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Growth of Ports and Port Towns in India in the Post Independence  
Period: in the context of Trade and Urbanisation

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## Preface

Ports are the gates of the country to the outer world. International trade takes place through the ports even acknowledging the increase in air-borne trade. Ports, apart from their basic functions, also double up industrial areas because of their locational advantages. India, is no exception to this process. Three of the four metropolitan cities of the country, name Kolkata, Mumbai and Chennai, had their origin as ports in the colonial period. Apart from these big three, there are a number of major and minor ports along the long coastline of the country, stretching from Gujarat in the west to West Bengal in the east. There are a number of discourses on the historical origin and development of ports, but economic analysis of the performances is not much.

This particular discussion paper by Aparna Banerjee, research scholar at the centre for Urban Economic Studies, along with Professor Sudakshina Gupta of Department of Economics, Calcutta University and Dr. Uttam Bhattacharya of Institute of Development Studies, Kolkata, is an attempt to look into the economic performances of the ports in the last three decades. The fortune of the east coast ports is different from their western coast counterparts because of the global trading pattern and also the regional development performance of the country. A major part of the present article is devoted to this comparative performance. The other part is related to the impact of the ports on the urbanisation aspects of the ports.

I hope this paper will renew the interest on ports in the era of globalisation which implies more interaction between countries in every aspect.

**Mahalaya Chatterjee**

Director,

Centre for Urban Economic Studies

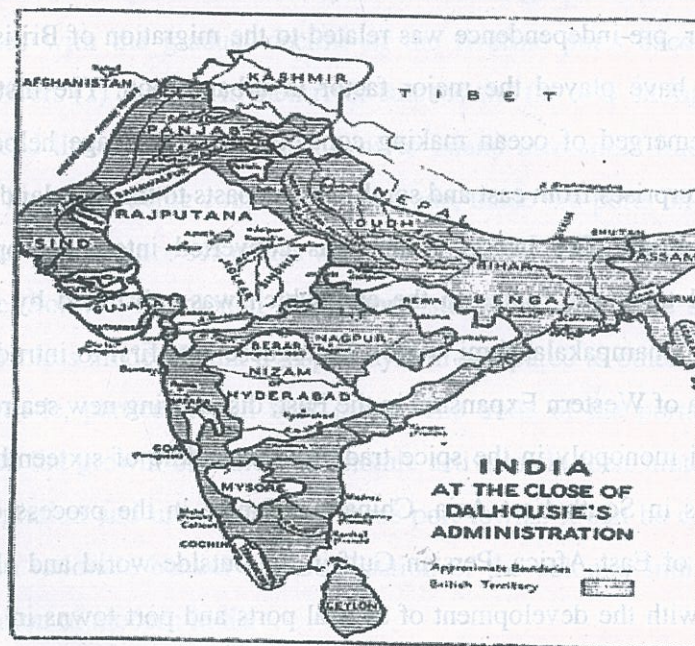
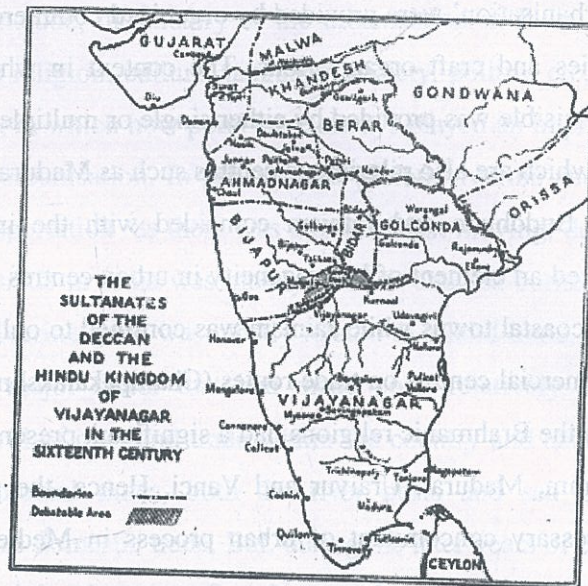


## 1. Introduction

Right from the ancient times till the establishment of British Empire, different communities had ruled the country. Apart from the cultural and religious requirements that became the basis of growth of towns in early urbanisation, economic factors are basic to urban growth in pre-colonial and colonial era. In pre-colonial era, functions of cities were well-defined. Clear definition of urban towns in fact, came to India during colonial rule, totally based on maximum use of rich natural resources of the country for the purpose of trade (Champakalakshmi, 1996). That was also the basis of developing transport network of railways and national highways in addition to water and sewerage networks. Townships and nodal cities grew around these networks. India's history of urbanisation can broadly be divided into three eras; [1] (a) Ancient and Medieval eras lasting upto twelfth century AD (b) pre-colonial era lasting up to seventeenth century AD and (c) Colonial era - starting from seventeenth century and ending with the Indian Independence in 1947. The pre-colonial era can be further divided into two eras; as (1) Sultanate era and (2) Mughal era. Thus, accordingly, periods of urbanisation can be classified into four types as follows - (1) Early historical urbanisation comprising of Indus Valley Urbanisation (also called proto-historic urbanisation) and Ganges Valley Urbanisation, (2) Medieval urbanisation comprising that of Pallava-Pandya and Chola (Cola) period, (3) Pre-Colonial urbanisation comprising that of Sultanate Period, Mughal Era and of Peninsular India, [Map 1 shows Pre-Colonial urbanisation in India during the pre- colonial era] and (4) Urbanisation of Colonial Period comprising mainly British colonial urbanisation and other major European Colonization in different parts of India (Champakalakshmi, 1996). [Map 2 shows Colonial urbanisation in India during the Colonial era].



**Map 1: The Sultanates of the Deccan and the Hindu Kingdom of Vijayanagar showing their respective boundaries in the Sixteenth Century A.D. in India (Davies, 1949).**



**Map 2: India at the close of Dalhousie's administration showing the approximate boundaries and the areas under the British Territory (Davies, 1949).**

The history of the pattern of urbanisation in India was greatly influenced by trade and to some extent by religion. Religions, especially Hinduism laid an influential role in shaping economic activities with the growth of emergence of Vaishya class (merchant group) since ancient times. Religious functions, festivals and practice of taking a pilgrimage resulted in the flourishing growth of pilgrimage towns like Allahabad, Benaras, Nasik, Puri etc. in northern



India which mostly centred on rivers and developed into centres of trade and commerce. Major factors of urbanisation in southern India of eleventh to thirteenth century, often described as 'temple urbanisation' were provided by organized commerce through the market centres, merchant bodies and craft organizations. The context in which these features of urbanisation are highly visible was provided by either single or multiple large temple centres, royal centres, some of which are also pilgrimage centres such as Madurai and Thanjavur.

The spread of Buddhism and Jainism coincided with the increase in trade and commerce and introduced an element of heterogeneity in urban centres. Buddhism registered significant presence in coastal towns while Jainism was confined to only inland centres, both were political and commercial centres on trade routes (Champakalakshmi, 1996). Both these religions, in addition to the Brahmanic religions had a significant presence in the larger urban centres like Kanchipuram, Madurai, Uraiyur and Vanci. Hence, the presence of religious institutions was a necessary concomitant of urban process in Medieval and pre-colonial periods.

However, pre-independence was related to the migration of British and development of trade which have played the major factor in urbanisation. The history of pre-colonial contacts what emerged of ocean making contacts in colonial age helped the extension of British trade enterprises from east and south Indian coasts to the mainland and maritime south east Asian countries. The Indian Ocean was converted into a European lake with the discovery of all trade sea routes to the east which was subsumed by dominant European trading interest (Champakalakshmi, 1996). Portuguese was first to intrude with the schemes of venture in era of Western Expansion in the East, discovering new sea routes to India. They enforced a semi monopoly in the spice trade by the middle of sixteenth century, expanding their settlements in South East Asia, China and Japan, in the process of seizing the most profitable ports of East Africa, Persian Gulf in the outside world and also those of Goa of India, together with the development of several ports and port towns in Saurashtra, Konkan and Malabar regions of the country. However, the Bay of Bengal, to the east of Indian Ocean was believed to be intrinsically rich in hydrocarbons and other energy resources. Regarding Indian Ocean, British, had a clear cut policy to evolve energy trade, thereby linking India and South East Asia. Hence, as the British, French and Dutch carved out their empires between eighteenth and twentieth century, they followed different strategies of trade on their colonial intervention, which depended to a great extent on the routes connecting them to the Bay system. The routes are the ancient land routes from Bengal to China through the North East, Myanmar and Yunnan and the sea lanes from Bengal and the Coromandel Coast to Pegu in



Burma. As the French favoured the land routes for its penetration into China through Assam during 1730's to 1850, the English decided to favour the sea route instead from 1785.

Hence, to conclude, the history of the urbanisation in India reveals that apart from other factors such as religion, culture, language, society, politics etc, trade was the ultimate basis of urbanisation, in which how ports have always played an important role in the history of Indian trade and urbanisation. In pre-colonial period, riverine and maritime routes were major means of transportation as there was a lack of fast moving, developed land transport system. As a result, trade in India was mostly riverine and sea-borne trade rather than land-borne trade. While riverine trade was mostly related to inland trade, sea trade was related to external trade. The major factor that had made ports relatively important in India was generally the low level of overland trade within the country and also with the neighbouring nations. In early colonial times, both the river ports and sea ports were engaged in international as well as domestic trade. But, during the later years of colonial period, with the advent of railways and development of roadways, inland trade gradually shifted from riverine routes to land-routes with the gradual decline of the riverine ports because of (1) poor navigability of the rivers (2) changes in their river courses and (3) over silting of these rivers. All these had reduced these port cities and towns to inland mercantile trading port towns. International trade, however, being confined to sea trade, made sea-ports on the coasts more important in colonial period since sea routes were the only transportation facility available at that time to Europe. So, even in colonial times, ports still continued to be the cheapest and environmentally harmless mode of bulk transport system compared to other modes, to handle the bulk of world trade, particularly in bulk cargo. The trade of the ports in the colonial period had increased the growth of various economic activities in their hinterlands, thereby, causing huge immigration and urbanisation of these port towns. It can be concluded that the ports were the main rationale behind the urbanisation of the colonial India which in fact, shaped the urbanisation of modern India.

## **2. Objectives**

The main aim of this paper is to study the importance of ports and port towns with the focus on the role of ports in the trade and urbanisation of India in the post-independence period. As major objectives, this paper first attempts to examine the same in India during the pre independence period with a view to study the growth of the ports and their impact on the growth of port towns through a brief historical review. Next, it studies the same port-induced urbanisation in the post independence period, with the focus on i) the growth of ports and



port towns,ii) the nature of trade through the ports of India iii) their linkage effect on the regional development of the port towns, and also on its future implications in the context of globalisation, in brief.

So, the structure of this paper is as follows: Besides, Introduction in Section 1, Section 2 will cover Objectives of the present work, Section 3 will focus on the role of the ports in colonial trade and urbanisation in terms of the direct linkage of ports and port cities in its subsections. Section 4 will make a brief review of the Historical Location and Background of Existing Port System in India, focusing on the nature of the growth of ports and port towns during the pre independence period. Section 5, which will study the role of ports in trade and urbanisation in the post independence period, is divided into three broad subsections. Subsection 5.1 will study the nature of the trade (both overseas and coastal trade) through the ports of India, focusing on the growth of port trade in India in post-independence period (1980-2014); while Section 5.2 will cover the growth of the port towns in India in post-independence period, focusing on the study of their urbanisation during the post independence period (1951-2011). Section 5.3 will study, in brief, the impact of the growth of trade through the growth of ports on the regional growth of the port towns in India during the post independence period (1951-2014). Finally, Section 6 will end up with the conclusion, focusing, on the future implications.

### **3. Role of the Ports in Trade and Urbanisation**

#### **3.1 Port, Port Cities-links with Hinterlands and Forelands**

Development of ports depend upon the demand for port services i.e. demand arising out of economic activities such as trade, it attracts. The concept of the 'Port City' refers to a city whose main economic base is its port. Port cities are defined as urban settlements which reflect the location and spatial accommodation of the ports. Their immediate boundaries embrace the entire human community around them. Development of these port cities and towns depended upon the immediate facilities of the ports such as their infrastructure. Their economic life had also been influenced by the industrial and other economic activities and occupations which had been derived from the maritime functions of ports such as trade, transport and exchange. Thus, port cities were the gateway through which particular regions of the world were connected with the overseas. They constituted the essential nodal points which articulated the modes of long distance/maritime and short distance/inland transport system (Sau, 1997).



Forelands and Hinterlands are important concepts for the study of ports and port towns because port cities integrate 'hinterlands' and 'forelands' of a port. A 'hinterland' of a port is considered as a 'backyard' of a port. It is defined as that area from which port receives its goods for export overseas and to which it distributes the imports it has received from overseas. The links between ports and hinterlands are created by a network of inland transport infrastructure which collects exports and distributes imports. Forelands are defined as those areas of the overseas world with which port or port cities are immediately linked through their shipping, trade and passenger traffic. They, thus, refer to the major overseas markets to which hinterlands' products are carried and the places from which goods are imported for consumption and further distribution throughout the hinterlands (Sau, 1997).

