports, new IMU campuses at Cochin, Kandla and Karaikal, and coal movement through national waterways to NTPC, Farakka.

5.16 Key projects awarded during 2013-14 include:

- Fourth container terminal at Jawaharlal Nehru Port, with an investment of Rs. 79.15 billion;
- Container terminal at Kamrajar Port, Ennore with an investment of Rs. 12.7 billion;
- Mechanised iron ore handling facility at WQ-1 at Visakhapatnam Port with an investment of Rs. 9.4 billion;
- Container terminal at Visakhapatnam Port with an investment of Rs. 6.33 billion;
- Mechanised container handling operations at KDS, Kolkata Port with an investment of Rs. 4.9 billion; and
- Oil jetty and ship bunkering terminal at Kandla Port with an investment of Rs. 2.33 billion.

5.17 Key Policy Developments in port sector include the following:

i) **National Maritime Development Programme (NMDP):** NMDP was created by the Ministry of Shipping in 2005 for capacity expansion and hinterland connectivity improvement at major ports. The programme states that over 60 per cent of the needed funds can be raised from private sector. Government has also shown intentions of delegating powers to Port Trusts for faster decision making and implementation. In addition, a number of measures were announced to promote foreign investment in the sector:

   - No approval required upto 51 per cent of foreign equity for projects providing supportive services to water transport.
   - Automatic approval of foreign equity upto 100 per cent in construction and maintenance of ports and harbours. However, the proposal needs to be referred to FIPB for investments more than Rs 15 billion.
   - Invite open tender for private sector participation on Build-Operate-Transfer (BOT) basis.

- Grant permission for formation of joint ventures between major ports and foreign ports, major ports and non-major ports and major ports and companies.

ii) **Model Concession Agreement (MCA):** MCA was approved in 2008. MCA regulates the functioning of the major ports in terms of PPP projects. It consists of all the elements and problems that are usually part of an international terminal concession. Tariffs cannot be set by the concessionaire, but are dependent on decisions of TAMP. The new MCA (2009) allows a port trust to directly approach the inter-ministerial PPP Review Committee for final project approval without acquiring in-principle approval.

iii) **B K Chaturvedi Committee Report:** The committee found that tariff fixing process by TAMP sometimes led to delays, which slows down entire procurement process for the PPP projects. Also, performance standards used by TAMP and those agreed between the parties in concession agreements could differ. The Committee suggested following policy changes to TAMP:

- Short term: Enhancing tariff-setting mechanism through own capacity building and streamlining of procedures;
- Medium term (1-2 years): Delegation of tariff-setting to the main port trusts with TAMP acts as the appellate authority; and
- Long-term (2 years): Leave tariff setting mechanism to market forces. This can be implemented for port terminals where competitive environment already exist.

5.18 India's merchandise trade with ASEAN has increased to over US$ 75 billion in 2012 from a mere US$ 7 billion in 2000. Greater maritime connectivity with Southeast and East Asia is, therefore, a rewarding choice for Indian ports to build additional port capacity and Indian carriers to strengthen their fleets. This would help not only to achieve higher performance and efficiency of maritime services, but would also lead to the growth of trade and investment between ASEAN and India.

6 ASEAN-India Maritime Links

6.1 Shipping plays an important role in transport sector of India and ASEAN. Most of the merchandise trade by volume is moved by sea. India has one of the largest merchant fleets in the developing world, and, in terms of gross tonnage under its flag, the country occupies 16th rank in the world. Indian maritime sector facilitates not only transportation of national and international goods, but also offers a variety of other services such as cargo handling, shipbuilding and ship repairing, freight forwarding, light-house facilities and training of naval staff.

6.2 India had a fleet of 1071 ships with 10.45 million GT as on March 2011 (Table 15). Of these, 722 ships (67 per cent) with 1.02 million GT (9.8 per cent) were engaged in coastal trade and the remaining 349 vessels with 9.43 million GT in overseas trade. Thus, the tonnage for overseas trade is 90 per cent of India's GT, compared to only 10 per cent of the tonnage used for the coastal trade. The Indian shipping tonnage was stagnant between 6 to 7 million GT till June 2004, but later increased to 10.45 million GT in March 2011. Figure 6 compares India's GT of ships with selected Southeast and East Asian countries.

Majority of the Indian tonnage was carried by the Shipping Corporation of India (SCI) with a share of 33.3 per cent (3.15 million GT with 83 ships).

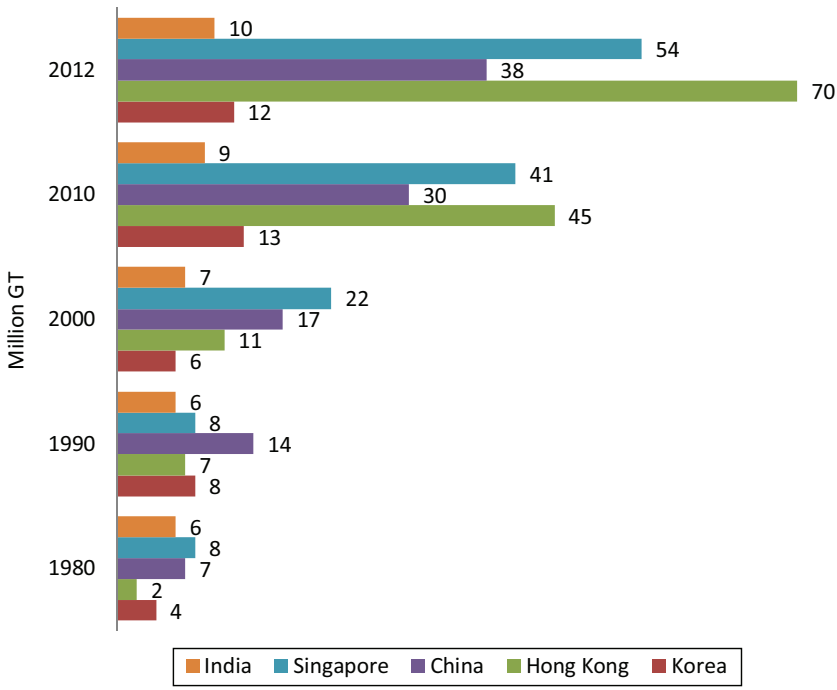
Table 15: Growth of Indian Shipping (as on March 2011)

Year	Coastal		Overseas		Total	
	Ships	G.T. (Million)	Ships	G.T. (Million)	Ships	G.T. (Million)
01-04-1971	66	0.23	184	2.21	250	2.44
01-04-1981	59	0.25	331	5.49	390	5.74
01-04-1991	163	0.52	255	5.52	418	6.04
01-04-2001	316	0.70	230	6.12	546	6.82
01-04-2010	678	1.00	327	8.69	1003	9.69
31-03-2011	722	1.02	349	9.43	1071	10.45

Source: Various Issues of Review of Maritime Transport, UNCTAD.

Figure 6: Gross Tonnage for Select Countries, 1980-2012

Source: Review of Maritime Transport (2012), UNCTAD.



6.3 Barring Lao PDR, the ASEAN countries and India have long coastline, dotted with many ports.[25] However, the structural gap in terms of maritime and shipping infrastructure is quite visible within ASEAN as well as between India and ASEAN. Within ASEAN, the CLMV countries rank far behind the other ASEAN countries and India in cargo volume and shipping tonnage (Table 16). Predominant ports in ASEAN are located in the developing parts of ASEAN and have been growing faster than those located in CLMV or Mekong subregion. In the containerised cargo segment, out of world's top 25 ports, seven ports come from ASEAN and one from India, among which Singapore Port with 31.65 million TEUs in 2012 (about 5 per cent share in world total) occupies the second position in the world. India's Jawaharlal Nehru Port with 4.26 million TEUs ranks 21st in the world (Table 17). Appendix 5 presents the port-wise container cargo volume, whereas Appendix 6 presents India's non-containerised cargo volume with ASEAN.

Table 16: Maritime Profile of ASEAN+4 Countries

Country	Coastline (km)	Number of Seaports	Number of Container Ports	Container Port Traffic, 2011 (Million TEUs)	Gross Tonnage of Shipping, 2010
Brunei	161	1	1	0.11	9
Cambodia	443	2	1	0.24	544
Indonesia	54716	154	9	9.04	1340
Malaysia	4675	25	12	19.91	315
Myanmar	1930	1	1	0.20	29
Philippines	36289	62	7	5.26	446
Singapore	193	1	1	30.73	1599
Thailand	3219	20	7	7.17	363
Vietnam	3444	15	6	6.32	579
China	14500	172	32	139.74	2030
India	7517	212	16	9.98	340
Japan	29751	292	40	18.89	684
Korea	2413	16	9	20.83	786

Source: Based on ASEAN Secretariat Statistics, available at http://www.asean.org/resources/category/asean-statistics (2014).

Table 17: Rank of ASEAN Ports by Container Volume, 2012

Rank	Port, Country	Volume (Million TEUs)	Share in World (%)
2	Singapore, Singapore	31.65	5.26
10	Port Kelang, Malaysia	10.01	1.66
14	Tanjung Pelepas, Malaysia	7.70	1.28
16	Laem Chabang, Thailand	5.93	0.99
17	Ho Chi Minh, Vietnam	5.19	0.86
21	Jawaharlal Nehru, India	4.26	0.71
22	Manila, Philippines	3.71	0.62
24	Tanjung Perak, Indonesia	2.85	0.47
	World total	601.77	

Source: RIS based on Containerization International Yearbook, 2013.

6.4 Major container ports in ASEAN are over-utilised; both Singapore and Port Klang have been running over 100 per cent of capacity.[26] To add capacity, ASEAN and India are building new container ports. Major container ports in ASEAN are adding container handling capacity to manage additional 100 million TEUs by end of the ongoing decade (Table 18). India is also developing container terminals at New Mangalore, Ennore, Tuticorin, Chennai and Jawaharlal Nehru ports.[27] Figure 7 shows product-wise capacity requirement at major and non-major ports of India. ASEAN-India maritime connectivity will be further strengthened with completion of the aforesaid projects.

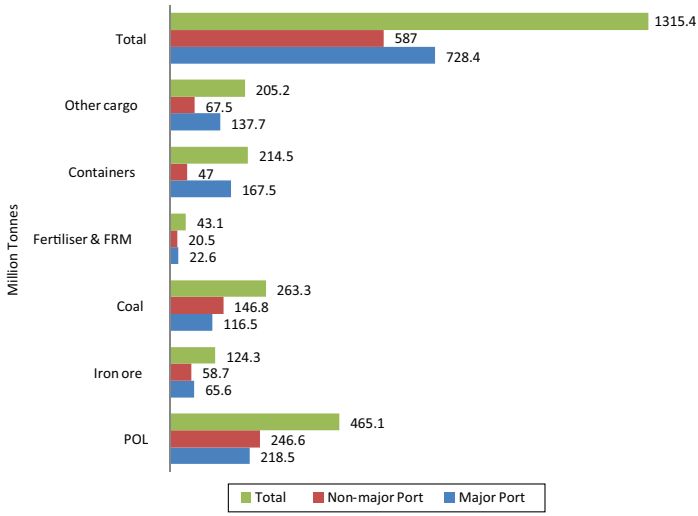
Table 18: Container Capacity Addition in Major ASEAN Ports*

Port	Country	Current traffic (million TEUs)	Current capacity (million TEUs)	Utilisation rate (%)	Capacity addition (million TEUs) 2013-18
Singapore	Singapore	29.9	29.9	100	55
Klang	Malaysia	9.5	8.0	119	10
Tanjung Pelepas	Malaysia	7.5	8.4	89	10
Tanjung Priok	Indonesia	5.7	5.9	97	18
Laem Chabang	Thailand	5.7	10.5	54	11

Note: *Includes projects which are ongoing and some are in the pre-construction phase.