### **3.2 Importance of Ports and Port Cities in Urbanisation**

Ports had played a crucial role in the maritime urbanisation as they had been the poles of international trade and commerce since earlier times. They were the active agents of urbanisation and, as a consequence, they had been intimately linked with the growth of the port cities and towns. The reasons behind their growth are as follows:

Firstly, ports, themselves, always had been an influential factor in regional development of these port cities and towns through the process of industrialisation and expansion of trade and commerce. They, themselves, had played an innovative role in the development of a large and varied group of industries in and around these port cities. Most of these industries include basic industries related to the industrial port activities based on bulk raw materials such as aluminium and chemicals, oil refining, steel production (Sau, 1997). All the above types of industries were mainly located in port cities on the eastern coast of India such as Visakhapatnam, Balasore, Nagapatnam, Calcutta, Hooghly etc. Besides these, other industries include processing industries, agro-based or mineral-based, which processed local primary products destined for exports and transformed imported goods for domestic market. Such types of industries were found both on the eastern as well as the western coast. For example, cotton and sugar industries were mainly located on the Saurashtra and Konkan coasts, while jute textiles were mainly located in the eastern Gangetic plains because of geographical locational advantage of natural resources. These port industries were themselves the major importers, exporters and creators of urban employment in these cities. Thus, industrialisation of these cities had gradually over time led to the immigration there which was the major factor of their consequent urbanisation. Hinterland immigration to these port cities were for the purposes of port or port-related employment. Besides this, all port cities,



just as all large urban communities at any time, had also attracted crowds of immigrants not only for seeking work in ports or port related occupations but also for other purposes such as business or trade activities. The most immediate impact of the forelands on urbanisation occurred, in fact, through shipping which arrived from them at the ports. This was because the numbers and the sizes of these ships had determined what harbour and what port facilities were required for their accommodation. They, also, had determined what workforce was required in the ports to shift the cargos, handle the ships, and maintain navigability or to supply the ships with fuel etc. Apart from this, forelands, themselves, had influenced the urbanisation of these port cities in many other ways (Sau, 1997). They, themselves, had been the source of many port cities' business firms, mercantile houses, shipping agencies, banks and other financial institutions, manufacturing concerns, offices, warehouses, residences etc. Hence forelands influences were strong in all port cities, especially those located in colonial areas i.e. in colonial port cities such as Calcutta, Bombay, and Madras etc. So there is no cause of denying the importance of port towns in the process of urbanisation as it was the major outcome of industrialisation in which ports had played a significant role.

#### 4. Historical Location and Background of Existing Port System in India

In particular, a historical study of the existing port system in India is mainly related to two sources—(1) European sources which relate to the port cities of the period from seventeenth to early twentieth century. (2) Non-European sources which relate to the regional sources and sources from immediate hinterlands of these ports. The relevant data sources are mainly compiled from the secondary sources (Banga, 1992).

**Table 1: Important Port Towns of the West Coast**

Saurashtra Region	Lothal, Thatta, Lahiri-bandar, Cambay, Veraval, Broach, Somnath, Goga, Dwarka, Gandhar, Rander, Surat, Kandla, Daman, Diu, Karachi.
Konkan Coast	Bombay, Bassein, Ratnagiri, Dabhol, Chaul (Now Revdanda), Vijaydurg, Goa or Panjim, Mormugao.
Malabar Coast	Mangalore, Cannanore, Carwar, or later Karwar, (Previously Sadashivgarh), Kumta, Calicut, Cranganore, Quilon, Cochin, Alleppey, Tellicherry, Trivandrum.

**Table 2: Important Port Towns of the East Coast**

Coromondal Coast	Madras, Portonovo, Madurai, Pulicat, Nagapatnam, Sadraspatnam, Visakhapatnam Puhar (Kaveripatnam), Cuddalore, Tranquebar, Karaikkal, Nagore, Masulipatnam, Pondicherry.
Bengal Presidency	Balasure, Ganjam, Pipli, Jaleswar, Tamralipti, Satgaon, Hooghly, Chittagong, Murshidabad, Calcutta, Budge Budge.



Source: Banga (1992)

From the above sources, historical location of some of the important port towns in India from seventeenth to early twentieth century (Table 1 and 2) are as follows:

#### **4.1 Historical Background: Western Coast**

From the European sources, it is found that existing port system in India began to evolve in seventeenth century in response to European trade which initially patronized Mughal ports on the western coast, to trade freely with India. In Indian history, western coastal region (Saurashtra, Konkan and Malabar regions) always had been the home of important sea ports from seventeenth century onwards.

**Saurashtra Region: Gujarat and Northern parts of modern Maharashtra State:** There was string of major port towns in this region such as Broach, Cambay, and Surat etc. Of them, Surat achieved an unprecedented prosperity during this time because of its locational advantage. It was located on the bank of river Tapti, close to the Arabian Sea. Despite the dominance of European merchants over Surat and other ports, they were inhabited by a varied group of different merchant communities such as Muslims, Arabs, Mughals, Chellabis, Armenians, Parsis, Bengalees and Bohras. They were engaged in three main types of trade activities-overseas trade, regional trade and local trade. The important trading zones of Surat merchants were Batavia, Bengal, Goa, Malabar and Madras. European traders settled in Goa, Madras and Malabar regions. By the end of seventeenth century, Gujarat had attained high degrees of urbanisation sustained by its productive base and by internal, inter regional and overseas trade. However, the direction of trade had gradually changed in Saurashtra region with the dramatic decline in overseas trade of Surat in nineteenth century, with the emergence of Bombay Port as important centre of establishment of English overseas trade on Konkan coast. The districts of Ahmedabad and Kheda with their manufacturing centres like Ahmedabad, Dholka, Viramgao, Modasa and Kheda emerged as major urban centres as their port towns like Ghogha, Pali, Dhollera, Bhavnagar, Cambay and Broach enjoyed a very favourable position for both inter regional and overseas trade. These ports formed a link between the Northern provinces of Kutch, Bhuj, and Marwar on one side, Malwa, Deccan on the other and Calcutta, Amritsar on the north-east. These ports of Ghogha and Bhavnagar emerged as chief ports under British protection for both imports from Cambay, Bombay, Camara, Surat, Broach, Daman and Diu ports and exported to north and central India thereby controlling both inter- regional and overseas trade towards Bombay and Gulf of Cambay.



Surat till then enjoyed the position of its locational advantage, being both as a riverine and a sea port (Banga, 1992).

Broach was also another important port city of prime importance during seventeenth and eighteenth centuries and was also a reputed manufacturing centre of textiles. But Broach had undergone massive changes in its regional economy under colonial rule during nineteenth century, the impact of which was also felt in the process of its urbanisation in the following decades. Initially it was a relatively advanced commercial cum manufacturing urban trade centre. It got transformed into a less advanced state of development wherein agriculture and commerce were the backbone of the economy in the latter half of nineteenth century. Particularly with the development of railways, both the passenger traffic and goods traffic had increased. There traffic, which formerly was bound for seaboard at Broach—in the north from river Mahi to river Narmada and for a large tract of land inwards as far as Ratlam, was then diverted to different railway stations on route to Bombay. As a result, with the railways diverting the inland traffic, cart traffic came under severe pressure resulting in a decrease in supplies to port from its immediate hinterland which traditionally came by cart. All these developments left Broach as a centre almost entirely of local trade by the third quarter of nineteenth century, resulting in a 70% decrease in the value of goods imported and exported by sea. Demographic changes in Broach during nineteenth century however suggested a progressive rise in the population which was an indicator of urbanisation and which ultimately led to the growth of greatest agglomeration of this time. This was mainly because of rural-urban migration being influenced by this transition of regional economy. There were two opposite streams of migration—from town to countryside and vice versa. The former was occasioned by the setback to the traditional means of livelihood from industry and later by the twin forces of 'pull' from Broach town and 'push' forces from its hinterland caused by the pressures on the agrarian economy (Banga, 1992). With the development of railways, Broach also had provided greater employment opportunities in town. As a processing centre and as supply centre in respect of cotton it provided employment to migrants from countryside. Thus, although manufacturing sector suffered a decline in terms of decline in traditional handicrafts and a decline in handloom sector, but expansion of tertiary sector in terms of the rise in allied industries of dyeing, printing, modern industries, other miscellaneous service avenues, diversified trade (wholesale and retail trade) caused ample opportunities to this town and thus led a huge immigration to this town. Veraval was a shipping port and was engaged in local fish trade as well as export trade.



**Konkan Coast:** A large number of small ports or port towns developed in quick succession in response to the spice trade which dotted the western coastline during later seventeenth and eighteenth centuries along the Konkan and Malabar coasts. They were Revdanda (Previously Chaul), Alibag, Dabhol, Bassein, Ratnagiri, Vijaydurg, Panaji, Thane, Bombay along the Konkan Coast. These ports of Chaul, Dabhol and Alibag, Bassein, Ratnagiri had been inhabited by Arabs, local Muslims, Portugese, Dutch and English having commercial contacts with Chaul. Hence, the volume of trade, interests of foreigners involved and growth of manufacturing centres by the British had suggested Chaul and other ports to be important trading centres during the eighteenth century which gradually transformed into populous urban port towns in the following centuries.

But both the site and situation of Bombay were optimal from the viewpoint of seventeenth and eighteenth centuries for the British technology and interests which shaped Bombay Island as an important major sea port city in nineteenth century. Bombay's hinterland was formed by west coast of India, stretching in a greater arc from Kathiawar and Gujarat in the north to Malabar in the south. Much of India's raw cotton for export to China came to Bombay by coastal vessels, just asspices imported into the port were distributed by sea. Hence, the need of physical expansion of the port with all those facilities, indispensable for rising trade, were felt which serviced Bombay's overseas communications (Banga, 1992). Thus, Bombay Port Trust was formed with successive construction of series of large wet docks such as Prince's Dock, Victoria Dock, and Alexandria Dock by 1914 apart from Sassoons Dock (Chakravorty, 1995). As a result of these developments, Bombay's island became one complex of docks and basins etc. which attracted port workers and other industrial workers such as mill workers, who gained their livelihood around the port. Consequently, from the latter half of eighteenth century, there were large scale immigration into the city caused by rapidly increasing demand for new labourers for dock construction, cargo handling and several work in the port. Moreover, several Port Trusts were also established which became location for new cargo facilities, (especially depots for bulk commodities) for strengthening and diversifying economic base of Bombay as a whole. This related to industrial activities such as asphalt refining, to residential housing for port workers (for example at Sewri), to public institutions of the port and also related to the expansion of financial and managerial sectors of the port city. Further Bombay's industrialisation during late eighteenth and early nineteenth centuries had led to the rapid rise of cotton industry and cotton mills, and other ancillary industrial enterprises such as dye factories and mechanical workshops. All these had attracted leading business men and city-based Indian merchants to



the city. Particularly, the important element in the emergence of Bombay's cotton industry was its orientation towards city's existing overseas market in East Asia and particularly in China. The latter made possible greater capital influx through capital accumulation in trade and trade-related activities. The necessary resources as its raw materials for its development were available in optimal amounts as a result of existing trade patterns. Further its machinery through imports from British foreland, its fuel through cheap sea—transport around Indian coast and its labour force as a result of immigration were sustained by its inland transport infrastructure such as railways (Great Indian Peninsular Railways). All these had favoured Bombay port city directly by these material and human resource factors. Thus Bombay's functioning as a port city was directly responsible for its huge urbanisation which exceeded by one million by mid-nineteenth century. This was because of its immigration from forelands and hinterlands. Immigration followed from the routes of Bombay's trading and transport relationships with outside world through grain exports to African and Arabian ports and through imports of beet-sugar from Europe and cane-sugar from Java and Mauritius (Banga, 1992). The port's hinterland were along the thin coastal strip of western coast of India from Malabar via Konkan to Gujarat and Kathiawar while its long distance forelands were Britain and Arabian trading world (from Gulf to East Africa) and later China predominated. Among the various foreland areas, Britain predominated in Bombay's immigration which transformed Bombay Island from cotton green opium go-downs to emporia of importers of British textiles and machinery, growth of huge real estates and residential mansions for business purposes. All the above factors had played important role in the industrial and commercial development and mostly in urbanisation of this port city during the nineteenth century. Ratnagiri was a port town located on the south of Pawas Bay.

**Malabar Region:** Several ports have developed along the Malabar Region such as Mangalore, Cannanore, Carwar Cochin, Aleppey, Quilon, Tellicherry, and Trivandrum. Karwar was an important commercial centre being attracted by the quality of pepper in the adjoining regions. Previously, Sadashivgarh had some natural advantages for a harbour site (Banga, 1992). It stood at the mouth of Kalinadi, a deep perennial river, which formed the Karwar Creek before merging in the Arabian Sea at a bay known as Sadashivgarh Bay. So it was used as a natural harbour. Cotton was grown in large quantity in its adjoining areas of Dharwar, Hubli, the principal cotton marts from where they were taken to Kumta, a small port about 40 km south of Sadashivgarh, and then to Bombay from which it were exported overseas. So the development of such cotton fields at the doorstep of the port helped the



development of British mills which was the main reason behind the urbanisation of these ports.

#### **4.2 Historical Background: Eastern Coast**

By the end of the seventeenth century the focus of western traders (both colonial as well as Indians) had shifted to the eastern coast of India which led to the growth of important port cities and towns on the Coromondal coast and also along the coastal Orissa and Bengal which played an important role in development not only of the regional economy but also of the entire peninsula as a whole. All these developments helped to shape the urbanisation of these regions.

**Coromondal Coast:** The favourable policies of the rulers of these regions contributed towards development of the ports and their hinterlands, thus resulting in a harmonious growth of agricultural production, textile manufacturers and allied trade and commerce. The prospects of the trade in this region attracted almost all the European traders which established their collection points for textiles at the ports in Krishna and Godavari Regions. As a result of this growing export market, ports in this region were considerably expanded thus leading to the growth of port cities—Masulipatnam, Vishakapatnam, Kakinada, Narsapur, Nizampatnam, Inergam, Maddepollam, Coringa, Cuddalore, Portonovo, Pulicat, Tranquebar, Karikkal, Pondicherry, Madras, Bheemunipatnam, Gopalapatnam, Narsapur. Masulipatnam emerged as a chief port city in the seventeenth century for French, Dutch, Danish and British trade (Banga, 1992). By the end of the seventeenth century, all these port cities, particularly, Masulipatnam and Madras had developed on account of flourishing textile industries and growing inland maritime trade. The ports had links with ocean trade of Gujarat, Persian Gulf and also with southern parts of Peninsula. Gradually these port towns had become important settlements of these European traders.

**Vishakapatnam:** Another important eastern port was Vishakapatnam which was a minor port prior to 1933. It, being bounded by Bay of Bengal on the east, had a natural and locked harbour. The maritime prospects provided it with greater accessibility to the sea—bordering countries of South East and East Asia and Australia with the promise for a flourishing trade and commerce. With its long coast, it had an advantage of developing commercial links through small other ports like others. It was possible as it was backed by rich hinterland possessing agricultural and mineral wealth covering huge areas of districts of modern Andhra Pradesh, Orissa, Madhya Pradesh and Maharashtra. With the commissioning of Port Trust in



1933, port had played a significant role in transforming it to an industrial hub as all industrial development followed here were port based. In fact, industrial development had accelerated the urbanisation of this port city. It was then the home of many major shipbuilding and ship repairing industries, oil and refineries, chemical industries such as polymers, fertilizers, steel industries and port based steel plants and also many other small and medium scale industrial units. The decade (1921-31) was significant with respect to this port city because many factors had led to the huge rural-urban immigration causing a rapid growth in population. The main reasons behind this were as follows (a) construction of the modern harbour (b) commissioning of the Vishakhapatnam port (c) establishment of Andhra University. During the post war period (1941-51), it was declared as a major port which resulted in further extension of port activities and hence opened wider opportunities of employment. The establishment of Hindustan shipyard, Caltex Oil Refinery (India) Ltd., Coromondal Fertilisers, Hindustan Polymers Ltd. (Gopalapatnam) in later decades enhanced further job employment opportunities leading to further immigration of people to this town (Rao and Satyamurthy, 1997). As a result, the decade (1941-51) revealed more than two fold increase in the growth of population as compared to the previous decade.

**Bengal:** The history shows that the towns of Bengal were mostly riverine prior to seventeenth century but these ports did not last long because of the frequent change in the river courses and also because of high silting of navigable channels of these rivers. For example, Tamralipti (on Bay of Bengal), Satgaon (on confluence of Damodar, Saraswati and Bhagirathi rivers), Chittagaon (on river Padma) had gradually lost their importance as port towns and had just reduced to mercantile urban trade towns. Satgaon, however, remained the chief port of Bengal until the emergence of Hooghly which became the chief port in the seventeenth century (Mukherjee, 1968). Hooghly experienced a rapid growth and development and for a century remained the most flourishing and most populous trading port in Bengal until the emergence of Calcutta port in the early decades of the eighteenth century. Port of Calcutta provided situational advantages to European traders for overseas and inland trade. With expansion of the British dominion in India, the port came to have much larger hinterland comprising the whole of north and north-west provinces such as Bengal, Bihar, Assam. Initially, the most important export items from Bengal were cotton, silk piece goods, raw silk, sugar, saltpetre, jute etc. But the rise of jute and tea industries in later half of eighteenth century in Bengal's hinterland made Calcutta port more important and as a service centre of these new exports to Nepal and overseas and even as a distribution centre over to



wide hinterland. Meanwhile the development of railways had transformed the nature of its economy from a purely agricultural to an industrial one as food crops were replaced by cash crops which had changed the pattern of internal as well as port-hinterland trade.

Calcutta emerged as a modern port in the second half of nineteenth century because of three reasons (a) introduction of Railways in 1853 (b) development of hinterland as a result of improvement and expansion of road transport (c) opening of Suez Canal in 1869 which shortened the voyage between England and India and thereby promoted commercial relations between United Kingdom and India. In the nineteenth century Calcutta's hinterland had been reduced to a raw material producing region which supplied the industrialized countries of Europe with commodities like indigo, cotton, opium, jute, tea which were mainly cash crops. Manganese ore, iron ore were also exported from this port. As a result, Europe received cotton and indigo from north-west provinces, tea from Assam and Cachar. China received opium of north-west provinces and jute from Calcutta (Mukherjee, 1968).

The flourishing Calcutta port had played an important role in the impressive growth of industries such as iron and steel engineering, coal, tea and particularly jute industries along the Bhagirathi-Hooghly belt. Calcutta played a crucial role, being a terminal port, providing two way traffic service for transportation of output (finished products) to foreign countries and inputs (raw materials) from India. Therefore, catering to the exclusive monopoly in traditional Indian export goods of fine textiles, food stuffs, precious metals, and manufactured products etc., Calcutta grew from an enclave port, to a hub of industrial and commercial activities of the eastern part of the region. Fundamental structural changes had taken place in the commodity composition of trade from the later part of mid eighteenth century. Calcutta was gradually transformed from being an exporter of manufactured goods, largely textiles, into a supplier of primary commodities, importing finished consumer goods and certain intermediate industrial goods as well. During the nineteenth century, Calcutta benefited the most from the increase in the colony's trade, handling roughly half of the international trade of Britain and gradually became a reputed urban centre of the country. Budge Budge was another riverine port which was established during the latter half of nineteenth century. It was merely a town initially situated on the riverside of Hooghly. Because of geographical locational advantage of jute growing areas in and around the banks of the river, Budge Budge Jute Mill was established in 1873. It was followed by the growth of other jute and cotton mills. The importance of this port town, however, had increased after 1886, when it was selected to be a port. With the rapidly growing import trade of petroleum, there was a need for a new oil depot and also for the construction of a petroleum wharf for



which Budge Budge was chosen (Mukherjee, 1968). Accordingly, Budge Budge petroleum was opened in 1886, oil jetty was constructed and in course of time important oil companies constructed their depots in this town. All these industrial and port developments had led to the immigration of workforce to this town which was the main reason behind its urbanisation.

### 5. Change in the Nature of Ports and Port Towns

If we consider the nature of these ports and port towns we can classify them into three types —

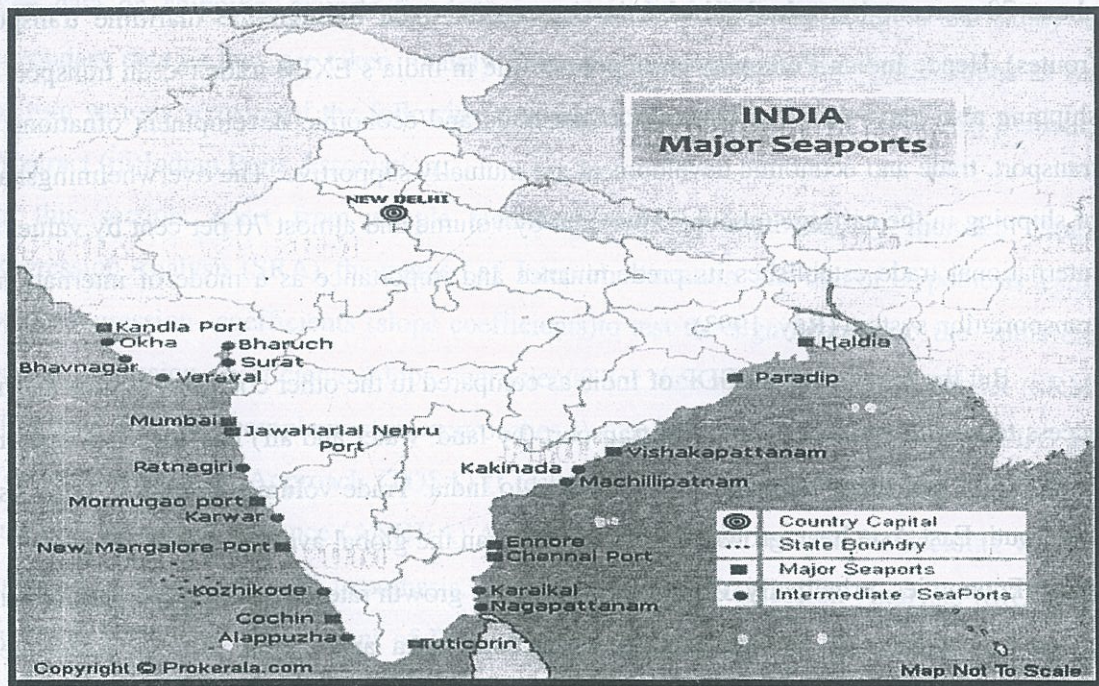
- (1) Riverine ports
- (2) Coastal or sea ports.
- (3) Inland port towns.

The historical study reveals that both riverine and maritime routes were important means of transportation during the pre-industrial period of Indian history i.e. during sixteenth and seventeenth centuries. The rise and decline of these sea ports of Bengal had been closely connected with this process. The growth of these inland and riverine port towns of north and south-eastern India during sixteenth and seventeenth centuries included Ahmedabad, Delhi, Lucknow, Ujjain, Patna, Agra, Lahore, Dhaka, Murshidabad, Satgaon, Chittagong etc. on the banks of rivers Indus, Ganga, Bhagirathi, Hooghly and also along their tributaries. They were once engaged in inland and overseas trade via riverine routes but had just reduced to booming industrial urban trade centres with sizeable population in later centuries during seventeenth to nineteenth centuries. Rest of the ports on the south eastern coast was seaports which even continued to be so in post independent period. Of the western coast, some ports were both riverine as well as seaports. They were Broach (Narmada River) Lothal (Indus River) Surat (Tapti River), Cuddalore (South Penner) Revdanda (Kundalika river) which gradually emerged as seaports under the colonial rule because of increasing importance in overseas trade and even continued to be so in post independent period except Lothal (now in Pakistan). Rest of the ports in Malabar region on the south western coast of India such as Mangalore, Karwar, Calicut, Cochin etc. were seaports even under the colonial rule. Of them, Cochin became the major port under the colonial rule (1920) (Banga, 1992). The history of major port system considered almost the following ports to be major ports during 1880 to 1950- Calcutta, Bombay, Madras, Karachi, Tuticorin, Nagapatnam, Dhanuskodi, Cuddalore, Cochin, Calicut, Chittagong, Mangalore, Portonovo, Tellicherry, Vishakapatnam, Broach, Surat. Of them, the three major ports, namely, Calcutta, Madras, and Bombay came to exist in early part of the twentieth century which was prime examples of solely colonial



port cities as they were developed and nurtured as ports under colonial rule particularly during British period i.e. during eighteenth and nineteenth centuries. All these three ports derived their respective colonial origin from settlements established and nurtured by the British. They had led to their expansion of geographical area, their increased density and complexity of population which ultimately helped them to become the leading entrepots for international trade and as world's greatest port cities. But the development of these port cities in post independence period were no longer been influenced by the ports alone. Hence they had relatively become less important as port cities and grew more important as industrial urban agglomerations (Banga, 1992).