Source: De (2012).

Figure 7: Capacity Required at Indian Ports, 2016-17



Source: Working Group Report on Ports and Shipping, NTDPC (2012).

6.5 Another striking development is the rise of container traffic in Vietnam. The recent economic progress of Vietnam is clearly matched by its rise in container cargo volume. From less than a million TEU in the middle of last decade, ports in Vietnam today handle more containerised cargo than that of India, Indonesia and the Philippines. Growing shipping market in ASEAN has attracted most of the prominent shipping lines of the world. Owing to large trade volume, most of the ASEAN container ports are now well connected with Chinese ports through many direct calls. In contrast, Indian ports have limited number of direct calls with ASEAN ports, except Singapore, Klang and Laem Chabang. In non-containerised segment, India's bulk cargo handling ports, both POL (petroleum, oil and lubricants) and bulk solid are connected with major seaports in East and Southeast Asia. Therefore, India's shipping links with non-traditional and emerging ASEAN ports have to be strengthened.

6.6 India's containerised trade with ASEAN countries has been growing, but at a slow pace. In 2011-12, India's containerised trade, both export and import, with most of the ASEAN countries decelerated mainly due to slow recovery of economies

in the aftermath of the global financial crisis. The sharpest fall was witnessed in case of India's two-way containerised trade with Indonesia during 2009-10 and 2011-12 (Table 19(a)). India's trade with China in value terms has exceeded US$ 60 billion 2012-13, and the same trend has been continuing in containerised trade. Today, India's bilateral containerised trade volume with China is estimated to be over 4 million TEUs, thereby indicating service of about 15 container vessels every week between the two countries (Table 19 (b)). This high volume ocean cargo between India and China passes through the Malacca Strait. Besides, cargo produced in India and destined for different locations in Southeast Asia typically moves through the transhipment hub located in Singapore, Tanjung Pelepas and Port Klang. Naturally, the dependency on the Strait of Malacca is high. This sea channel is very important for the world's shipping movement as it connects the growing regions of South Asia and Africa to the economies on the east. Therefore, maritime security is as critical as performance of ports to the growth of merchandise trade between India and Southeast and East Asia, and remains a key agenda of the ASEAN-India maritime cooperation.[28]

Table 19(a): India's Containerised Trade with ASEAN*

Country	2009-10	2010-11	2011-12
	(million TEUs)		
Indonesia	0.97	0.58	0.26
Malaysia#	0.50	0.51	0.47
Philippines	0.07	0.06	0.03
Singapore#	0.25	0.33	0.35
Thailand	0.40	0.48	0.41
Vietnam	0.29	0.31	0.26
China	2.47	3.46	4.14
Japan	0.35	0.76	0.72
Korea	0.33	0.46	0.32
Total above	5.64	6.93	6.96

Notes: *Estimated. #excluding transhipment cargo.

Source: RIS based on Ministry of Shipping, Government of India.

Table 19(b): Container Vessels Operating between India and ASEAN*

Country	Vessels per Week		
	2009-10	2010-11	2011-12
Indonesia	4	2	1
Malaysia#	2	2	2
Philippines	0	0	0
Singapore#	1	1	1
Thailand	1	2	2
Vietnam	1	1	1
China	9	13	15
Japan	1	3	3
Korea	1	2	1
Total	21	26	26

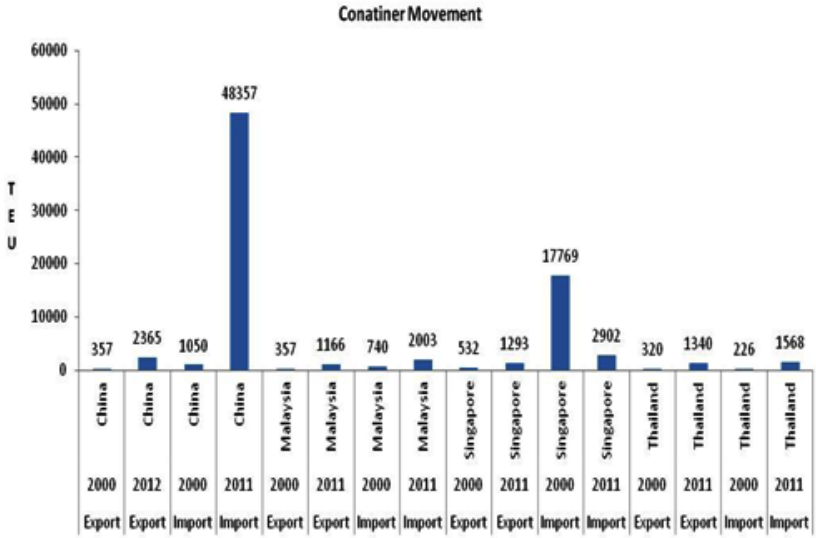
Notes: *Estimated. #excluding transhipment cargo.

Source: RIS based on the Ministry of Shipping, Government of India.

6.7 The need for stronger maritime connectivity goes up when we consider trade in parts and components among India, ASEAN and China. India's exports and imports of parts and components have witnessed moderate rise in the last decade. Presently, India's imports of parts and components share over half of total bilateral imports from countries like Japan, Philippines and Vietnam, and have been also growing faster than the total bilateral imports. In particular, India's imports of parts and components from Southeast Asian countries have gone up substantially. Volume-wise export of parts and components also resonates this. Notwithstanding above, the trend shows emerging production networks, sharing or fragmentation. Illustrated in Figure 8, India's imports of parts and components from China have seen a massive growth, compared to 2000, whereas an opposite trend has been witnessed in case of India's trade with Singapore. This normal trend has been witnessed, barring India's export to Malaysia and India's import from Thailand. It also calls for an appropriate transportation planning and connectivity to deal with the trade in high value products. In case of India's trade in parts and components with Singapore, air transportation would be more effective than overland. Therefore, for moving

trade through land and sea, the multimodal transportation would be economically advantageous.

Figure 8: India's Parts and Components Trade with ASEAN Countries and China

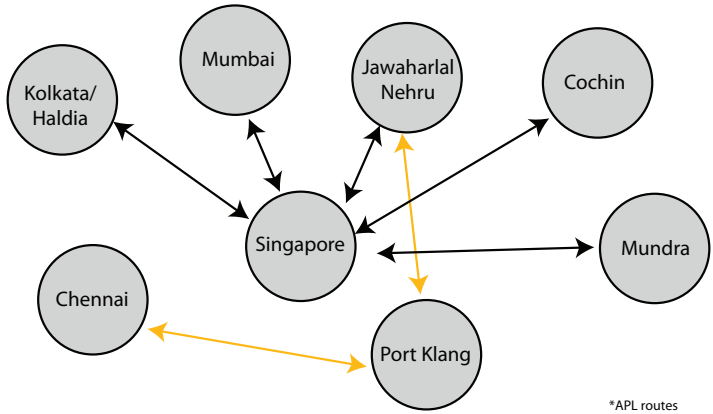


Source: De (2014).

6.8 Presently, the liner shipping between major ports of India and ASEAN follows 'hub and spoke' model (Exhibit 1). Singapore and Port Klang are the two hub ports in ASEAN. Besides direct calls, these two ports also have feeder services with ports in India and South Asia. Map 1 presents current maritime networks between ports of ASEAN and India. Presently, private liner service (Maersk) takes about 19 days from Chennai port to Shanghai port (Exhibit 2). Most of the foreign lines connect Indian ports with Singapore or Port Klang through direct call, whereas the further voyage inland is being done through feeder services, which often take relatively higher number of days. Shipping Corporation of India (SCI) has weekly direct service from India's west coast to central China, Korea, Hong Kong, Singapore and Malaysia, operated with five vessels of 2700-2900 TEUs, on a round voyage schedule of 35 days

(Box 1). Table 20 shows the number of container shipping carriers currently serving Indian ports and ASEAN countries.

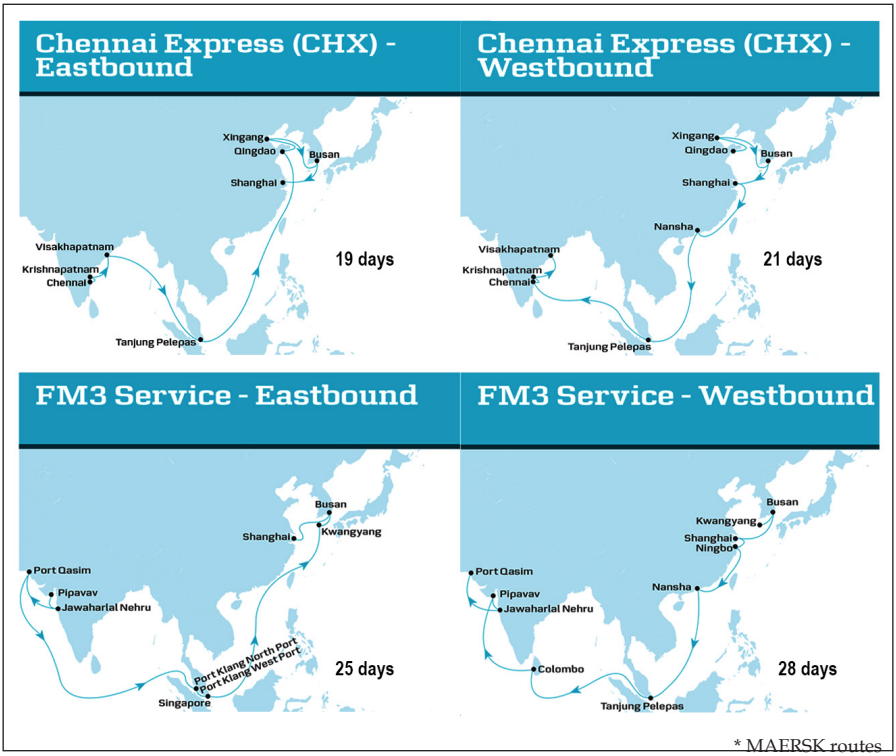
Exhibit 1: Liner Shipping Network between ASEAN and India



Source: De (2012).

Map 1: Maritime Routes (Container) between India and ASEAN

Exhibit 2: Port Rotation between India and Southeast and East Asia



Source: De (2012).

Box 1: Shipping Corporation of India's 'India/Far East' Cellular Service

INDFEX 1 Service

This is a weekly direct service from India's West Coast to Central China, Korea, Hong Kong, Singapore and Malaysia, operated with five vessels of 2700-2900 TEUs, on a round voyage schedule of 35 days. The four Vessel Operating Partners are the SCI, PIL, K Line and Wan Hai, with one vessel each. The fifth vessel is a shared vessel by all the partners. The vessel deployed by the SCI is of 2700 TEU capacity and the average weekly allocation for the SCI is about 650 TEUs. Port rotation for this service is as follows: Shanghai-Ningbo-Hong Kong-Singapore-Port Klang-Nhava Sheva-Colombo-Singapore-Shanghai.

CIX-2 Service

This is a weekly direct service from North China to India's West Coast with the following ports of call: Xingang-Qingdao-Laem Chabang-Singapore-Tanjung Pelepas-Port Kelang (North Port)-Port Kelang (West Port)-Nhava Sheva-Colombo-Port Kelang (North Port)-Port Kelang (West Port)-Singapore-Tanjung Pelepas.

Source: Shipping Corporation of India, Mumbai.