**Map3: A Political Map of India showing the Major Ports of India and some of the important Minor Ports (Intermediate Ports) in post independence period (www.mapsofindia.com)**



### 5.1. Growth of port trade in India in post-independence period

In post-independence period, India now has an extensive coastline of 7517 km which spreads over 13 states/Union Territories. At present, it has a well-established port infrastructure with 12 major ports and 200 minor/intermediate ports (non-major ports) including working, non-working and captive ports. The Major ports as designated by the Government of India are Chennai, Kochi, Ennore (corporate), Jawaharlal Nehru Port (JNPT), Kolkata (including



Haldia), Kandla, Mormugao, Mumbai, New Mangalore, Paradip, Tuticorin and Visakhapatnam (Wp178.pdf). Both the major and minor ports are spread over nine coastal states and four Union Territories. These ports spread over Western as well as Eastern Coasts. Western coast spreads over five states namely, Gujarat, Goa, Maharashtra, Karnataka, Kerala and on two Union Territories namely, Daman & Diu and Lakshadweep. Eastern coast spreads over four states namely, Orissa, West Bengal, Tamil Nadu, Andhra Pradesh, and two Union Territories namely Pondicherry and Andaman & Nicobar Islands. The Maritime Sector in India comprises of Ports (both Major and Minor), Shipping, Shipbuilding and Ship repair and Inland Water Transport Systems (Ray, 1993).

The high growth trend in Indian GDP is reflected in the country's flourishing international trade, and the consequent high growth in traffic volumes for the shipping and ports sector in the post-independence period. During this period, India has, however, witnessed a rise in both her overseas trade [about 95 percent (lion's share) by volume and about 70 percent by value] and also in the coastal trade through the maritime transport (routes). Hence Indian Ports play an important role in India's EXIM trade. Ocean transport or shipping also plays an important role in the trade and economic development of nations as transport, trade and economic development are mutually supportive. The overwhelming share of shipping in the carriage (about 95 per cent by volume and almost 70 per cent by value) of international trade establishes its predominance and importance as a mode of international transportation system (Ray, 1993).

But the relatively low GDP of India as compared to the other countries has meant that access to a wide variety of modes of transport (by land, water and air) has not been uniform. High EXIM growth is however not also limited to India. Trade volumes in entire South Asia and South East Asia have grown at a higher rate than the global average due to the growth in Asian Economies, principally, China and India. This growth rate is expected to continue with a consequent increase in international trade from India and China. Recent government initiatives in the Indian Maritime sector for developing the requisite infrastructure, improving current processes and introducing policy measures, have created a conducive environment for the domestic (both public and private) and international players (such as DP World, Maersk, PSA, etc) to invest in Indian Ports. Accordingly, Major Ports have adopted the build-operate-transfer (BOT) model. Minor Ports (like Mundra and Pipavav), with their successful private sector participation, have also developed their ambitious expansion plans. Current growth trend in this country therefore suggests that the Indian Ports Sector would require a significant increase in capacity to meet the future cargo demand,



which would in turn create additional demand pressures on the Indian Shipping Sector. As the global competition increases in the trade sector, Indian Shipping is very important as the Indian Shipping Industry will need to increase its fleet in order to upgrade and improve its efficiency and become much more competitive (Ray, 1993).

So, in the post-independence period, this section attempts to examine the relationship between the total trade [both overseas and coastal] (measured in terms of the growth of overseas exports and overseas imports) and the total shipping performance (measured in terms of the growth of Indian total [overseas and coastal] fleet), to find out whether there is any role of shipping in increasing such total [overseas and coastal] trade over the said period [1989-90-2013-14]. Moreover this paper also attempts to assess the performance of the Major Ports and Minor Ports in the growth of overseas, coastal and total trade separately.

### **5.1.1 Data Source and Methodology**

The data on shipping, exports (loaded), imports (unloaded), etc. relating to our study are secondary data as they are taken mainly from the various issues and publications as well as from various websites of the following sources such as (i) Economic Survey (ii) Statistical Abstract (iii) Indian Ports Association.

In this section, apart from simple statistical tools, our methodology includes Simple Regression Analysis (SRA), the method of Interval estimation and that of Hypothesis testing of the regression coefficients (slope coefficients) to test the significance of the individual partial regression coefficients (slope coefficients) for the Simple Regression Model (SRM). Here two mutually complementary approaches i) Confidence Interval Approach (CIA) and Test of Significance Approach (TOSA) (t test), yielding the same results and conclusions, and ii) Analysis of Variance (ANOVA) Approach (F test) will be used for deciding whether to reject or accept the null hypothesis. In case of Simple Regression Analysis (SRA), the quantity known as Coefficient of Determination denoted by  $R^2$  (2 -variable regression) will be used to analyze the measure of the goodness of the fit of our regression equation. In the language of Hypothesis testing, a stated hypothesis or a null hypothesis ( $H_0$ ) is constructed and usually tested against the alternative Hypothesis testing ( $H_1$ ) in all the above tests (Gujrati and Sangeetha, 2008).

#### **5.1.1.1 Results and Discussion: Regression Analysis**

First, to study the impact of the growth of total trade on the total shipping performance over time, a time series analysis of a Classical Linear Simple Regression Model (CLSRM) is



constructed over the given period [1989-90-2013-14], with the following regression equation as follows:

$$TV_t = \alpha + \beta X_t + u_t [t=1,2,3,\dots,25] \quad (1)$$

Here slope coefficient ( $\beta$ ) measures the absolute change in TV for the given absolute change in [total trade] X over time.

Next, to test the individual partial regression coefficients ( $\beta$ s), the null hypotheses ( $H_0: \beta = 0$ ) so constructed against the alternative hypotheses ( $H_1: \beta \neq 0$ ) for the respective equation, is as follows.

$H_0$ : Change in total trade, [X] has no linear influence on TV.

$H_1$ : Change in total trade, [X] has linear influence on TV.

From the summary statistics of Regression Analysis of equation (1) in Table 3,  $R^2=0.9770$ , in this case, implies that almost 98% of the variation in TV is explained by the change in total trade, [X]. It is also evident from the high positive slope coefficient,  $\beta^*=0.9799$ , which explains a greater change in TV per unit change in total trade, X alone.

To test the significance of the regression coefficient,  $\beta^*$  is tested with the help of the above methods, CIA, TOSA, t-test and ANOVA, F-test respectively. Corresponding to the equation (1), regarding the performance of total trade in total shipping,  $\beta^*$  is both highly statistically significant at 5 percent level of significance as  $\beta=0$  falls outside the confidence intervals [0.915, 1.044]. Moreover, X is highly statistically significant at 5 percent level of significance as the computed absolute t value of X [31.27] is higher than that of the critical value or table value  $t_{0.025,23}=2.07$ . The same is also for computed F, where F of X [978.01] is higher than the critical value of  $F_{0.05, (1,23)}=4.28$ . Moreover p value of t is also very low for X to reject  $H_0$  and accept  $H_1$ . So, it can be concluded that (total trade) or X has significantly explained the variation in total shipping in case of India over the said period.

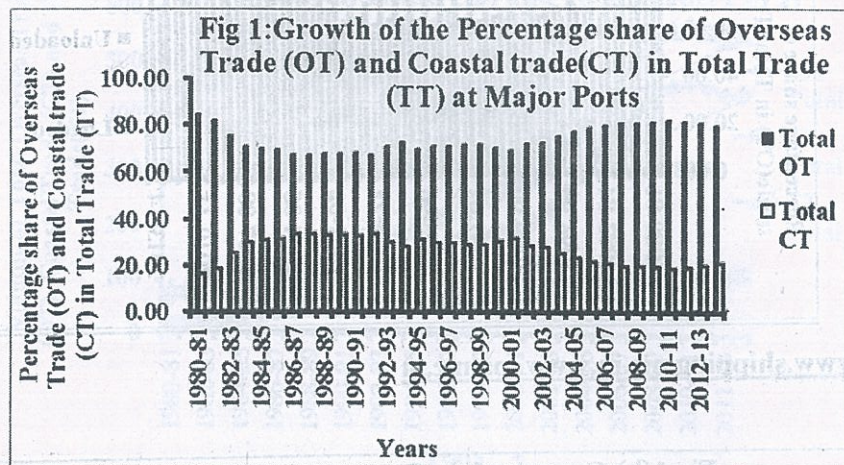
Table 3: Summary statistics of Regression Analysis and ANOVA

Equation No.	Variables	Coefficients	Lower 95 percent	Upper 95 percent	t stat	P value	F	R <sup>2</sup>	Adjusted R <sup>2</sup>
(1)	Intercept	214.88	179.28	250.48	12.48	9.95E-12	978.01	0.9770	0.9760
	T	0.9799	0.915	1.044	31.27	2.37E-20			

Source: www.ipa.nic.in



### 5.1.2 Major Ports



Source: [www.shipping.nic.in](http://www.shipping.nic.in), [www.ipa.nic.in](http://www.ipa.nic.in)

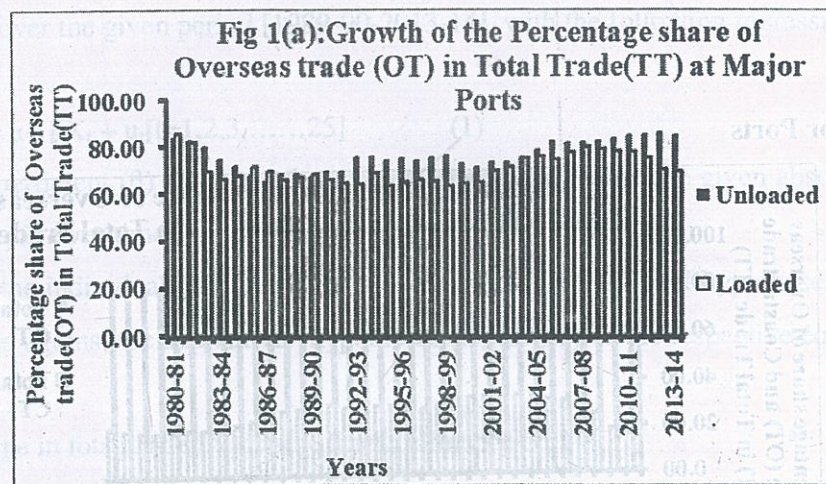
Fig. 1 reveals the volume of the growth of the total overseas trade, coastal trade and total trade, with the volume of the growth of the total overseas trade being higher than the coastal trade at the Major Ports during the period [1980-81-2013-14]. It is measured in terms of the percentage share of overseas and coastal trade in the total trade at Major ports in India.

Regarding the percentage share of overseas trade in the total trade, in Fig 1(a), overseas imports' share is higher than that of the overseas exports' share, as the volume of the overseas imports is higher than overseas exports.

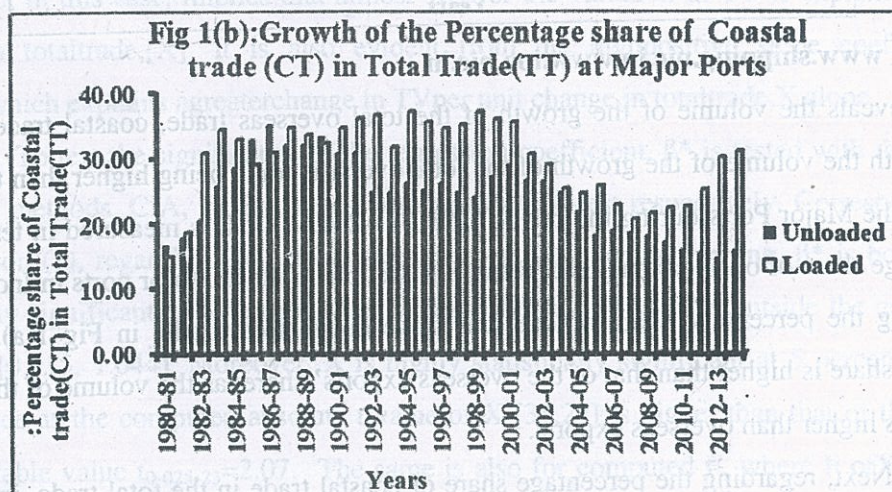
Next, regarding the percentage share of coastal trade in the total trade, in Fig 1(b), coastal exports' share is higher than that of the coastal imports' share, as the volume of the coastal exports is higher than coastal imports.

Fig 2 reveals the trend in the growth of the volume of total overseas trade, coastal trade and total trade over the [1980-81-2013-14] period. It is found that in case of 92.8% of the variation in total trade, about 89.3% and 98.2% of the variations are explained by the overseas and coastal trade respectively. So it implies that the variation in the volume of the coastal trade is higher than the overseas trade.





Source: [www.shipping.nic.in](http://www.shipping.nic.in), [www.ipa.nic.in](http://www.ipa.nic.in)



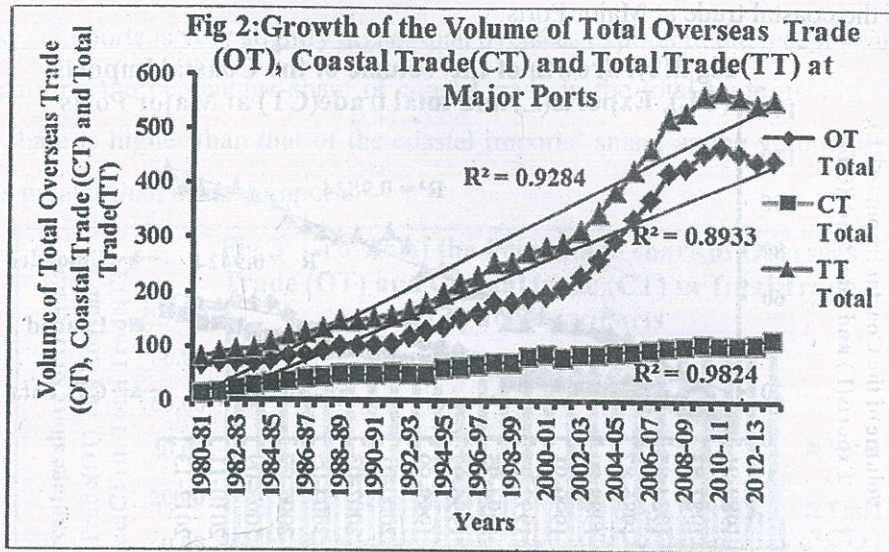
Source: [www.shipping.nic.in](http://www.shipping.nic.in), [www.ipa.nic.in](http://www.ipa.nic.in)

Fig2(a) reveals the trend in the growth of the volume of overseas imports (UL), exports(L) and that of the total trade(OT).It is found that in case of 89. 3% of the variation in total overseas trade, about 89.2% and 81.6% of the variations are explained by the overseas imports and exports respectively. So it implies thatthe variation in the volume of the overseas imports is higher than overseas exports, as the volume of overseas imports is greater than that of overseas exports at Major ports.

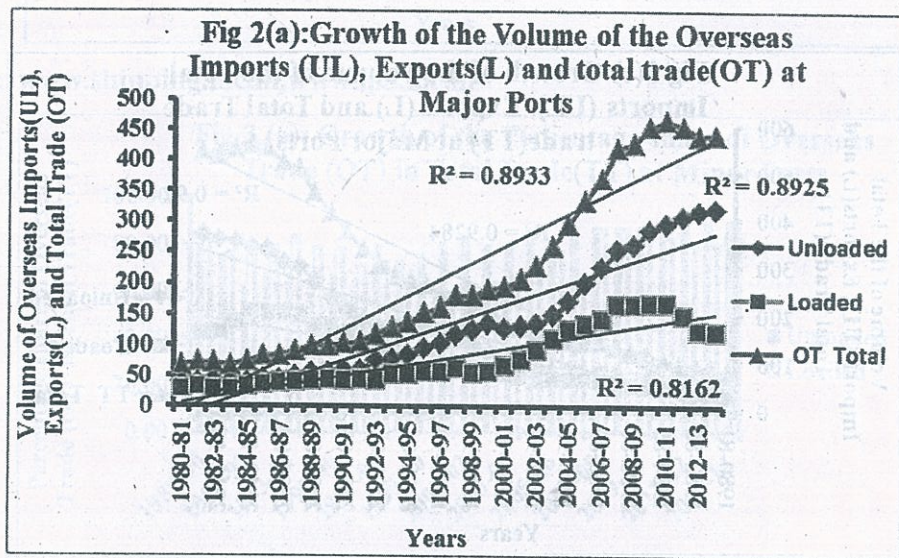
Again, Fig2(b) reveals the trend in the growth of volume of the coastal imports (UL), exports(L) and that of the total trade (CT). It is found that in case of 98.2% of the variation in total coastal trade, about 94.2% and 97.9% of the variations are explained by the coastal imports and exports respectively. So it implies that the variation in the volume of the coastal



imports less than coastal exports, as the volume of coastal exports is higher than that of coastal imports at Major ports.



Source: [www.shipping.nic.in](http://www.shipping.nic.in), [www.ipa.nic.in](http://www.ipa.nic.in)

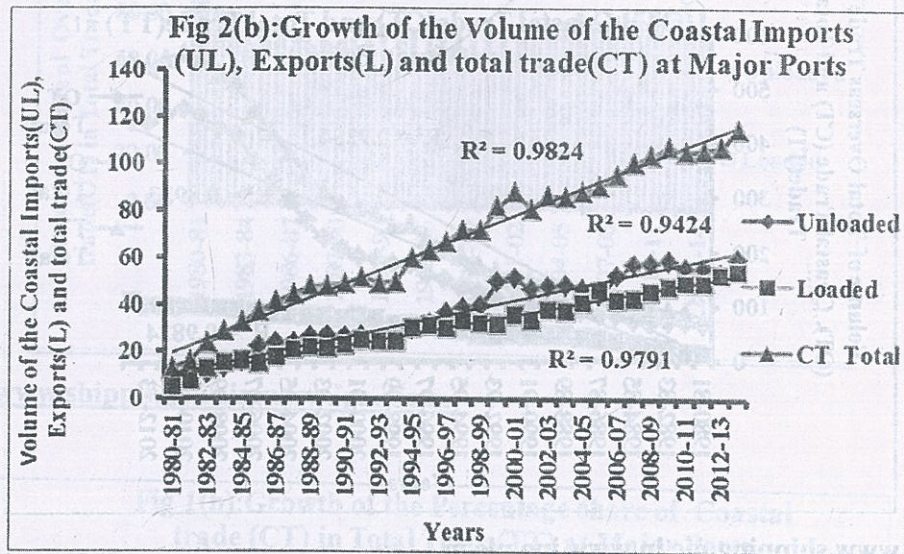


Source: [www.shipping.nic.in](http://www.shipping.nic.in), [www.ipa.nic.in](http://www.ipa.nic.in)

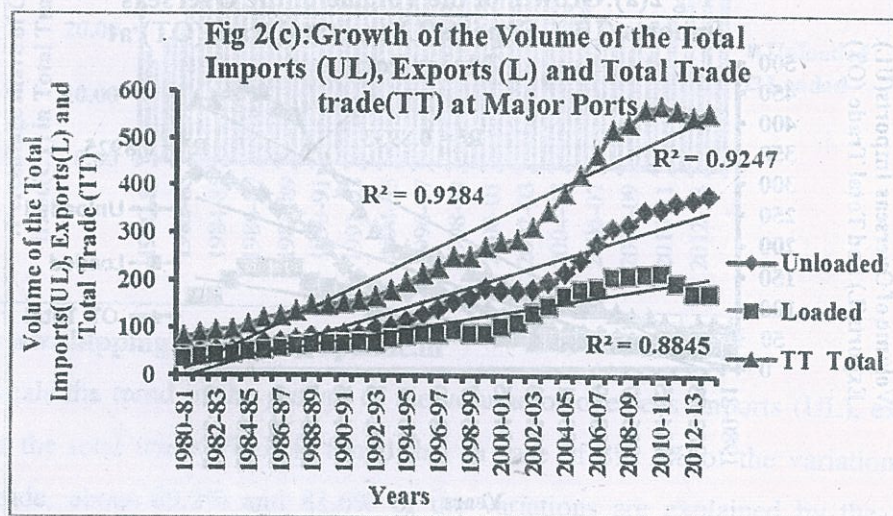
As a result, from Fig 2(c), in case of 92.8% of the variation in total trade, about 92.4% and 88.4% of the variations are explained by the total imports and exports respectively. So it implies that the variation in the volume of the total imports is higher than the total exports. This is because the growth of the volume of the total overseas trade being higher than the coastal trade in case of Major Ports.



Hence it can be said that although the volume of the overseas trade is higher than that of the coastal trade, a greater variation in the latter implies a greater thrust on the increase in the volume of the coastal trade at Major Ports.



Source: [www.shipping.nic.in](http://www.shipping.nic.in), [www.ipa.nic.in](http://www.ipa.nic.in)



Source: [www.shipping.nic.in](http://www.shipping.nic.in), [www.ipa.nic.in](http://www.ipa.nic.in)

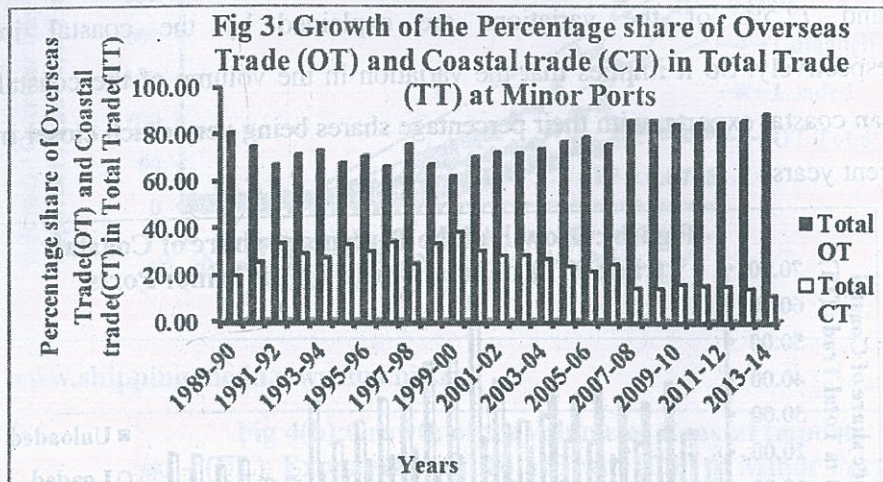
### 5.1.3 Minor Ports

Fig. 3 reveals the volume of the growth of the total overseas trade, coastal trade and total trade, with the volume of the growth of the total overseas trade being higher than the coastal trade at the Minor Ports [1989-90-2013-14]. It is measured in terms of the percentage share of overseas and coastal trade in the total trade at Minor ports in India.

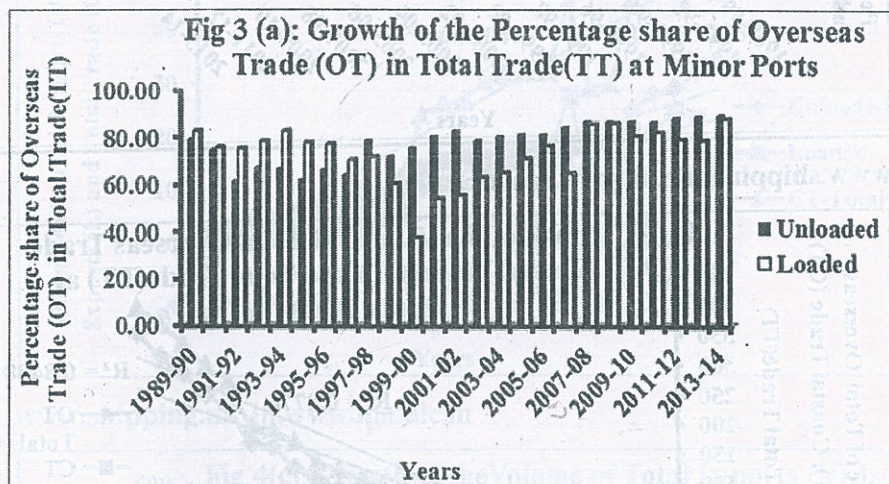


Regarding the percentage share of overseas trade in the total trade, in Fig3(a), overseas imports' share is very slightly higher than that of the overseas exports' share, as the volume of the overseas imports is very slightly higher than overseas exports in the recent years.

Next, regarding the percentage share of coastal trade in the total trade, in Fig 3(b), coastal exports' share is higher than that of the coastal imports' share, as the volume of the coastal exports is greater than coastal imports.