Table 20: Container Liner Service between India and ASEAN+3*

ASEAN+3/ Indian Ports	Chennai	Cochin	Haldia	Nhava Sheva	Kolkata	Mumbai	Mundra	Pipavav	Visakhapatnam	Tuticorin
Brunei Darussalam	1	0	0	2	1	1	1	0	1	0
Cambodia	2	0	1	2	1	1	1	1	1	0
China	8	4	4	21	5	1	15	11	4	4
Indonesia	8	3	4	14	5	1	13	7	4	3
Japan	8	4	4	19	5	1	12	10	4	4
Korea	8	4	4	17	5	1	12	10	4	4
Malaysia	7	4	4	15	5	1	12	9	3	4
Myanmar	2	0	1	2	1	1	1	1	1	0
Philippines	5	2	3	9	4	1	7	6	2	1
Singapore	8	4	4	21	5	1	14	11	4	4
Thailand	6	2	3	15	4	1	15	8	4	3
Vietnam	7	3	4	14	5	1	15	8	4	3

Note: *As of March 2014.

Source: Based on http://www.worldportsource.com/

6.9 Well connected ports along with efficiency of shipping services are the major catalysts to greater maritime connectivity between ASEAN and India. Today, only a few ports of India and ASEAN are directly connected by shipping lines. A large number of ports in India and ASEAN are yet to be connected. Transportation costs and time go up substantially, when we ship our cargo through feeder routes to reach ports in Cambodia, Indonesia, Malaysia, Myanmar, Thailand and Vietnam, with which India's trade has been growing fast. We have to build an alternate shipping route as the existing route through Malacca Strait is heavily congested and relatively unsafe. Economic corridor-based multi-modal connectivity such as *Mekong-India Economic Corridor* may be promoted, which is designed to connect Indian coast with unexplored Southeast Asian coast and beyond, at a shorter time and lesser cost.

6.10 Over the years, there has been a sharp decline in the share of Indian ships in the carriage of India's overseas trade. Given the relatively low participation of Indian ships in India's trade with Southeast and East Asia and given the fact that Indian ships are ageing, there is an urgent need to increase the shipping fleet so that it is at least large enough to meet India's trade volumes with ASEAN and beyond. Strengthening Indian fleet with cheaper, adequate and easier access to finance is also very important. Some ASEAN and EAS countries such as Singapore have resources to meet India's ocean shipping requirement. Deeper maritime cooperation with ASEAN could be an alternate feasible source for India to strengthen shipping assets.

6.11 Potential sites for mega ports should be based on detailed technical analysis. However, limited commercial analysis by the National Transport Development Policy Committee (NTDPC) suggests some possible locations (Gujarat being the main area) based on expected port traffic of POL and coal in next two decades. According to NTDPC Report, a possible location is on southern end of the Maharashtra coast, which could be used to serve Goa and Karnataka. Orissa, Andhra Pradesh and Tamil Nadu are potential states for the mega ports on the east coast.

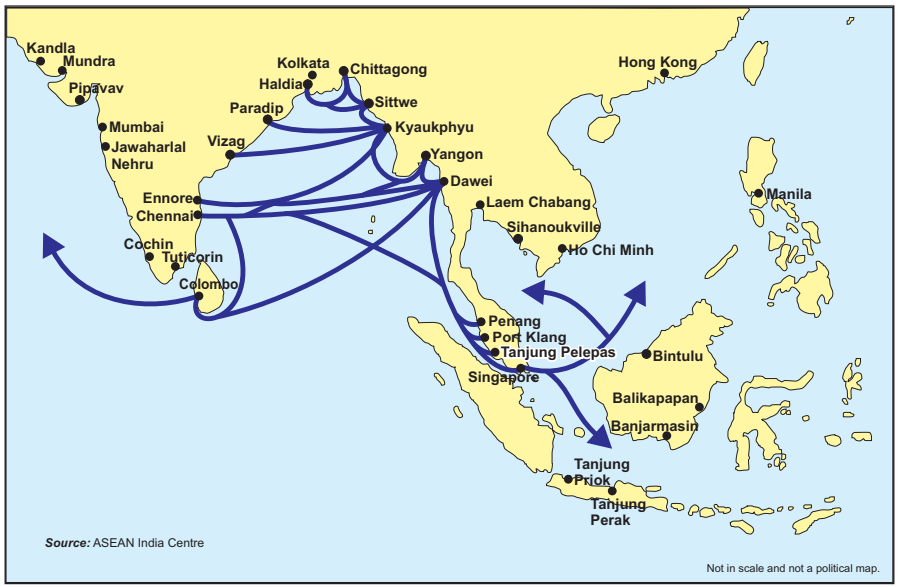
6.12 A key reason to develop a mega port on the east coast is to link the growing markets of ASEAN, India and East Asia. ASEAN is one of the most important regions in the world trade, but its economic relationship with India is still limited. Main obstacle is high transport costs across the borders, which can be attributed to inadequate infrastructure for physical connectivity. Greater connectivity can help both sides to unlock the economic potentials and provide more economic opportunities for less developed areas like North East India. Earlier, ASEAN-India trade was primarily conducted through sea routes, while land transport connected large urban centres. Currently, an integrated transport system at the regional level is essential to boost connectivity. Comprehensive Asia Development Plan (CADP) recommends a strategy to improve a multi-modal, multi-function and multi-

tier approach for ASEAN-India connectivity. Following two main routes were proposed to improve ASEAN-India physical connectivity:

- Sea route along the Mekong-India Economic Corridor (MIEC); central to the project is development of Dawei port in Myanmar
- Land route along the Trilateral Highway (TH)/Asian Highway (AH1) connecting Thailand, Myanmar and India

6.13 A strategic mega port on the Indian east coast along MIEC should aim to benefit from emerging free trade areas. Some of the existing ports in the east coast having deeper drafts (suitable for mega port development) are Gangavaram (Andhra Pradesh), Paradip (Orissa), and Ennore (Tamil Nadu). Site selection for locating mega ports requires data on all types of port traffic (containers and other cargo) and cost of candidate ports development. Further, detailed modelling is required to examine costs and benefits of various alternates from the potential sites.

Map 2: Proposed Shipping Routes (Container) between ASEAN and India's East Coast



6.14 Reliable connectivity through container lines is crucial for growth of trade in manufacturing goods. Apart from Thailand's Laem Chabang port and ports of Malaysia and Singapore, there is no direct connection between India and the ASEAN. Commercial pressure and increase in vessel size over time poses a challenge to direct connection between India and the ASEAN.

6.15 The likely scenario of new shipping routes is very difficult to predict since liner shipping industry has been going under a huge transformation. However, between ASEAN and India, there will be several services in the Bay of Bengal and between the ports in India's east coast and ASEAN's west coast. Map 2 illustrates the proposed new shipping routes.

6.16 Finally, India's merchandise trade with ASEAN has been carried out mainly through maritime routes, and challenges to the maritime connectivity have also increased manifold along with the rise in trade. Maritime transport cooperation is, therefore, one of the major areas for the promotion of relations between India and Southeast and East Asia. Understanding the emerging challenges that Indian ports and shipping services have been facing with ASEAN would help us not only in identifying the requisite policy actions, but also in building a strategy to enhance ASEAN-India maritime cooperation.

7 Challenges to Maritime Connectivity

7.1 One of the major barriers to the expansion of trade between India and ASEAN is the high cost of moving goods across the borders. Improved maritime connectivity would reduce trade costs, raise competitiveness and trade flows, expand markets, reduce poverty, and increase country's welfare. The challenges to ASEAN-India maritime connectivity include, to mention a few, shortage of port capacity, very few direct calls, high port handling charges, lack of skilled human resources, and absence of an institutional mechanism. In particular, the port facilities in some countries are well equipped with technical and electronic equipment, whereas, in many countries of the region, ports still belong to the ancient period and are far away from automation and modernisation.[29] Therefore, to create a functional single market, it is necessary to overcome the missing links in transportation, the lack of interoperability, and infrastructure gaps reducing the efficiency and weakening the global competitiveness of ASEAN and India.

7.2 There is a wide variation in shipping network within ASEAN and also between ASEAN and India. UNCTAD's Liner Shipping

Connectivity Index (LSCI)captures how well countries are connected to the global shipping networks (Table 21).[30] China is well connected with the world, compared to other countries in the region; Singapore and Korea come next. However, six ASEAN countries, namely, Myanmar, Indonesia, Cambodia, Brunei, Philippines and Thailand, have a wide gap with Singapore and Malaysia. Philippines is the only country in ASEAN, which has witnessed a fall in liner shipping network in 2013, compared to previous years. India has been hovering in the middle portion in LSCI, but is much better off than seven ASEAN countries. It is a big challenge for ASEAN to narrow intra-ASEAN gap in liner shipping connectivity.

Table 21: Trends in Liner Shipping Connectivity Index

Year	2013	2008	2004
Brunei	4.61	3.68	3.91
Cambodia	5.34	3.47	3.89
Indonesia	27.41	24.85	25.88
Malaysia	98.18	77.6	62.83
Myanmar	6.00	3.63	3.12
Philippines	18.11	30.26	15.45
Singapore	106.91	94.47	81.87
Thailand	38.32	36.48	31.01
Vietnam	43.26	18.73	12.86
China	157.51	137.38	100
India	44.35	42.18	34.14
Japan	65.68	66.63	69.15
Korea	100.42	76.4	68.68

Source: UNCTAD statistics, available at http://unctadstat.unctad.org/

7.3 Transportation services are important components of trade in services. This has significant influence on competitiveness of a country's export trade, price levels of imported goods and, therefore, on the economic welfare of the country. The fruitful integration of a county in the process of globalisation requires a competitive transportation services sector. In case

of India, sea transportation is the main vehicle through which international trade is conducted. However, there seems to be oligopolistic trends in port services privatisation and this affects the capacity utilisation and costs of port services. Further, an integrated policy involving manufacturing and port facilities is still lacking, which prevents exploitation of scale economies in these services.

7.4 India is a net importer of transportation services. Disaggregating freight transportation services tells us about India's huge import of other sea transport services (US$ 35.75 billion in 2012 in Table 22), thereby contributing to the transportation services deficit.[31] In a growing economy like India, international merchandise trade heavily relies on foreign vessels for transportation across the world, thus generating a payment of almost 59 per cent of import of transportation services in 2012. India has been earning from sea freight transportation at an increasing pace. For example, India's export in the sea freight transportation was about US$ 7.22 billion in 2012, up from US$ 1.53 billion in 2001. In a static sense, the voluminous deficit in the sea freight transportation services weakens India's maritime position.

Table 22: Trends in Sea Transportation Services Trade in India

Year		2000		2005		2012	
		Value (US$ million)	Share (%)	Value (US$ million)	Share (%)	Value (US$ million)	Share (%)
Sea Transport Freight	Export	1534.01	77.53	4244.64	73.77	7218.39	41.23
	Import	6285.20	72.22	13759.80	66.54	6878.29	11.37
Other Sea Transport	Export	158.88	8.03	995.50	17.30	2726.02	15.57
	Import	1202.66	13.82	2252.73	10.89	35754.60	59.13
Transportation	Export	1978.71		5754.08		17506.70	100.00
	Import	8703.16		20677.60		60471.30	100.00

Source: Based on IMF's Balance of Payments Statistics (BOPS) (2014).

7.5 The terminal handling charges of some ASEAN container ports appeared to be higher than that of Indian ports (Table 23). Port of Singapore takes an average US$ 200 per TEU to handle an export container and US$ 250 per TEU for an import container. While efficiency of Singapore port is unparallel in the region, higher handling charges often negate the benefits of geographical links and trade liberalisation initiatives.

Table 23: Terminal Handling Charges of Selected Container Ports of ASEAN and India, 2012

Port	Export		Import	
	TEU	FEU	TEU	FEU
Singapore-COC	141.96	210.60	141.96	210.60
Singapore-SOC- TP	89.70	136.50	89.70	136.50
Singapore-SOC-TP-OOG	273.00	409.50	273.00	409.50
Singapore-SOC-Local- LADEN	117.00	167.70	117.00	167.70
Singapore-SOC-Local- MTY	62.40	92.04	62.40	92.04
Singapore-SOC-Local- OOG	339.30	507.00	339.30	507.00
Singapore-SOC-Local- DG	179.40	257.40	179.40	257.40
Port Klang	100.50	150.00	100.50	150.00
Penang	100.50	150.00	100.50	150.00
Pasir Gudang	88.50	132.00	88.50	132.00
Thailand	78.00	117.00	78.00	117.00
Philippines	104.00	138.00	104.00	138.00
Philippines		155.00		155.00
Jakarta	95.00	145.00	95.00	145.00
Surabaya	95.00	145.00	95.00	145.00
Semarang	95.00	145.00	95.00	145.00
Vietnam	76.92	115.90	76.92	115.90
Jawaharlal Nehru	76.80	120.00	69.68	106.48
Chennai	67.60	101.27	67.60	101.27
Mundra	76.08	112.00	77.28	113.92
Tuticorin	50.08	70.64	50.08	70.64
Cochin	79.28	113.54	79.28	113.54

Notes: Above rates for Indian ports are excluding services taxes. TEU - Twenty Equivalent Unit. FEU - Forty Equivalent Unit.

Source: Based on rates available from the Shipping Corporation of India.

7.6 Due to inadequate cargo availability and maintaining the time bound movement of cargo, major container shipping lines prefer not to call directly; rather they prefer to serve the ports located at the Bay of Bengal through their feeder alliances connected to the transhipment hubs. There is need to connect ports in Myanmar, Thailand and Vietnam with Indian ports with regular shipping services. We also have to attract more feeder operators to link Indian ports such as Paradip, Vizag, Kolkata and Haldia with ASEAN countries.

7.7 The age structure of Indian vessels shows the over-aged profile of the Indian fleet. More than 40 per cent of the fleet is above 20 years of age, and about 21 per cent in the age group of below 5 years (Table 24). In contrast, age profile of the world fleet (as per the Review of Maritime Transport 2010) reflects that more than 50 per cent of the global tonnage was less than nine years of age. The age profile of world shipping fleet is younger than the age profile of Indian shipping fleet, hence leading to higher efficiency and productivity of the tonnage.

Table 24: Age Composition of Indian Shipping Fleet

Category	0-5 years	6-10 years	11-15 years	16-20 years	Above 20 years	Total
Coastal	131(18.1)	76(10.5)	100(13.9)	84(11.6)	331(45.8)	722
Overseas	93(26.6)	39(11.1)	33(9.5)	54(15.5)	130(37.3)	349

Note: Data in parentheses are respective share in total.

Source: Report of the Working Group on Ports and Shipping for the National Transport Development Policy Committee, Ministry of Shipping (2012).

7.8 Composition of tonnage of merchant fleet for India shows overwhelming share of oil tankers (55 per cent), followed by bulk carriers (26 per cent), with container ships accounting for mere 3 per cent share in the total tonnage. In contrast, the tonnage composition of China reflects 44 per cent in bulk carriers, followed by 18 per cent in oil tankers and about 15 per cent in container ships. The composition of world tonnage shows 29 per cent share of bulk carriers, 28 per cent share in oil tankers and 17 per cent share in container ships (Table 25).

Table 25: Composition of Merchant Fleet, 2010

(Thousand GT)

Country	Bulk carrier	Container	General cargo	Oil tankers	Others	Total
India	2377 (26.3)	254 (2.8)	322 (3.6)	4972 (55.1)	1102 (12.2)	9027
China	13315 (44.3)	4393 (14.6)	4702 (15.6)	5446 (18.1)	2221 (7.4)	30077
Hong Kong	22366 (49.3)	8745 (19.3)	2742 (6.0)	10315 (22.8)	1170 (2.6)	45338
Korea	7864 (61.0)	688 (5.3)	1334 (10.3)	1374 (10.7)	1633 (12.7)	12893 (100.0)
Malaysia	290 (3.8)	703 (9.1)	496 (6.4)	2938 (38.1)	3292 (42.6)	7719
Developing countries	69345 (32.2)	28306 (13.1)	31834 (14.8)	59476 (27.6)	26459 (12.3)	215420 (100.0)
Developed	27590 (15.3)	39408 (21.8)	23701 (13.1)	50674 (28.0)	39406 (21.8)	180779
Open Res.	154404 (32.9)	77515 (16.5)	46209 (9.8)	137688 (29.3)	54000 (11.5)	469816 (100.0)
World	253191 (28.7)	145544 (16.5)	107591 (12.2)	250999 (28.4)	125310 (14.2)	882635

Note: Number in parentheses is respective share in the total.

Source: Review of Maritime Transport, UNCTAD (2010).

7.9 India is amongst the few nations, which has not experienced "flagging out" or migration to flags of convenience or open registries. In India, the share of foreign flags in its total fleet as on 2010 is around 17 per cent, compared to 92 per cent for Japan, 61 per cent for China, 58 per cent for Korea, 87 per cent for Taiwan and 29 per cent for Malaysia (UNCTAD 2010). The share of Indian registered ships in conveyance of India's overseas merchandise trade has fallen to around 8 per cent.

8 Strengthening ASEAN-India Maritime Connectivity: List of Recommendations

Strengthening National Policy

8.1 Apart from investments in capacity addition and efficiency improvement, the Government of India shall envisage certain policy related improvements such as setting up a specialised maritime finance corporation to acquire overseas maritime assets, build bigger ports to accommodate over 15,000 TEUs container vessel, etc.

Allowing Short Sea Shipping in Limited Scale

8.2 Allowing coastal shipping (Short Sea Shipping) in Bay of Bengal would perhaps help ASEAN LDCs to increase their market access in India and vice versa. The coastal trade agreement signed by Bangladesh and Myanmar in 2012 may be converted into a regional agreement with participation of India and Thailand to start with. Institutional links between ports and the shipping community, regional (and bilateral) short sea shipping, and training and capacity building may pave the way for stronger maritime links within the region and beyond.

Removal of Customs Duty

8.3 Removal of customs duty on marine fuel for vessels carrying cargo for transhipment may attract bigger container ships to serve Indian coast. In conventional wisdom, the benefit to the

economy from such duty reduction would be manifold. India levies about 25 to 30 per cent customs duty on bunker, or marine fuel. Removing the duty would attract bigger container vessels to Indian coasts. At present, such mainline carriers often berth at Colombo or Singapore and use smaller feeder vessels to carry cargo from and to India. There will be revenue loss for such reduction in duty but it would facilitate investment in shipping industry, generate employment and reduce transaction time and cost. Ultimately, this would lead to transhipment trade in India without even changing the cabotage (coastal movement) rules that restrict the movement of foreign vessels on coastal routes. India's containerised export to ASEAN and East Asia may benefit from such duty reduction.

Seafarer's Taxation

8.4 Indian sailors in foreign or Indian ships operating outside Indian territorial waters for 182 days or more in a year are entitled for non-residence status and tax exemption. This does not apply to officers and seamen on coastal vessels. Similarly, Indian and foreign sailors in Indian territorial waters for 182 days or more are treated as Indian resident and subject to income tax. Sailors' income is exempt from personal taxation in some countries of ASEAN (Malaysia, Philippines, Singapore and Thailand). Ship-owners have the right to withhold certain percentage of income tax and social security payment of sailors as an incentive to recruit European seafarers by offsetting part of the high wage payment in some European countries. Labour is a factor of production and seafarers income could face a lower fixed/flat tax regardless of their residential status (work inside or outside Indian territorial waters). Such a tax will reduce the attraction of foreign flag and help coastal shipping.

Incentives for Coastal Shipping

8.5 Fiscal incentive may be provided to consignors who shift cargo from road and rail for coastal shipping. Given the need for competition and growth in containerisation and current inadequacy of Indian coastal fleet, some relaxations in cabotage

policy might be needed till coastal shipping grows sufficiently. More desirable cabotage policy might be imposed after a certain growth in national tonnage and achievement of desired outcomes.

Increase Vessel Capacity

8.6 According to UNCTAD, there is a clear indication that global container trade is becoming consolidated. Despite a 200 per cent increase in global container volume, number of services operated and number of service providers reduced by 20 per cent during 2004-13. Therefore, it is necessary to develop sufficient vessel capacity and ability to control freight within India.

8.7 For Break Bulk and Over Dimensional cargo, opportunities for long-term COA should be explored to assist member countries for increasing ship tonnage. For Dry Bulk and Liquid Bulk cargoes, governments should be made to support their own tonnage under mutually beneficial terms. Such agreements will be designed to assist shipping companies for the acquisition of tonnage with employment guarantee at minimal margins and commitment to trade. A small portion of the current trade volume could be identified for such an agreement. Coal and iron ore constitute significant portion of Dry Bulk trade. Coal is imported in large quantities from Indonesia. Iron ore is exported to China and Japan. There is opportunity for a large number of packets of these two commodities in India-ASEAN trade, if ASEAN+6 is able to work out arrangements on multiple routes and secure the supply chain.

8.8 Unlike container business, comparatively modest growth of large Dry Bulk world trade will help owners and charterers to achieve a win-win formula for long-term agreement of mutual benefit. ASEAN countries having more exports in commodity trade should proactively find all ways to use delivery services of Indian companies for over all trade balance. Large networks of feeder services in the ASEAN region offer the opportunity for growth in Indian tonnage. Specialised vessels for carrying project

cargoes are not present in India. These ships are high revenues earner, but provide irregular employment opportunities. Associated high cost of capital has been recovered only in few trips.

Signing MRAs with ASEAN

8.9 Countries may consider signing of Mutual Recognition Agreement (MRA) in shipping and logistics services once the ASEAN-India Services Trade Agreement is sealed. Deeper cooperation can surely play an important role to sign the MRAs in shipping sector between India and ASEAN.

Joining ASEAN Ro-Ro and Cruise Network, and Promoting Tourism

8.10 As explicitly stated in the Master Plan on ASEAN Connectivity, ASEAN puts an emphasis on stronger connectivity with neighbouring countries, including India and other EAS countries.[32] Connecting the archipelagic regions of ASEAN requires efficient and reliable shipping routes in order to enhance intra-ASEAN connectivity. The results of the initial impact assessment of the Philippines Nautical Highway (also referred to as Roll-on/Roll-off (RoRo)) System demonstrate significant benefits in terms of reduction in transport costs, the creation of new regional links and expansion of regional markets, more efficient shipment of goods and people that have particularly benefited the poorer provinces in the maritime routes, acceleration of local area development, realignment of logistical practices with more frequent deliveries, and greater competitive pressure on the domestic shipping industry. ASEAN has been planning to develop cruise corridors. India may join ASEAN's Ro-Ro sector and also cruise segment for bringing the two coasts closer to each other. This will also boost the tourism industry.

8.11 ASEAN and India may also decide the possibility of developing Ro-Ro terminal in CLMV coast along MIEC and also in Indian coast in joint venture.

Connecting to ASEAN Single Shipping Market

8.12 ASEAN is contemplating single shipping market. ASEAN has adopted policies to support privatisation/commercialisation of port operation, support simplification and harmonisation of port documentation and enhance the capacity of the 47 designated ports. India may explore joining the shipping market. India may finalise the strategy for joining the ASEAN single shipping market and develop the relevant framework for its implementation. Bringing ASEAN+3 and ASEAN+6 under one platform will enable use of larger container ships for connecting India and the ASEAN+5 countries with other direct services. However, proactive approach should be followed to incentivise direct sailing services. Alternatively, feeder network can be managed by promoting of India and the ASEAN flag vessels by all member countries.