Source: [www.shipping.nic.in](http://www.shipping.nic.in), [www.ipa.nic.in](http://www.ipa.nic.in)



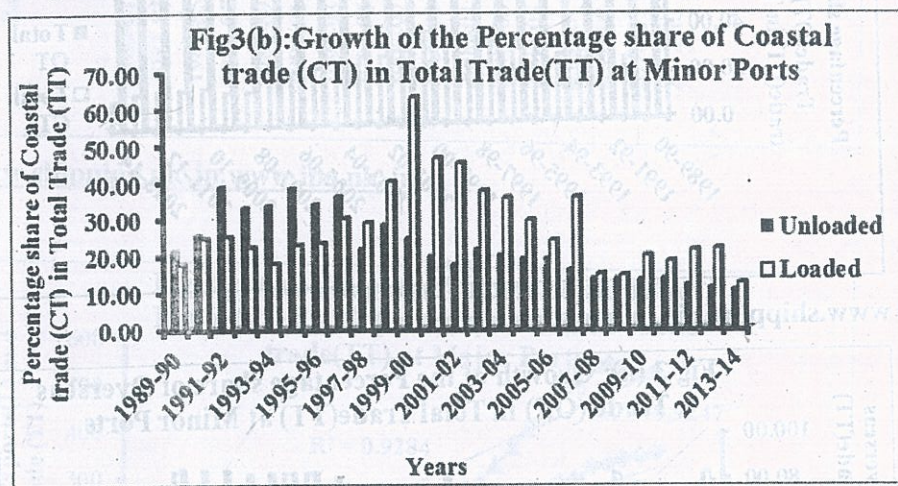
Source: [www.shipping.nic.in](http://www.shipping.nic.in), [www.ipa.nic.in](http://www.ipa.nic.in)

Fig 4 reveals the trend in the growth of the volume of total overseas trade, coastal trade and total trade over the [1980-81-2013-14] period. It is found that in case of 87.7% of the variation in total trade, about 84.8% and 91.2% of the variations are explained by the overseas and coastal trade respectively. So it implies that the trend in the variation in the volume of the coastal trade is higher than the overseas trade. Fig. 4 (a) reveals the growth of the volume of overseas imports (UL), exports (L) and that of the total trade (OT). It is found

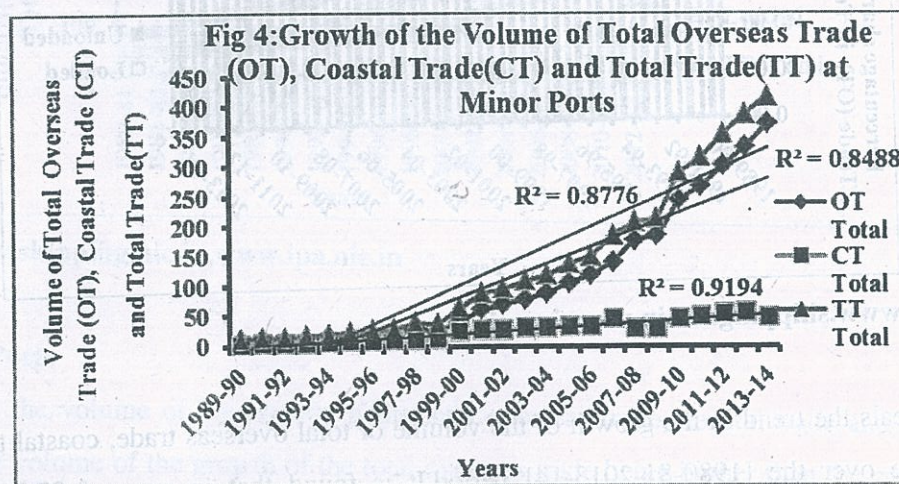


that in case of 84.8% of the variation in total overseas trade, about 80.9% and 87.8% of the variations are explained by the overseas imports and exports respectively. So it implies a slightly higher variation in the volume of the overseas exports than that in overseas imports, with their percentage shares being very closer in total trade.

Fig 4 (b) reveals the volume of the growth of coastal imports (UL), exports(L) and that of the total trade (CT). It is found that in case of 91.9% of the variation in total coastal trade, about 92.8% and 72.5% of the variations are explained by the coastal imports and exports respectively. So it implies that the variation in the volume of the coastal imports is higher than coastal exports, with their percentage shares being very much closer in total trade in the recent years.



Source: [www.shipping.nic.in](http://www.shipping.nic.in), [www.ipa.nic.in](http://www.ipa.nic.in)

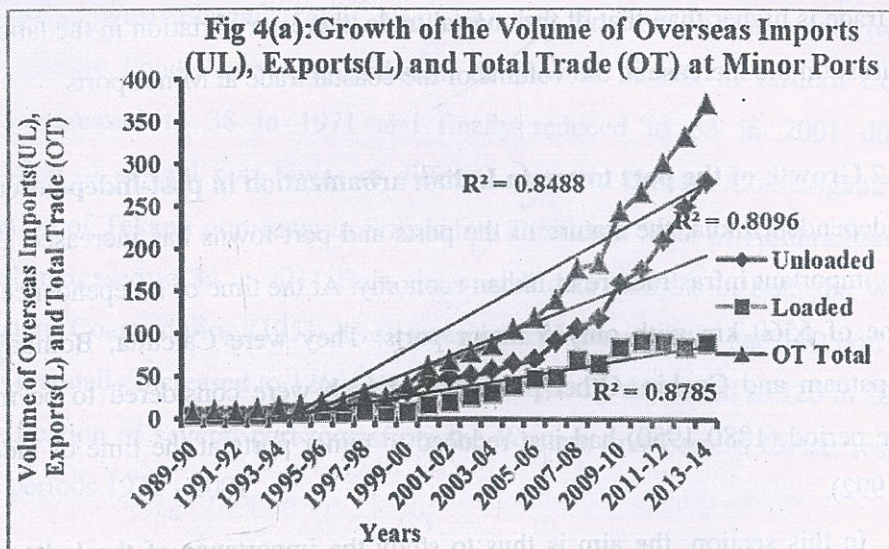


Source: [www.shipping.nic.in](http://www.shipping.nic.in), [www.ipa.nic.in](http://www.ipa.nic.in)

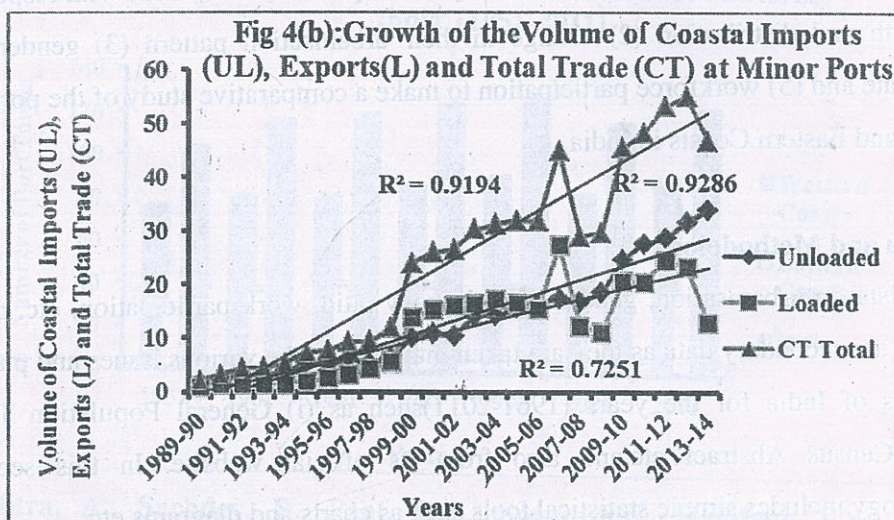
As a result, from Fig 4 (c), it is found that of the 87.7 % of the variation in total trade, about 82.6% and 92.1% of the variations are explained by the total imports and exports



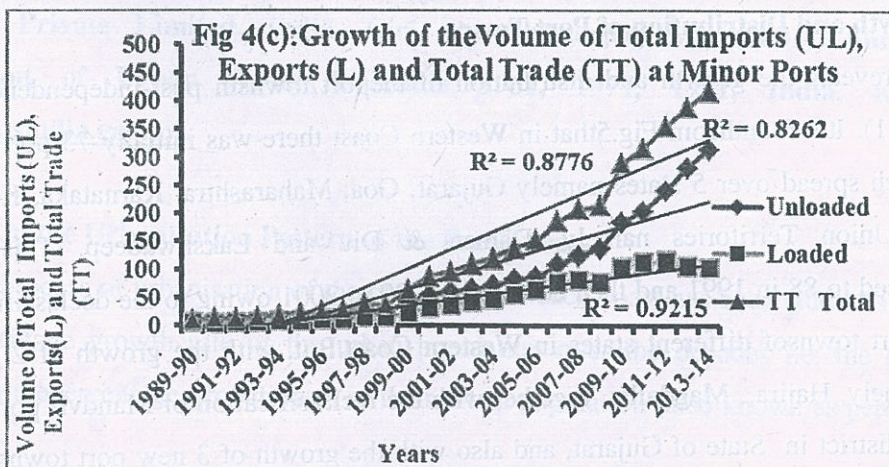
respectively. So it implies that the variation in the volume of the total exports is higher than the total imports. This is because of the greater variation in the growth of the volume of the



Source: [www.shipping.nic.in](http://www.shipping.nic.in), [www.ipa.nic.in](http://www.ipa.nic.in)



Source: [www.shipping.nic.in](http://www.shipping.nic.in), [www.ipa.nic.in](http://www.ipa.nic.in)





Source: [www.shipping.nic.in](http://www.shipping.nic.in), [www.ipa.nic.in](http://www.ipa.nic.in)

overseas exports at Minor Ports. Hence it can be said that although the volume of the overseas trade is higher than that of the coastal trade, a greater variation in the latter implies a greater thrust on the increase in the volume of the coastal trade at Minor ports.

## **Section 5.2 Growth of the port towns in Indian urbanization in post-independence period**

In independent India, the stature of the ports and port towns has increased as they still remain an important infrastructure in Indian economy. At the time of independence, India had a coastline of 5560 km with only 5 major ports. They were Calcutta, Bombay, Madras, Vishakhapatnam and Cochin. Other port towns which were considered to be major ports during the period (1880-1950) had just reduced to minor ports at the time of independence (Banga, 1992).

In this section, the aim is thus to study the importance of the Indian port towns (major and minor ports) in India in post independent period (1951-2011) with respect to their (1) growth and distribution (2) change in their urbanisation pattern (3) gender ratio (4) literacy rate and (5) workforce participation to make a comparative study of the port towns of Western and Eastern Coasts in India.

### **5.2.1 Data and Methodology**

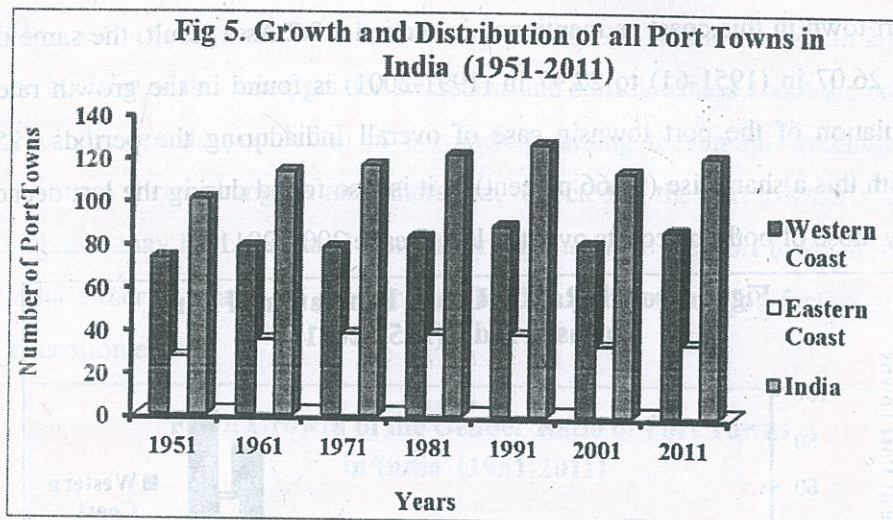
The data on urbanisation, gender ratio, literacy ratio, work participation, etc. relating to our study are secondary data as they are taken mainly from the various issues and publications of Census of India for the years (1961-2011) such as (i) General Population Tables (ii) Primary Census Abstract etc. and also from its official website. In this section, our methodology includes simple statistical tools such as charts and diagrams etc.

### **5.2.2 Growth and Distribution of Port Towns**

Fig.5 reveals the growth and distribution of the port towns in post-independence period (1951-2011). It is found from Fig.5 that in Western Coast there was initially 73 port towns in 1951 which spread over 5 states namely Gujarat, Goa, Maharashtra, Karnataka, Kerala and on two Union Territories namely, Daman & Diu and Lakshwadeep. This number had increased to 88 in 1991 and then decreased to 80 in 2001 owing to the declassification of several port towns of different states in Western Coast. But, with the growth of 2 new port towns namely, Hajira, Magdalla, together with the reclassification of Mandvi port town in Kachchh district in State of Gujarat, and also with the growth of 3 new port towns namely,



Kadmat, Kalpeni and Andrott in the Union Territory of Lakshwadeep, this number had increased to 86 in 2011. There were initially 27 port towns in 1951 which spread over 5 states namely, Orissa, West Bengal, Tamil Nadu, Andhra Pradesh, Assam, and two Union Territories namely Pondicherry and Andaman & Nicobar Islands in Eastern Coast. This number had increased to 38 in 1971 and finally reduced to 33 in 2001 due to the declassification of several port towns of different states in Eastern Coast. Again, with the reclassification of Tekkali port town in Srikakulam District in State of Andhra Pradesh, this number had increased to 34 in 2011. Thus, the overall data analysis of both the Western as well as Eastern Coasts during (1951-2011) reveals that India initially had 100 port towns in 1951 which gradually increased to 126 in 1991 but then finally decreased to 120 in 2011 due to the declassification of several port towns from the Western and Eastern Coasts respectively during the periods 1971 - 2001.



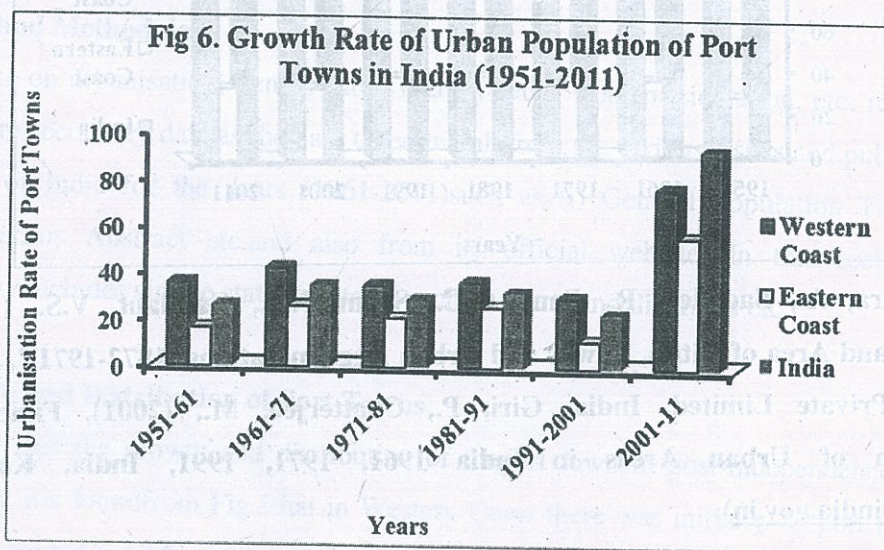
Source: Mitra, A., Sachdev, R., Pant, G.C., Soam, N.S., Gaihlaut, V.S., (1980), 'Population and Area of Cities, Towns and Urban Agglomerations (1872-1971)', Allied Publishers Private Limited, India. Giri, P., Chatterjee, M., (2001), Functional Classification of Urban Areas in India 1961, 1971, 1991, India, Kolkata, ([www.censusindia.gov.in](http://www.censusindia.gov.in)).

### 5.2.3 Trend in the Urbanisation Pattern of the Port Towns

The process of urbanisation of the port towns of each coast has been studied in terms of the percentage growth rate of the urban population over the decades i.e. the decadal variations in the percentage growth rate of their urban population (also known as percentage



decadal growth rate) over the period (1951-2011) for both the Western as well as Eastern Coasts in India. Fig.6 reveals the growth rates of the urban population of the port towns in India in post-independence period (1951-2011). It is found from Fig.6 that Western Coast has shown a decline in the growth rates of their urban population of the port towns over the periods (1951-2001) from 35.29 in (1951-61) to 29.61 in (1991-2001) because of the sharp declining trend in the growth rates of the urban population of the port towns in Kerala and Maharashtra. But there is a sharp rise in the growth rates of the urban population of the port towns in Western Coast in 2001-11, with the growth of some new port towns in this coast as mentioned in section 5.2.2. In case of the Eastern Coast, growth rates of urban population of their port towns have declined from 16.06 in (1951-61) to 11.50 in (1991-2001). But there is also a tremendous jump in the growth rates of the urban population of the port towns in Eastern Coast in 2001-11 to almost 56.01 percent, mainly because of the rapid rise in the absolute urban population of some of the port towns together with the reclassification of Tekkali port town in this coast as mentioned in section 5.2.2. As a result, the same declining trend from 26.07 in (1951-61) to 22.97 in (1991-2001) is found in the growth rates of the urban population of the port towns in case of overall India during the periods 1951-2001; together with this, a sharp rise (93.66 percent) in it is also found during the last decade, as are reflected by those of both the coasts over the last decade 2001-2011.



Source: Census of India, 1961, 1971, 1981, 1991, 2001, 2011 ([www.censusindia.gov.in](http://www.censusindia.gov.in)).

#### Factors affecting their urbanisation pattern of port towns

If we study various socio-demographic factors such as literacy rate and gender ratio as the important indicators leading to such change in the urbanisation pattern, they are also important parameters of urban development of these port towns and cities, just like any other



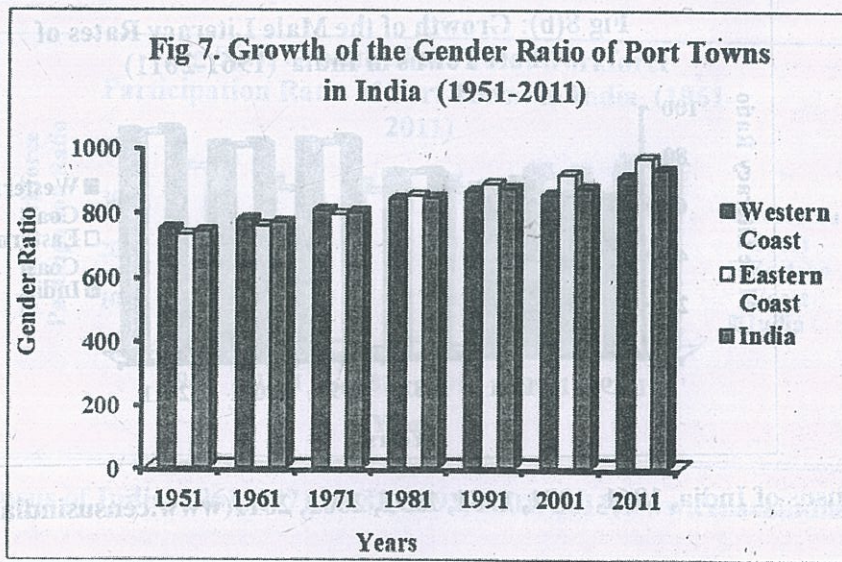
city or town (Kundu, 1992). Thus, we study the factors affecting their urbanisation pattern such as gender composition, literacy, workforce participation of the port towns.

#### 5.2.4 Change in the gender ratio of port towns

Sex Ratio or Gender ratio is defined as the number of females per 1,000 males.

Fig.7 reveals the change in the gender ratio of the port towns in post-independence period (1951-2011). It is found from Fig.7 that there had been a steady rise in gender ratio from 744 in 1961 to 904 in 2011 in the port towns of Western Coast and also from 726 in 1961 to 962 in 2011 in Eastern Coast over the said period. As a result, the same rising trend is found in the gender ratio of port towns in India as a whole from 736 in 1951 to 926 in 2011 during the period 1951-2011. This is however reflected from the all over India average gender ratio in urban areas which has increased from 900 in 2001 to 929 in 2011, together with the corresponding rise in total gender ratio in the country from 933 in 2001 to 943 in 2011.

This may be because of the rising gender awareness and consciousness about the position and importance of the female population in our society among the general womenfolk of the country. The same social change is also, therefore, reflected in the port towns. As a result, the female population may have migrated from the village areas to the port towns in most of the states of India either in search of jobs or may be due to other non-job factors such as for marriage, education etc.



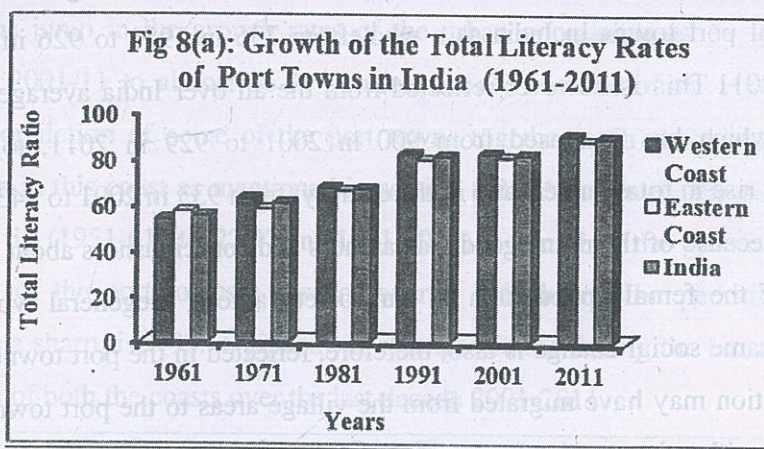
Source: Census of India, 1961, 1971, 1981, 1991, 2001, 2011 (www.censusindia.gov.in).

#### 5.2.5 Change in the literacy rate of port towns

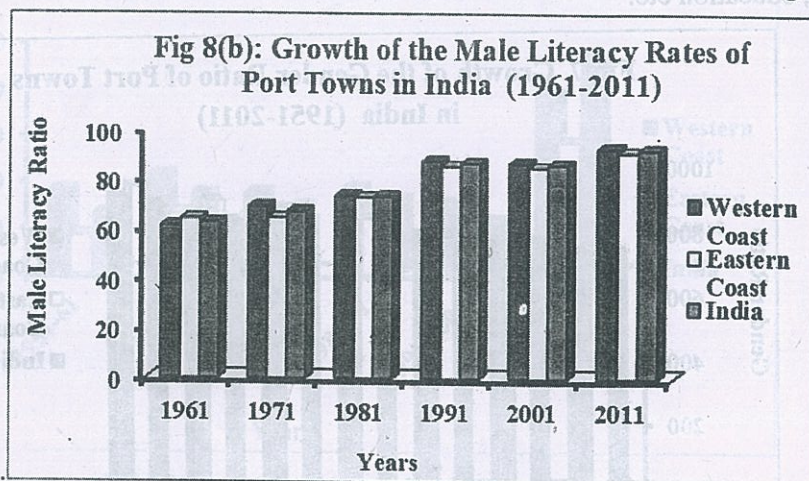


Fig.8 [(a)-(c)] reveals the change in the literacy rate or ratio of the port towns in post-independence period (1961-2011). It is found from Fig 8 [(a)-(c)] that both the Western and Eastern Coasts and also India as a whole have shown a sharp rising trend in total, male and female literacy rates for their port towns over the said period.

This is however reflected from the corresponding increase in total literacy rate from 79.9 in 2001 to 84.1 in 2011, that in male literacy rate from 86.3 in 2001 to 88.8 in 2011 and also that in female literacy rate from 72.9 in 2001 to 79.1 in 2011 in urban areas of the all over India average figures respectively ([www.censusindia.gov.in](http://www.censusindia.gov.in)). This may be because that the general population, especially the female population is growing aware and conscious about the importance of literacy in the country, which is also reflected among the female population.

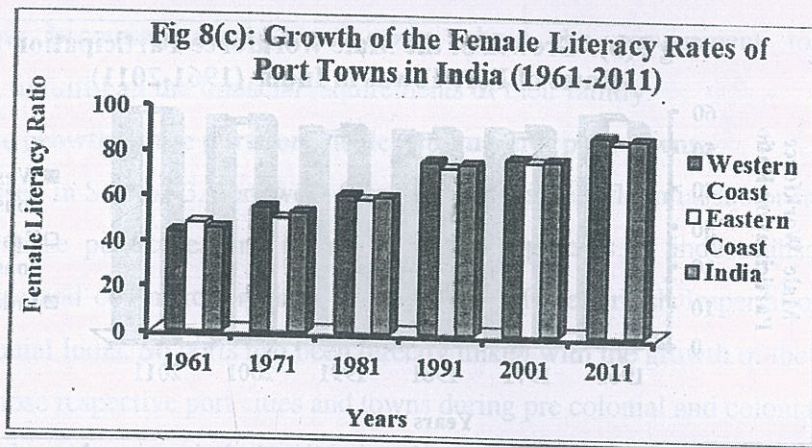


Source: Census of India, 1961, 1971, 1981, 1991, 2001, 2011 ([www.censusindia.gov.in](http://www.censusindia.gov.in))



Source: Census of India, 1961, 1971, 1981, 1991, 2001, 2011 ([www.censusindia.gov.in](http://www.censusindia.gov.in)).

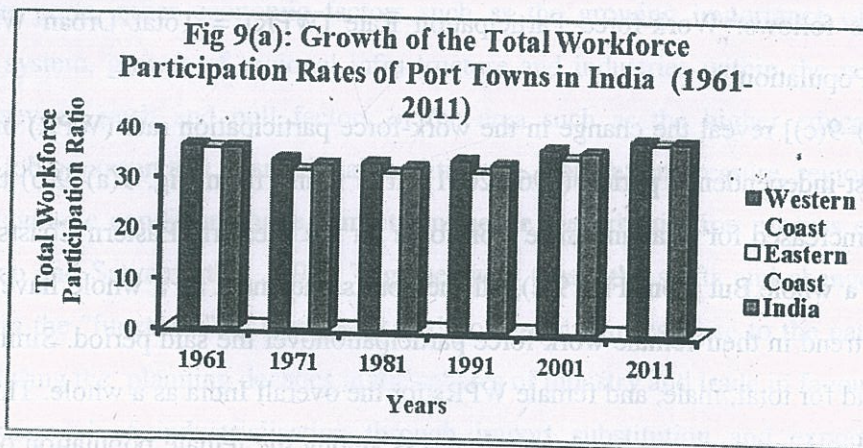




Source: Census of India, 1961, 1971, 1981, 1991, 2001, 2011([www.censusindia.gov.in](http://www.censusindia.gov.in)).