Cooperation for Improving Efficiency of Ports

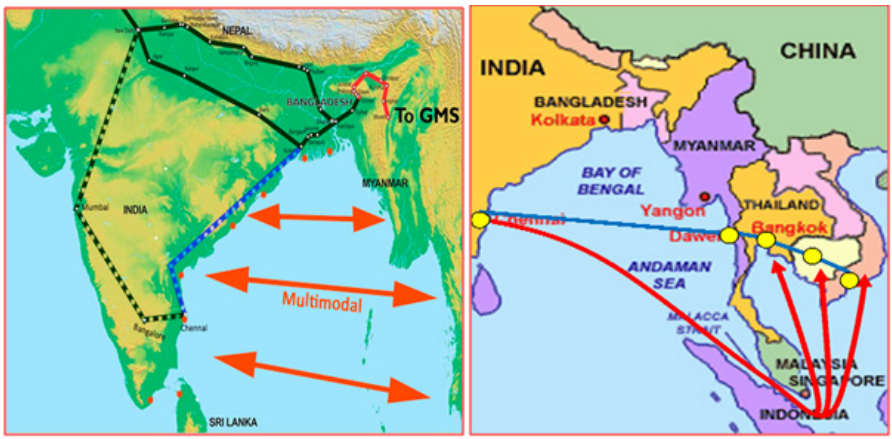
8.13 Proposed connectivity between ASEAN and India would throw many challenges for its development. The link would open considerable avenues and opportunities for trade between the regions. Indian ports are heading for a better future with growing international trade. Thus, operational efficiency of the ports have to be competitive and on par with the best ports in the world. Modern cargo handling equipments must be introduced to improve port performance. Efforts must be made to enhance the quality of service and productivity. In this regard, greater economic and/or commercial cooperation is desired from the ASEAN countries that have technological expertise on ports and shipping (e.g. Singapore).

Establish an Integrated Multimodal Transport System

8.14 The long coast of Myanmar provides closest and most direct point of maritime connection between India and Southeast Asia, across the Bay of Bengal. Consequently, developing infrastructure along the coast of Myanmar presents a major opportunity for

connecting India to the rest of Southeast Asia through Myanmar. Acting as a crucial intermediary between these two hubs will also enable Myanmar's port-cities to develop and prosper, thereby narrowing the regional development gaps.[33] India is rebuilding port at Sittwe in Myanmar under the Kaladan Multi-modal Transit Transport project. India may also explore developing of the Dawei port and SEZ project in Myanmar in JV. As illustrated in Exhibit 3, the Mekong-India Economic Corridor (MIEC) involves integrating the four Mekong countries (Myanmar, Thailand, Cambodia and Vietnam) with India. It connects Ho Chi Minh City (Vietnam) with Dawei (Myanmar) via Bangkok (Thailand) and Phnom Penh (Cambodia) and further linking to Chennai in India. Due to the strategic location of the city on the Southeast coast of Myanmar, a deep sea port would have the potential to open up new shipping routes to India, the Middle East and Europe, as well as reduce shipping congestion in the Malacca Strait.

Exhibit 3: Map of MIEC



Source: ADB.

Building Chennai and Ennore as Gateway Ports

8.15 Enhancing maritime connectivity between India and ASEAN is a multifaceted task that requires implementing strong policy initiatives. Development of this connectivity would open

significant opportunities for industrial development in India and its trade potential with Southeast and East Asian countries. This connectivity would link the Chennai region to the rest of the world through its maritime infrastructure. Thus, Chennai and Ennore have great potential to become the gateway ports for India, providing centre of business activities with industrial clusters and working as engine to promote regional economic growth.

Promoting Myanmar as 'Landfall' Port

8.16 The cooperation with Myanmar could be in two functional areas – one being financial and the other being technical. Financial support in form of soft loan or infrastructural credit could be offered to Myanmar, Cambodia and Vietnam to build transportation infrastructure. The other form of cooperation is to make India's presence in the region and build the port infrastructure. This may include capital dredging, berth creation, crane installation and other such infrastructural development.

Building a Stronger Ocean Shipping Network

8.17 Being on the main east-west trade lane, Indian ports (especially on the west coast) are directly connected with the countries in Southeast Asia through the transhipment hubs discussed above. However, direct ocean connectivity through mainline service hardly exists between India and its eastern neighbours. Due to inadequate cargo availability and maintaining the time bound movement of cargo, major container shipping lines prefer not to call directly. Instead, they prefer to serve the ports in Bay of Bengal through their feeder alliances connected to the transhipment hubs. Initiating mainline calls in the Bay of Bengal will go long way in instilling confidence in the shippers and traders in east coast of India, Bangladesh and Myanmar, besides acting as a stepping stone in the area of mutual cooperation in maritime transportation. State-owned shipping lines like the Shipping Corporation of India (SCI) shall make the first move in this regard.

Allowing Indian Companies to Own and Register Vessels in ASEAN

8.18 Indian companies may be allowed to own ASEAN vessels subject to some conditions. This will increase the tonnage under Indian control. This will also ensure that the vessels are Indian-owned, employment and increase training slots for Indian seafarers. Vessels may serve the coasts of India and Southeast and East Asia.

Financial Incentive to Raise Fleet Capacity

8.19 The Indian shipping industry has raised various taxation issues which impact the competitiveness of Indian shipping. Despite the introduction of the tonnage tax in India in April 2004, the average tax rate paid as a percentage of profit is much higher in the case of Indian companies compared to companies operating in Singapore.[34] Rationalisation of tax structure may likely to help Indian shipping companies to strengthen fleet capacity, thereby strengthening the maritime connectivity.

ASEAN-India Comprehensive Trade Facilitation Mechanism

8.20 Simple, transparent, harmonised and standardised trade and customs, processes, procedures and related information flows are expected to reduce transaction costs between ASEAN and India, which will enhance trade competitiveness and facilitate the regional integration. India and other dialogue partners of ASEAN also need to align customs and trade services with that of ASEAN (e.g. Customs Single Window).

Stronger Coordination

8.21 Regional connectivity has made progresses within different regional frameworks in recent past and ASEAN's dialogue partners are getting increasingly involved and contributed in their efforts in support of Master Plan of ASEAN Connectivity (MPAC). MPAC projects require US$ 600 billion worth of financing.[35] ASEAN Infrastructure Fund (AIF) is a potential source of financing and set to start commercial lending. At this

stage, five infrastructure projects, valued at US$ 150 million, have been approved. Additional resources are, therefore, required to support the connectivity projects, and the ASEAN acknowledges the important role of dialogue partners in achieving greater connectivity in ASEAN. ASEAN Secretariat and ASEAN Connectivity Coordinating Committee (ACCC) hope to achieve concrete outcomes from its engagement with a number of dialogue partners including India. Dialogue partners of ASEAN were requested by ACCC to share their experiences with connectivity projects and also to present their plans and proposals on involvements and contributions in support of MPAC. A stronger coordination between ASEAN Secretariat and Indian Ministry of External Affairs would be helpful in building connectivity.

Financing New Projects

8.22 The region needs to develop mechanisms for the financial intermediation between its large savings and its equally large investment needs. The region should encourage the use of PPPs for investment in maritime infrastructure and creation of a large regional infrastructure development fund to channel its foreign exchange reserves into much needed infrastructure investments. There are alternate sources, which can also be utilised to fund development of new projects.

Increase Development Assistance to CLMV in Maritime Connectivity

8.23 The cooperation in development of landside infrastructure is a crucial part of any ocean transportation linkage. Developing port infrastructure in Myanmar is a 'win-win' situation for all ASEAN countries and India since Myanmar has all the potential to provide an alternate gateway to the South China Sea.

Cooperation Between Private Sector Organisations

8.24 We should facilitate cooperation between private industry assocaitions. For example, Indian National Shipowners'

Association (INSA) and Federation of ASEAN Shipowners' Association (FASA) may consider signing MoU for promoting shipping activities between India and ASEAN. Similarly, Indian Ports Association (IPA) may sign MoU with ASEAN Ports Association (APA) to facilitate cooperation and development of ports between India and ASEAN. These MoUs would enhance collaborative projects within the region.

Signing ASEAN-India Maritime Transport Agreement

8.25 Finally, India may explore signing ASEAN-India Maritime Transport Agreement with ASEAN subject to ASEAN becoming a single port community and single shipping market.[36] This agreement will help both India and ASEAN to further cooperate and communicate with each other, eliminate barriers hindering maritime transport, and establish regional maritime transport framework system with the aim to promote maritime transport facilitation between ASEAN and India.

Endnotes

[1] For a detailed account of ASEAN-India maritime links, please visit https://www.aseanindia.com

[2] Refer, ASEAN-India Eminent Persons' Report to the Leaders, 2012, co-chaired by Amb. Shyam Saran and Dr. Kao Kim Hourn.

[3] Refer, for example, ASEAN–India Eminent Persons Group Report 2012, available at http://www.aseanindia.com

[4] Refer, Kumagai and Isono (2012), who used the IDE/ERIA Geographical Simulation Model to estimate impacts on the cumulative increase of GDP of countries in the two subregions from 2010 to 2030 relative to the base case for a number of connectivity projects, including the Mekong-India Economic Corridor (MIEC), the Kyaukphyu deep seaport in Myanmar, and the India-Myanmar-Thailand Trilateral Highway (IMTTH).

[5] Using a slightly different regional unit of analysis (ASEAN+3 and South Asia) estimates large gains (about US$ 260 billion, or 2 per cent GDP) from an East and South Asian free trade area, under conservative assumptions. Refer, for example, François, Rana, and Wignaraja (2009).

[6] Refer, Asian Development Bank (ADB)-Asian Development Bank Institute (ADBI) (2009).

[7] The Agreement has provided flexibilities to India and ASEAN countries to exclude some of the products from the tariff concessions or eliminations to address their respective domestic sensitivity. India on its part has excluded 489 items from the list of tariff concessions and 590 items from the list of tariff elimination to address sensitivities in agriculture, textiles, auto, chemicals, crude and refined palm oil, coffee, tea, pepper etc. ASEAN countries have also maintained similar exclusion list from the proposed tariff concessions or eliminations.

[8] Refer, Vision Statement, ASEAN-India Commemorative Summit 2012, available at http://www.aseanindia.com

[9] In the recent past, bilateral trade between ASEAN and India has grown at over 20 per cent annually. At this rate of growth (business as usual scenario), achieving US$ 200 billion trade by 2020 may not be beyond our reach, ceteris paribus. Refer, for example, RIS (2013).

[10] Estimated based on an augmented gravity model. Refer, De (2013)

[11] The RCEP is a Free Trade Agreement between ASEAN nations and ASEAN's FTA partners. The agreement is between 16 countries, which make up 45 per cent of world population and contribute 1/3rd of world's total GDP.

[12] Refer, for example, RIS (2013).

[13] Tariff equivalent of transaction cost across ASEAN countries are as high as 438 per cent in Myanmar (See Appendix 1).

[14] Appendix 2 illustrates major and intermediate ports of India

[15] Based on Update on Indian Port Sector (30 September 2013), Ministry of Shipping, New Delhi.

[16] For a detailed discussion on causality between port performance and port traffic, refer De (2009).

[17] About 95 per cent of India's trade by volume and 68 per cent in terms of value is transported by sea.

[18] As on 31 January 2013, India had a fleet strength of 1158 ships with GT of 10.45 million, with the public-sector Shipping Corporation of India having the largest share of 32.60 per cent. Of this, 356 ships with 9.37 million GT cater to India's overseas trade and the rest to coastal trade (Indian National Shipowners' Association (INSA), Mumbai).

[19] Refer, for example, INSA (2014).

[20] Refer, Economic Survey 2012-13, Government of India.

[21] Refer, Behera (2013).

[22] Forecast done by RIS based on standard log-linear OLS.

[23] According to Government of India (2013), up to January 2013, 22 projects have been awarded. These 22 projects involve a capacity addition of 97.34 Metric Tonne Per Annum (MTPA) and investment of Rs. 57.56 billion.

[24] Refer, Maritime Agenda 2010-20, Ministry of Shipping, Government of India, New Delhi.

[25] Appendix 4 presents major ports of ASEAN.

[26] Refer, for example, De (2012).

[27] For example, development of standalone container handling facility with a quay length of 330m North of NSICT and 4th container terminal. Refer, Government of India (2013).

[28] Incidence of piracy has been of great concern to the government. The Government has deployed naval vessels for assistance to merchant vessels in the piracy-affected areas, particularly off Somalia coast.

[29] Refer, for example, RIS (2012).

[30] It is computed by the United Nations Conference on Trade and Development (UNCTAD) based on five components of the maritime transport sector: number of ships, their container-carrying capacity, maximum vessel size, number of services, and number of companies that deploy container ships in a country's ports. For each component a country's value is divided by the maximum value of each component in 2004, the five components are averaged for each country, and the average is divided by the maximum average for 2004 and multiplied by 100. The index generates a value of 100 for the country with the highest average index in 2004. For further details, please refer UNCTAD (2013).

[31] Services that are auxiliary to transport and not directly provided for the movement of goods and persons. These services includes charges of loading and unloading containers, storage and warehousing, packing and repacking, cleaning performed in ports, salvage operations and agents' fees associated with passenger and freight transport (e.g., freight forwarding and brokerage services). For further details, please refer, IMF BOPS Manual.

[32] Refer, for example, ASEAN Secretariat (2012), Kimura and Umezaki (2012), etc.

[33] Refer, for example, Bridel (2012).

[34] According to INSA (2014)

[35] Refer, for example, speech of Mr. Adnan Jaafar, Dy. Permanent Secretary, Ministry of Foreign Affairs and Trade of Brunei Darussalam at the workshop on "Enhancing Connectivity through Multi-layered Regional Framework", held at Bangkok on 19 July 2013. Refer, RIS (2013).

[36] China had already signed maritime transport cooperation agreement with ASEAN in 2007.

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Appendices

Appendix 1: Tariff Equivalents of PCBs (%)*

Country	Food	Textile	Machinery	Automobile	Others
Indonesia	162.9	42.2	105.0	326.0	189.4
Malaysia	108.6	18.6	69.4	202.0	108.5
Philippines	127.9	27.1	82.2	244.5	136.3
Thailand	144.6	34.4	93.2	282.6	161.2
Bangladesh	184.7	51.3	118.9	379.5	223.9
Brunei	132.3	29.1	85.1	254.4	142.8
Cambodia	188.6	52.9	121.4	389.5	230.4
China	152.2	37.6	98.1	300.5	172.8
Hong Kong	123.4	25.2	79.3	234.3	129.7
India	204.5	59.5	131.4	430.1	256.5
Japan	91.7	11.0	58.0	166.2	84.8
Korea	97.6	13.7	62.0	178.6	93.0
Laos	185.9	51.8	119.7	382.6	225.9
Myanmar	207.9	60.9	133.5	438.9	262.1
Singapore	34.2	0.0	17.8	56.7	11.5
Vietnam	148.5	36.0	95.7	291.7	167.1

Note: *Quantifying Policy and Cultural Barriers (PCBs): Estimate of transport cost includes cost for transportation time, cost for transhipment time (holding time), physical transport cost, and physical transhipment cost. These costs are collectively called GSM transport cost. However, some important components of the broadly defined transport costs remain excluded from nth estimate. This comprises tariffs, non-tariff trade barriers (e.g. quota restriction), procedures before shipping, costs arising from political situations or some certain risks, cost arising from preference differences and cost arising from commercial custom differences. Those costs are called PCBs. Tariff equivalents of PCBs for ASEAN and India are provided as in Table.

Source: Adapted from Kumagai and Isono (2012).

Appendix 2: Major and Intermediate Ports of India

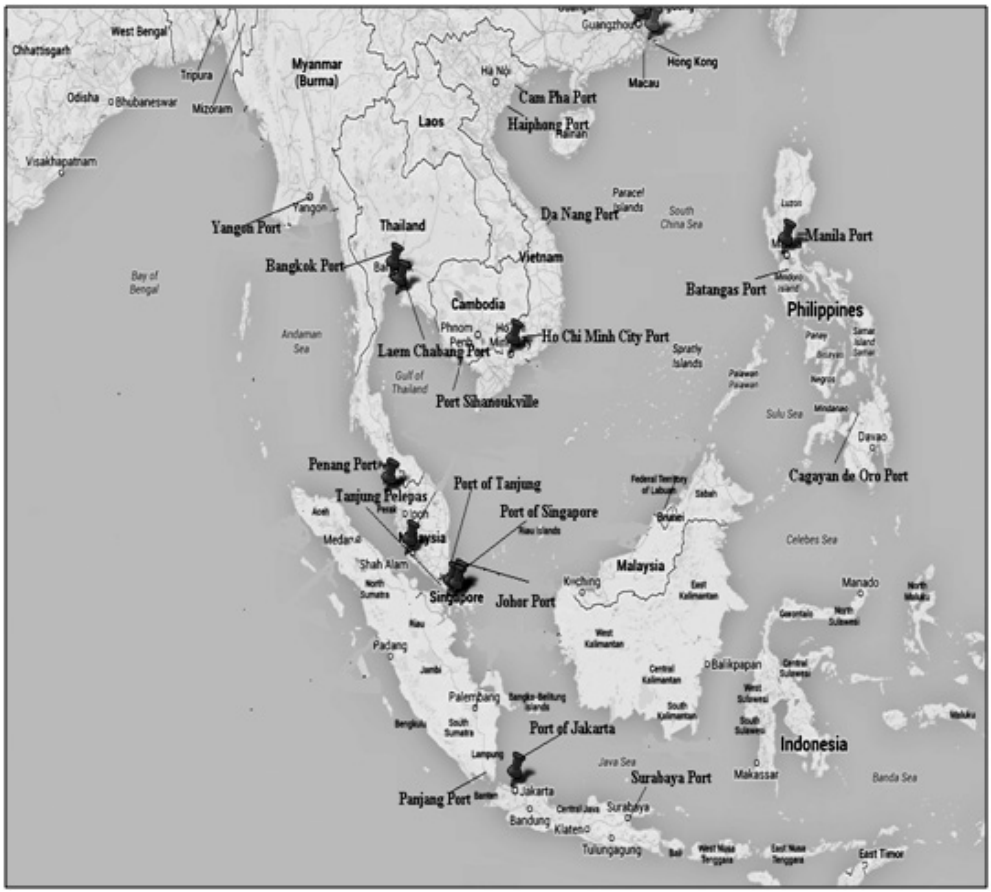
Source: Chennai Port Trust.

Appendix 3: Trends in Total Cargo Handled

Year	International (Overseas)			Domestic (Coastal)			Total		
	Import	Export	Total	Import	Export	Total	Import	Export	Total
	(Million Tonnes)								
Major Ports									
2000-01	127.2	66.2	193.4	51.55	36.18	87.73	178.75	102.38	281.13
2005-06	199.48	133.64	333.12	44.22	46.23	90.45	243.7	179.87	423.57
2011-12	306.76	147.56	454.56	55.98	49.89	105.53	362.74	197.45	560.19
CAGR (%) 2000-01/ 2011-12	8.33	7.56	8.08	0.75	2.96	1.69	6.65	6.15	6.47
Non-Major Ports									
2000-01	43.73	17.59	61.32	10.86	15.19	26.05	54.59	32.78	87.37
2005-06	69.58	48.69	118.27	16.47	15.38	31.85	86.05	64.07	150.12
2011-12	210.17	90.38	300.55	28.68	24.51	53.19	238.85	114.89	353.75
CAGR (%) 2000-01/ 2011-12	15.34	16.04	15.55	9.23	4.45	6.70	14.36	12.08	13.56
All Ports									
2000-01	170.93	83.79	254.72	62.41	51.37	113.78	233.34	135.16	368.5
2005-06	269.06	182.33	451.39	60.69	61.61	122.3	297.43	223.29	573.69
2011-12	516.93	237.94	755.11	84.66	74.4	158.72	601.59	312.34	913.93
CAGR (%) 2000-01/ 2011-12	10.58	9.95	10.38	2.81	3.42	3.07	8.99	7.91	8.61

Source: RIS based on Basic Port Statistics of India 2011-12, Ministry of Shipping, New Delhi.

Appendix 4: Major Ports of ASEAN



Source: Drawn in Google Maps with help of ASEAN port data from ASEAN Secretariat.

Appendix 5: Rank of ASEAN+4 Ports by Container Cargo Volume

Rank	Port, Country	Volume 2012 (Million TEUs)	Share 2012 (%)	Volume 2011 (Million TEUs)	Share 2011 (%)
1	Shanghai, China	32.53	5.41	31.74	5.55
2	Singapore, Singapore	31.65	5.26	29.94	5.23
3	Hong Kong, China	23.10	3.84	24.38	4.26
4	Shenzhen, China	22.94	3.81	22.57	3.94
5	Busan, South Korea	17.04	2.83	16.18	2.83
6	Ningbo-Zhoushan, China	16.83	2.80	14.72	2.57
7	Guangzhou Harbor, China	14.74	2.45	14.42	2.52
8	Qingdao, China	14.50	2.41	13.02	2.28
9	Tianjin, China	12.30	2.04	11.59	2.03
10	Port Kelang, Malaysia	10.00	1.66	9.60	1.68
11	Kaohsiung, Taiwan, China	9.78	1.63	9.64	1.68
12	Dalian, China	8.06	1.34	6.40	1.12
13	Keihin ports*, Japan	7.85	1.30	7.64	1.34
14	Tanjung Pelepas, Malaysia	7.70	1.28	7.5	1.31
15	Xiamen, China	7.20	1.20	6.47	1.13
16	Laem Chabang, Thailand	5.93	0.99	5.73	1.00
17	Ho Chi Minh, Vietnam	5.19	0.86	4.53	0.79
18	Lianyungung, China	5.02	0.83	4.85	0.85
19	Hanshin* ports, Japan	5.00	0.83	4.80	0.84
20	Yingkou, China	4.85	0.81	4.03	0.70
21	Jawaharlal Nehru, India	4.26	0.71	4.32	0.75
22	Manila, Philippines	3.71	0.62	3.46	0.60
23	Nagoya, Japan	2.87	0.48	2.62	0.46
24	Tanjung Perak, Surabaya, Indonesia	2.85	0.47	2.64	0.46
	World	601.77	100.00	572.2	100.00

Source: Containerisation International, UK.

Appendix 6: India's Non-Containerised Trade with ASEAN+4, 2011-12

(a) Import

('000 tonnes)

	POL-Crude		**Fertilizer**		**FRM-Liquid**		**Iron and Steel**
Brunei	250	China	2800	Indonesia	19	China	1606
Indonesia	85	Indonesia	101	Malaysia	126	Indonesia	8
Malaysia	1798	Malaysia	62	Singapore	51	Japan	861
Singapore	3246	Singapore	65	South Korea	133	South Korea	455
		South Korea	30			Malaysia	13
						Singapore	129
	POL Product		**Food grain**		**Coal (Cooking)**		**Coal (Thermal)**
Indonesia	5	China	54	China	90	China	22
Japan	41			Indonesia	2699	Indonesia	14686
South Korea	47			Singapore	79		
Malaysia	55			Vietnam	72		
Singapore	1465			Total	27439		
Thailand	16						
	Iron Ore/ Pellets		**Edible Oil**				**Other Ores**
Vietnam	5	Indonesia	2181			China	102
Total	745	Malaysia	864			Indonesia	198
		Singapore	131			Japan	10
		Thailand	11			Thailand	33

(b) Export

('000 tonnes)

	POL-Product		Food grain		Other ores
China	67	China	6	China	150
Indonesia	214	Indonesia	144	Indonesia	26
Japan	529	Japan	22	Japan	48
South Korea	539	Malaysia	112	Singapore	25
Malaysia	389	Thailand	6	South Korea	110
Singapore	7215	Vietnam	241	Malaysia	234
	Iron and Steel		**Iron ore**		
Japan	7	China	43817		
Myanmar	3	Japan	2103		
South Korea	120	Malaysia	34		
Singapore	55	South Korea	150		
Thailand	33				

Source: Ministry of Shipping, Government of India, New Delhi.

Appendix 7: Container Liners Serving India

List of Carriers
APL
Bahri
CSAV
Evergreen Marine Corp. (EMC)
Hamburg Sud (HAS)
Hanjin (HAN)
Hapag-Lloyd (HAL)
Islamic Republic of Iran Shipping Lines (ISL)
K Line (KLI)
Libra (LIB)
Maersk Line (MAL)
Mediterranean Shipping Company (MSC)
MISC Berhad (MIB)
MOL
Norasia (NOR)
NYK
OOCL
PIL
Regional Container Lines (RCL)
Senator Lines (SEL)
United Arab Shipping Company (USC)
Wan Hai Lines, Ltd. (WHL)
Yang Ming (YAM)
Zim

Source: http://www.worldportsource.com/

Appendix 8: Key Agencies in Singapore Maritime Sector

Key Agencies	Role
Maritime and Port Authority of Singapore	The Maritime and Port Authority of Singapore (MPA) regulates and licenses port and marine services and facilities. It also manages vessel traffic in the Singapore port while ensuring safety and security. The port section contains information, guidelines and procedures on matters relating to the port and its operations. The shipping section covers information on how to register a ship under the Singapore flag as well as manning guidelines, procedures and requirements for owners and masters of Singapore-registered ships. MPA also posts circulars and notices to update the port and shipping community. Also important to the communities are information on port, shipping and other MPA tariffs. As an active member of the international maritime community, MPA posts updates on IMO matters.
PSA Singapore Terminals	The Port of Singapore Authority was formed on April 1, 1964 to take over the functions, assets and liabilities of the Singapore Harbour Board. On august 25, 1997, a Parliamentary Bill was passed to corporatise the Port of Singapore Authority, and PSA Corporation Ltd was created. PSA'S staff are represented by the Singapore Port Workers union and the Port Officers' Union. Both unions enjoy a close relationship with PSA'S management.
Singapore Maritime Academy (SMA)	As the country's main Maritime Training Institution, SMA offers a full range of maritime diplomas and specialist diplomas, certificate of competency (COC) courses as well as standards of training, certification and watchkeeping (STCW) courses.

Source: Agencies' official websites.

Part- II

AGENDA

09.30-10.00	Registration & Tea
10.00 – 10.30	**Inaugural Session**
	Introductory Remarks by Ambassador Shyam Saran, Chairman, RIS and National Security Advisory Board (NSAB), New Delhi **Keynote Address** by Amb. Anil Wadhwa, Secretary (East), Ministry of External Affairs (MEA), Government of India, New Delhi
10.30 – 12.30	**Session I: Mega Regional Agreements: Implications for ASEAN-India Trade and Maritime Connectivity**
	In chair: Amb. V S Seshadri, Adviser, RIS, and Former Indian Ambassador to Myanmar **Panelists** Prof. Amita Batra, School of International Studies (SIS), Jawaharlal Nehru University (JNU), New Delhi Mr. T S Vishwanath, Principal Adviser, APJ-SLG Law Offices, New Delhi Dr. Prabir De, Senior Fellow, RIS, and Coordinator, ASEAN-India Centre (AIC)
12.30 – 13.30	Lunch Break

13.30 – 15.30	**Session II: ASEAN-India Ports and Shipping Networks: Emerging Structure, Challenges and Identification of Ocean Routes**
	In chair: Mr. Arvind Kumar, Adviser, The Energy and Resources Institute (TERI), and Former Adviser, Ministry of Shipping, Government of India **Panelists** Capt. Kapil Kekre, Advisor (Commercial), Indian National Shipowners' Association (INSA), Mumbai Dr. Subrata Behera, Sr. Research Analyst, Drewry Maritime Research, New Delhi Mr. C.B. Singh, Adviser, Ministry of Shipping, Government of India, New Delhi Capt. S Narula, Senior Vice President, Shipping Corporation of India (SCI), Mumbai Mr. Aji Vasudevan, Dy. Chief, Director-General of Shipping, Ministry of Shipping, Government of India, Mumbai Mr. G. S. Sahani, Adviser, J M Baxi & Co. and former Director-General of Shipping, Government of India, Mumbai **Q & A**
15.30 – 16.00	Tea / Coffee Break
16.00 – 17.30	**Session III: ASEAN-India Maritime Transport Cooperation: The Way Forward**
	In chair: Ms. Renu Pall, Jt. Secretary (ASEAN ML), Ministry of External Affairs (MEA), Government of India, New Delhi **Panelists** Mr. Manoj Singh, Adviser (Transport), Planning Commission, New Delhi Mr. GVL Satya Kumar, Dy. Chairman, Visakhapatnam Port Trust (VoPT), Vizag Mr. Umesh Grover, Chief Executive Officer, Indian National Shipowners' Association (INSA), Mumbai **Q & A**
17.30 – 17.45	**Summary and Vote of Thanks by Dr. Prabir De**

Opening Address

Ambassador Shyam Saran
Chairman, AIC, RIS and NSAB

Ambassador Anil Wadhwa, Secretary (East) in the Ministry of External Affairs, Dr Prabir De, Coordinator, ASEAN-India Centre at the RIS, Ms. Renu Pall, Joint Secretary (ASEAN) in the MEA, Ambassador V.S. Seshadri, Adviser, RIS and former Ambassador to Myanmar, distinguished guests, ladies and gentlemen.

On behalf of the ASEAN-India Centre and our co-sponsor the Indian National Shipowner's Association, let me extend a warm welcome to all the distinguished speakers and participants at this National Seminar on India-ASEAN Maritime Transport Cooperation.

I would like to extend a warm welcome to Ambassador Anil Wadhwa, who has recently taken up his assignment as Secretary (East) in MEA. On behalf of the ASEAN-India Centre, I would like to express my sincere thanks to him for gracing this Seminar with his presence and for consenting to inaugurate this Seminar and to share with us his perspective on India-ASEAN relations and the challenge of establishing connectivity, in the widest sense between the two friendly and strategic partners.

The ASEAN-India Centre has been established at RIS pursuant to a decision taken by the Heads of State/Government at the India-ASEAN Commemorative Summit held in December 2012. Its mandate is to contribute to the strengthening of relations in various aspects between the two sides. The promotion of all-round connectivity is one of the priority areas where enhanced cooperation is envisaged. Connectivity, in this sense, covers cross-border road, rail, air and digital connectivity, as well as maritime links. India has welcomed the Master Plan on ASEAN connectivity as well as the ASEAN ICT Master Plan 2015. Our effort is to align our plans for cross-border linkages with these important and ambitious platforms for regional integration. The ASEAN Connectivity Coordinating Committee (ACCC) has opened a comprehensive dialogue with India in 2013 to enhance all-round connectivity between India and ASEAN countries. It is against this background that the ASEAN-India Centre at RIS decided to focus attention on maritime links between our India and its ASEAN partners. In order to meet the ambitions targets for trade, the availability of regular, efficient and affordable shipping is of critical importance.

The Centre has prepared a comprehensive and a very informative background paper on India-ASEAN Maritime Connectivity, which has been circulated to those taking part in the panel discussions. Participants at this Seminar who wish to receive copies of the paper may register their e-mails with the Reception Desk. The paper will also be put on the RIS Website, so you can access it easily.

From the paper, it is apparent that the maritime links between Indian ports and ports in ASEAN countries remain a weak link in our effort to promote closer economic and commercial relations between our countries. Shipping services are irregular and service only a few major ports, thereby necessitating a great deal of transshipment activity. On the Indian side, cargo-handling capacity at our ports is limited and unable to cope with the rising volume of both incoming and outgoing cargo. Indian shipping carries only a limited share of India's maritime tide and this is a cause of concern. There is an urgent need to modernise our ports, reduce the turn around time for ships and expand the capacity to handle containerised cargo. We need more modern, efficient and containerised shipping and reuse the declining share of Indian shipping in our maritime trade.

We must acknowledge that in shipping sector several ASEAN countries are ahead of India and Singapore is one of the world's leading ports and container terminals. Other ASEAN countries are making rapid progress in modernising and expanding their ports and shipping services. India must keep pace with these developments even as it seeks to establish closer maritime links with its South East Asian neighbors.

Both India and ASEAN are maritime nations, with a rich and glorious history of maritime trade. The seas that wash our shores, constituted an ancient maritime highway that nurtured a long and sustained exchange of goods, peoples, ideas and cultures among our peoples. It must be our endeavor to revive and energise those ancient links in a contemporary setting, so that they become a driving force in the Asian resurgence that we are witnessing today.

I have no doubt that this Seminar will explore the many dimensions of the challenge we face in establishing a dense network of maritime links among our countries and generate recommendations which could become valuable inputs into the inter-governmental processes that are already engaged in promoting India-ASEAN maritime cooperation.

I wish the Seminar every success.

KEYNOTE ADDRESS

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Secretary (East), Ministry of External Affairs

Chairman RIS, ASEAN-India Centre and National Security Advisory Board (NSAB) Amb. Shyam Saran.

ASEAN Heads of Missions.

Coordinator of the ASEAN-India Centre Dr. Prabir De,

Ladies and Gentlemen

It gives me great pleasure to be with you today to discuss elements key to strengthening India's maritime connectivity with the ASEAN region. This is a vital element in the ASEAN-India connectivity agenda and would impact not just the volume of trade across our maritime routes but also support and strengthen land connectivity in the region. I commend the ASEAN India Centre for organising this discussion and for putting together in this room some of the key stakeholders in India's maritime transport infrastructure.

2. Connectivity is going to remain one of the foremost priorities in the ASEAN-India strategic partnership in the months ahead and it is important that we discuss, analyse and put together the

various components that would help us to strengthen India's maritime transport capacities.

3. This is not a new item on our agenda. It has been part of our civilisational consciousness in the region. Maritime connectivity, in particular, has played a significant role in creating regional corridors for intellectual, cultural, trade and economic linkages over the centuries. It is today central to the ASEAN-India partnership for progress and prosperity. Equally importantly, it is also of relevance to the maintenance of peace and security in the region.

4. The fact that connectivity related issues continue to be pivotal to the agenda of the ASEAN-India partnership was illustrated in the over 60 events in 2012-13 to mark the ASEAN-India Commemorative Year, including the ASEAN-India Car Rally which was participated in by all 10 ASEAN countries, the INS Sudarshini Expedition to nine ASEAN countries and the marker events that highlighted the cultural similarities and the business complementarities in our region.

5. Two major developments are lending even greater urgency to our connectivity agenda. One is the ASEAN march towards an ASEAN Community by 2015, which will consolidate a market of more than 600 million people and a combined GDP of US$ 2.3 trillion. The second development is the consolidation of economic and commercial engagement between India and ASEAN through the FTA on Trade in Goods, which has been in place since 2009, and the FTA on Services and Investment which is expected to be signed in the coming months after ASEAN countries complete their internal processes for signature. This will integrate an economic space of 1.8 billion people and a GDP of over US$ 3.7 trillion.

6. In the course of last year, India became the third partner country of the ASEAN, after China and Japan, to begin formal discussion on connectivity with the ASEAN Connectivity Coordinating Committee (ACCC). It is a reflection of the importance of this agenda both to ASEAN countries as also India that the ACCC, in an unprecedented manner, would be holding an informal inter-sessional meeting with India when it visits New Delhi in March 2014 for Delhi Dialogue VI.

7. We have also been participating in the ASEAN Maritime Transport Working Group Plus Meetings since 2012 and, following the 1st ACCC-India meeting in June 2013, we have requested Ministry of Shipping to establish a Joint Working Group on Maritime Connectivity to look into various aspects of promoting maritime connectivity. In particular, we need to find ways to assure trade volumes to sustain a shipping line connecting India, Myanmar, Thailand, Cambodia, Vietnam.

8. The steady implementation of the India-Myanmar-Thailand Trilateral Highway has been very visible. But India is also meeting its commitment on developing the Sittwe Port in Myanmar, as part of the Kaladan Multimodal Transit Transport Project. In fact, I would urge that as we examine ways to strengthen maritime connectivity between ASEAN and India, we adopt an integrated multi-modal approach which explores the advantages, the linkages and the synergies between port infrastructure and the existing and upcoming road infrastructure in the region. This would also be relevant as the Government of India makes progress on creating a new entity to accelerate the building and up-gradation of strategic roads on our borders.

9. At the 11th ASEAN-India Summit in Brunei Darussalam in October 2013, our Prime Minister suggested that discussions begin on an ASEAN-India Transit Transport Agreement to be concluded by 2015 so as to create an enabling policy framework for effective use of connectivity linkages. The 11th ASEAN Economic Ministers Plus India Consultations in August last year agreed on the establishment of a Working Group on Soft Infrastructure. Both these would have a maritime dimension to address as part of their mandate.

10. Any assessment on strengthening maritime linkages between ASEAN and India must also take cognizance of the mega regional agreements and arrangements that are taking shape within the ASEAN countries. From the maritime connectivity point of view, the Comprehensive Asia Development Plan (CADP) Phase II Study by Economic Research Institute for ASEAN and East Asia (ERIA) in 2011, which was conducted with help from RIS, has established that the share of merchandise trade in the overall

trade basket with ASEAN is growing steadily. Looking ahead, such transshipment will need to happen through cargo ships and requires improvement in port and logistics infrastructure and direct shipping lines. These routes need to be identified, given economic feasibility and their policy related lacunae will need to be addressed. ASEAN have designated 47 ports in the trans-ASEAN transport network and many of these confront challenges of capacity and infrastructure. ASEAN countries, with financing through the mechanism of the ASEAN Infrastructure Fund and ADB, can be expected to focus on concentrating the comparative advantage of an intra-ASEAN network. It is for us to show that the advantage would grow exponentially if integrated with the Indian economic space.

11. ASEAN countries are seeking innovative solutions, for instance, to make the Dawei Sea Port development a feasible project. The Dawei SEZ Development Co. (DSEZ) has been created as a special purpose vehicle supported by Thailand and Myanmar for this purpose. We should look at ways of becoming part of this development at Dawei and this can be done by roping in the private sector and making them aware of this investment opportunity.

12. Japan is giving a clearly visible and concerted push to strengthening its maritime linkages not just in the ASEAN region, particularly Myanmar, but also with India. There are possibilities in all of this which merit examination for reinforcing the structure of Indian ports and shipping networks.

13. Another important dimension is to look at increasing the sustainability of maritime transportation through creating an economically vibrant catchment area, i.e. looking to integrate SEZs, availability of energy, ICT, etc., on the one hand and, on the other, creating clusters of economic activity to strengthen, for instance, the regional food basket, local industry, capacity development and employment, and promote tourism and environmental management. In my view, the construct for maritime connectivity will sustain easier if it adopts an inclusive, symbiotic approach with these priority issues.

14. I, therefore, look forward to the discussions today to identify the way forward on ASEAN-India Maritime Transport Cooperation. This subject, as I mentioned before, is part of our discussions with the ASEAN Connectivity Coordinating Committee and the ASEAN Maritime Transport Working Group Plus agenda. There will be immediate term relevance to your recommendations and suggestions in our discussions with the ACCC on March 8, 2014 in New Delhi.
15. I wish you all success and hope that your discussions in each of the sessions would emphasise the specifics to help us build our approach.
16. Once again, I would like to commend the ASEAN-India Centre for putting together excellent sessions and panels for such discussion.

Thank you.

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SUMMARY

ASEAN-India Centre in collaboration with the Indian National Shipowners' Association (INSA), Mumbai, organised a National Seminar on ASEAN-India Maritime Transport Cooperation on 31 January 2014 in New Delhi. The focus of the ASEAN-India connectivity programme was on ASEAN-India maritime connectivity. ASEAN-India Centre (AIC) circulated a draft of a report entitled "ASEAN-India Maritime Connectivity Report". One of the objectives of this seminar was to seek comments and suggestions from the stakeholders on the Report.

Ambassador Shyam Saran, Chairman, AIC, RIS and National Security Advisory Board (NSAB) gave introductory remarks. Keynote Address was delivered by Ambassador Anil Wadhwa, Secretary (East), Ministry of External Affairs (MEA). There were three technical sessions dealing with ASEAN-India FTA, RCEP, ASEAN-India Ports and Shipping Networks and the emerging challenges of ASEAN-India Maritime Transport Cooperation. The brief summary of the proceeding of the seminar is as follows:

- In his opening address, Chairman, AIC, emphasised on the promotion of all-round connectivity as one of the priority areas for cooperation between ASEAN and India. He underlined that in order to meet the ambitious target of trade, maritime connectivity between India and ASEAN is

very important. He also raised the issue of weak maritime links between Indian ports and ports in ASEAN countries. Ambassador Saran stated that cargo handling capacity is limited at Indian ports, and therefore, increasing the cargo handling capacity has to be a top priority. He recommended to revive the maritime links between India and ASEAN countries in order to enhance the volume of trade and investment. Indian shipping carries only a limited share of India's maritime trade, which is a cause of concern. Therefore, there is an urgent need to modernise our ports, reduce the turnaround time for ships and expand the capacity to handle containerised cargo. Ambassador Saran also added that we need more modern, efficient and containerised shipping and raise the share of Indian shipping in our maritime trade.

- Ambassador Anil Wadhwa in his Keynote Address emphasised that connectivity is going to remain as one of the foremost priorities in the ASEAN-India Strategic Partnership in the months ahead, and it is, therefore, important to discuss, analyse and put together the various components that would help strengthen India's maritime transport capacity. The maritime connectivity will play a significant role in creating regional corridors for intellectual, cultural, trade and economic linkages between India and ASEAN countries. The focus of maritime connectivity with ASEAN countries is to consolidate the economic activities between ASEAN and India. Ambassador Wadhwa informed that improvement of Indian port sector and identifying sea routes for enhancing economic activities are the major challenges. He gave the example of Sittwe Port in Myanmar, which will help India to strengthen economic ties with ASEAN countries. India has also been participating in the ASEAN Maritime Transport Working Group Plus Meetings since 2012, and following the First ACCC-India meeting in June 2013, the Ministry of External Affairs has requested the Ministry of Shipping to establish a Joint Working Group on Maritime Connectivity to look

into various aspects of promoting maritime connectivity. Ambassador Wadhwa underlined that we need to find ways to assure trade volumes to sustain a shipping line connecting India, Myanmar, Thailand, Cambodia, and Vietnam.

- In the first working session, Professor Amita Batra in her presentation stated that the Regional Comprehensive Economic Partnership (RCEP) aims at deeper integration of the ASEAN+6 countries and takes into account the level of individual economies. India will be gaining more from RCEP. Integration of ASEAN+6 has lead to increase in FDI, evolution in technology, reduction in transport cost in supply chain, etc. However, she raised concerns over Non-tariff Barriers (NTBs), income diversions, etc. Professor Batra also mentioned that the success of TPP agreement relies on involvement of like-minded and open economies. Areas covered in TPP are goods, services, IPR, investment, government procurement, dispute settlements, etc. She also stated that supply chain will be playing an important role in enhancing trade in both the agreements.
- Mr. T.S. Vishwanath in his presentation said that there are confusions among the companies related to the interpretation of MFNs and preferential tariffs. There are some differences in HS codes across the countries. Mr. Vishwanath suggested to increase the capacity of ports, better connectivity by roads and rails, to create a process of free movement of goods across the countries, and to have the uniformity between the HS codes so that the companies can benefit from ASEAN-India FTA.
- Dr. Prabir De in his presentation stated that trade in parts and components between ASEAN and India has been growing fast. To encourage the production networks between ASEAN and India, strong maritime and air connectivity links are pivotal. However, there are many bottlenecks in maritime sectors, such as lack of port capacity, shortfall of skilled human resources, lack of institutions, etc. According

to Dr. De, ASEAN and India have to build a strong ocean shipping network with a strong fleet capacity, etc.

- In the Session II, Mr. G.S. Sahani in his presentation suggested to follow PPP model for the development of Indian ports sector. His company (Vishaka Container Terminal) has been running a container terminal at the Vishakhapatnam port in Andhra Pradesh. Vishaka Container Terminal has the capacity to accommodate larger container vessel. It can link Indian east coast with ASEAN ports.
- Captain Kapil Kekre emphasised the importance of controlling transport cost since capital requirement is huge and also acts as high entry barrier for new players. ASEAN and India both have long coast line, which is dotted with many ports. Capt. Kekre suggested that there are ample scopes for joint ventures between the ports of ASEAN and India.
- Captain S. Narula stated that transport charges at present are very high. With low cargo volume, Indian shipping companies have been facing difficulties to manage the cost of operation. He highlighted that his Company (Shipping Corporation of India) is likely to resume services between Chennai and Yangon, if subsidy is available from the government. Capt. Narula raised concern over low freight rate, which makes carriers less enthusiastic to serve India's east coast. He suggested serving Myanmar directly from India and not via Singapore. He pointed out that statistics regarding Indian ports and terminals may be misleading because Indian terminals are technically not as same as Singapore's terminals.
- Mr. Aji Vasudevan in his presentation stated that India should have adequate number of ships. He emphasised to give attention to unit cost of transport per container. He also added that training should be low if BIMS services are restricted. Improvements in maritime and ports services are very much required.
- Mr. C.B. Singh in his presentation stated that India is not using its rivers and inland waterways adequately for

transportation. He argued that the rivers can be used to import goods from Myanmar and Bangladesh. Haldia port can be used as a hub for inland waterways transportation with neighbouring countries.

- Dr. Subrata Behera in his presentation stated that Kaladan Multi-modal Transit Transport Project (KMTTP) is undertaken because of strategic reasons. He pointed out that there is not much of cargo in east coast of India, hence shipping industry faces a lot of difficulties. Dr. Behera stressed upon building port infrastructure and joining inland waterways with ports so as to reduce the transportation costs.
- In the Session III, Mr. Manoj Singh in his presentation said heavy investment will be needed to develop good transportation in North East India. He also mentioned about the programme, which has been undertaken by the Planning Commission to build a road in North East India. Mr. Singh confirmed that massive railway development programmes are going on at present in North East India. Linking road to Kaladan project from Mizoram state capital is also getting ready.
- Mr. GVL Satya Kumar in his presentation focused on the role of ports as a starting point between India and ASEAN countries. He gave an example of Myanmar exporting wood to India through Visakhapatnam port. He insisted on capital infusion in the port sector. However, he raised the concerns over intra-port connectivity, poor communication link between mills and roads and railways with the ports. He emphasised on the improvement in maritime connectivity, and further stated that vessel-related discount should be offered to encourage maritime transportation.
- Mr. Umesh Grover in his presentation requested the Government of India to incentivise coastal shipping since the introduction of taxes has hurt the shipping business in India. He also emphasised on a stronger connectivity between Indian east coast and Myanmar coast and creation of hub ports in eastern and western coasts of India.

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Research and Information System for Developing Countries (RIS) is a New Delhi-based autonomous policy research institute that specialises in issues related to international economic development, trade, investment and technology. RIS is envisioned as a forum for fostering effective policy dialogue and capacity-building among developing countries on global and regional economic issues.

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