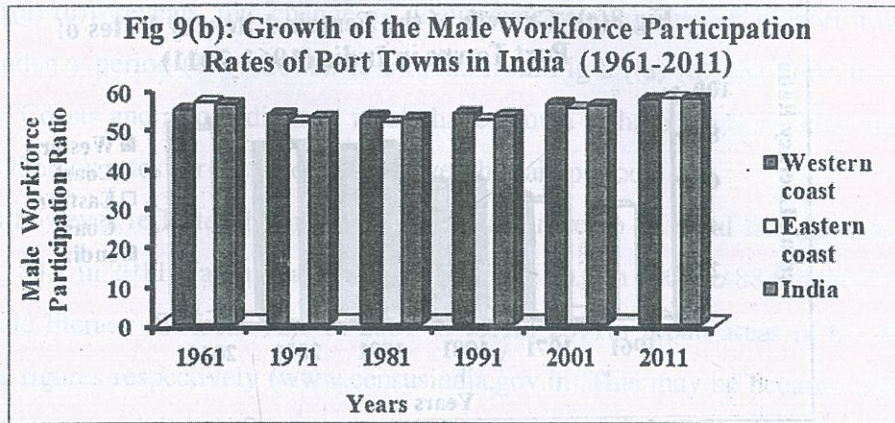
of the port towns in most of the states of India, as a result of government and NGOs initiatives through the adoption of several literacy policies and campaigns in India such as National Policy on Education (NPE) in 1986, National Literacy Mission (NLM), a nationwide program by Government of India in 1988, Universalisation of Elementary Education (UEE) scheme launched in 2002-03 to bridge the gender and social gaps in enrolment, enactment of the Right of Children to Free and Compulsory Education Act, 2009, National Programme for Education of Girls at Primary Level (NPEGEL) launched in July 2003 etc. in this respect (Dutt, 2010).

### 5.2.6 Change in the total workforce participation (total, males and females) in the port towns

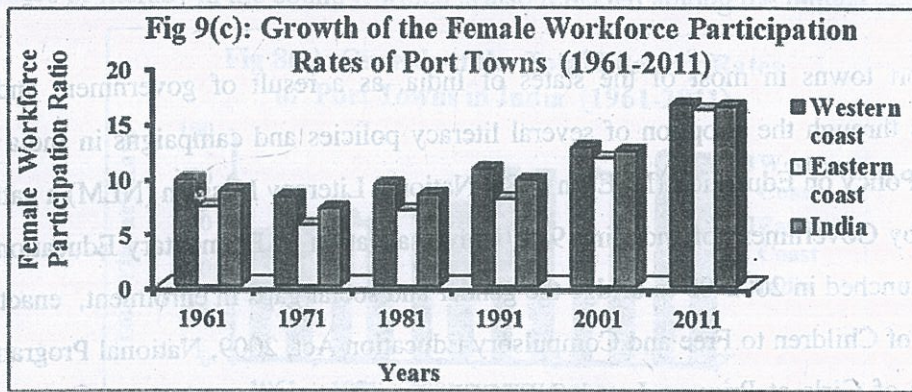


Source: Census of India, 1961, 1971, 1981, 1991, 2001, 2011([www.censusindia.gov.in](http://www.censusindia.gov.in)).





Source: Census of India, 1961, 1971, 1981, 1991, 2001, 2011(www.censusindia.gov.in).



Source: Census of India, 1961, 1971, 1981, 1991, 2001, 2011(www.censusindia.gov.in).

Work-force Participation Rate (WPR) is one of the important indicators of urbanisation and it is defined as follows:  $\text{Work-force Participation Rate (WPR)} = \frac{\text{Total Urban Workforce}}{\text{Total Urban Population}}$

Figures [9(a)–9(c)] reveal the change in the work-force participation rate (WPR) of the port towns in post-independence period (1961-2011). It is found from Fig. 9(a)–9(b) that WPR has slightly increased for total and male workforce for the Western, Eastern Coasts and also for India as a whole. But from Fig. 9(c), all the coasts and India as a whole have shown a sharp rising trend in their female work force participation over the said period. Similar trends are also found for total, male, and female WPRs for the overall India as a whole. This may be because of the rising awareness and consciousness among the female population of the port towns in most of the states of India about their financial dependence just like those of the non port towns, may because of the general impact of the adoption of several educational policies and literary programmes all over the country, as mentioned in the above section. As a result,



women are now becoming much more aware about the requirement to go for jobopportunities, to fulfill all the financial requirements of their family.

### **5.3 Impact of the growth of the ports on the development of port towns**

As discussed in Section 3, ports were found to be the sole influential factor in regional development of these port cities and towns through the process of industrialisation and expansion of trade and commerce, mainly, as an impact of the British Imperial and Trade Policy in the colonial India. So ports had been directly linked with the growth of the maritime urbanisation of those respective port cities and towns during pre colonial and colonial period.

In post-independence period, the situation, however, has changed. This is because the importance of the ports and port towns in international trade have drastically changed with the change in the economic scenario in response to various policy changes in the trade and transport sector within the country. In post-independence period, generally, ports of both Western and Eastern Coasts have to face competition from the land-routes such as railways and roadways, in case of internal trade, and more recently with air-routes in case of external trade. Consequently, there had been a change in the direction, pattern and composition of trade in both the coasts, as compared to colonial trade, which had affected the respective ports in different ways. For instance, India, which was once primarily a supplier of raw materials in colonial times, had begun to export industrial finished goods in post-independence period. Ports, therefore, no longer continued to remain the sole factor to affect the trade and urbanisation of these port towns in post-independence period. Not only that, apart from ports, other economic factors such as the growing importance of land-based transport system, growth of regional infrastructure and industries within the interior of the country, several push and pull factors of the area such as the higher education, banks, business, job opportunities, recreational facilities etc., population pressure, regional linkages, socio - economic conditions have come to influence the urbanisation process of these port towns (Rao and Satyamurthy, 1997). Together with these, the shifts and changes have also occurred in the "functions" of these ports and port towns, in response to the national policy changes during the planning decades in the spheres of industry and trade in favour of 'inward looking strategy' of industrialisation through import substitution and export promotion strategies. All these have changed the occupational structure of these port towns from primary sector of occupations to that of secondary and tertiary sectors, thereby, causing a greater impact on the urbanisation of these port towns (Mitra et al, 1981).

However, for the study of convenience, the post-independence period can be divided into two periods - pre-reform period (1950-1990) and post reform period (i.e. since 1991), in



response to the structural adjustment reforms adopted in 1991 which aimed at liberalisation/globalisation/ privatisation of the country's economy (WP178.pdf).

In pre-reform period (1950 to 1990), first, a marked change is found in the port system in India, both hierarchical and spatial, particularly, in case of Major Ports. In India, three major gateway port cities namely, Calcutta, Mumbai, and Madras (Presidency capitals during the British period) only continued to maintain their supremacy in the port hierarchy in the pre-reform period of the post-independence period, thereby controlling their hinterlands. The ports of Bombay (now Mumbai) on the West Coast, and Calcutta (now Kolkata) and its ancillary port of Haldia on the East Coast shared the first and the second ranks respectively in terms of cargo handled. Madras (now Chennai) and Visakhapatnam fluctuated between the third and the fourth ranks. The decline of Calcutta in the 1960s, which was earlier at the second rank, was partly caused by physical constraints and partly by the opening of the alternative ports of Paradip, Haldia and Visakhapatnam. The intermediate ports had experienced significant fluctuations in their ranks. But the role of non-major ports in international trade, however, remained more or less insignificant, compared to that of Major ports within the country during the pre-reform period.

In post-reform period, as an impact of globalisation and liberalisation of the Indian economy and also that of the growing demand of world seaborne trade in response to the increased competition in international trade, together with the emerging significance of the containerisation in the global world, Ports now have become one of the important nodes for interchange of traffic amongst various modes of transport and a vital element in the global logistic supply chain management systems (ports\_v3\_p2.pdf). Inefficient existing port structure, inadequate urban transport and lack of reforms in railways thus entails to tackle such critical situation through the development of the multimodal transport system within the country which is also beneficial for trade (present\_ntdpc.2802.pdf). This is because such balanced modal mix can provide better connectivity to a port through all three modes—rail, road and inland waterways for enabling quick evacuation within the ports as well as to the external hinterland, in the shortest possible time. Since such balanced modal mix is thought to be a cheaper mode of transport as well as more environmental-friendly as compared to road, it is expected that it will also significantly contribute to reduce the waste caused by poor logistics infrastructure, in the most cost-effective way (ports\_v3\_p2.pdf).

Therefore, in post-reform period, with a view to restructure the so far, colonial path dependent port system of India and also in response to the contingencies of the structural



adjustment reforms adopted in 1991, during the era of liberalization/globalisation/privatisation of the country's economy, three important national level infrastructure and regional development programmes were adopted, which have been found to act as the catalysts in case of post reform growth strategies, particularly, in regional and port sector restructuring. These programmes are as follows:

1) With a view to construct the national highways to connect the four corners of the country, the National Highway Development Programme (NHDP)(2001) was initiated to develop two sets of highways.

2) For a better roadway network connectivity, the Golden Quadrilateral Highway System (GDHS) (2001) was initiated to traverse the east and west coasts of India and converge in the north at the capital city of Delhi, thereby forming a quadrilateral, together with the development of the north - south, east - west transport corridors to connect the four cardinal points of the country.

3) 'Sagarmala Project' (SP) (2003), literally meaning 'ocean garland,' with a view to make a 'garland' of new (both public and private) seaports along the triangular peninsular India's coastline. However, the National Maritime Development Programme (NMDP) (2005) replaced this project to upgrade and modernise the port infrastructure and port - rail - road connectivity.

Finally, the Corridor Development Programme (CDP)(2005) was initiated to focus on creating port linked axes for industrial development and efficient freight movement.

These programmes have created i) a non - path dependent trajectory in India's port sector wherein old ports are losing their significance and ii) a new locational matrix of sea and dry ports linked to seaport oriented transport/freight corridors, thereby highlighting on the following three trajectories of port related regional development processes in globalising India.

- Consequent changes in the existing port system, both hierarchical and regional, with the emerging significance of newer and non - major ports in trade and hinterland development at the all - India macro level.
- The relevance of port focused development corridor projects which are a privileged component of the regional development strategy in India today.



- The growing significance of dry ports in the logistic chain of freight movement and their linkages with local economies at the micro level (dry port clusters).

As an impact of the adoption of the above mentioned policies and programmes in the globalisation period i.e. since 1991 due to the adoption of the New Economic Policy in India in 1991, overview of the Port sector has also changed in post independence period, by moving away from the colonial path dependent port system in post reform period, together with their impact on the growth of port towns.

First, the old and traditional ports of Mumbai, Kolkata (including Haldia), Chennai and Cochin gradually lost their ranks in terms of general cargo handled, with the lowest share being enjoyed by Kolkata port. The port of Mormugao, which had emerged as the second most dominant port after Mumbai during 1970s and the 1980s, has gradually declined in its share in the post - reform period. In terms of general cargo, also the newer port which has improved its rank is JNPT, and it is the third most important port. Paradip also has improved its rank from ninth position in 1991 to sixth in 2011-12. However, the ports of New Mangalore, Tuticorin and Haldia have recorded average or insignificant changes in rank. The top ranked four ports, Kandla, JNPT, Visakapatnam and Mumbai handled 50.42 % of the total general cargo in 2012-13 (Kidwai, A. H. & Kuzur, G., 2015, WP178.pdf).

Secondly, the total volume and relative shares of major ports in container traffic have fluctuated significantly after the economic reforms, thereby, changing the rank hierarchy of these ports. In this respect, ranking share of some newer ports, in terms of cargo handled need to be mentioned such as The Jawaharlal Nehru Port Trust (JNPT) or Nhava Sheva, Ennore Port, renamed Kamarajar Port Limited as Major ports. They imply their growing significance to relieve pressure on Mumbai port since 1989 and on Chennai port since 2001 respectively. The old gateway port of Mumbai, which was the premier container traffic handling port in the pre - reform period, handling about 43 % of the total containerised cargo traffic in 1991-92, declined to the tenth rank in 2011-12 with only 0.46 share in the total container cargo. Its position was taken over by the adjoining JNPT port specially built to handle containerised traffic. JNPT became the second most important container port after Mumbai in 1992-93. In 2000-01 it emerged as the premier container port in the country and has since then retained that position. JNPT is now the new hub port of India and in 2011 - 12, handling about 48 % of the total containerised cargo of the country (Kidwai, A. H. and Kuzur, G., 2015, WP 178.pdf). It is found from the performance of the long - term loss or gain



of rank in the port hierarchy of Major Ports, in terms of general and container cargo handled, most of the older ports have lost their respective ranks, with the gain in those of newer ports during the post reform period.

Thirdly, there has been a gradual shift of traffic from the Major ports to the Non - Major (minor) Ports in the post reform period, with the increasing percentage shares of Non - Major Ports. In the post reform period it had increased eleven times from 36.31 million tonnes in 1998-99 to 388.23 million tonnes in 2012-13 in only 14 years. This was only because of the growing emerging role of some of the most important Non Major Ports handling overseas cargo traffic such as Sikka and Mundra (GAPL) in Gujarat on the Western Coast, and Krishnapatnam, Gangavaram and Kakinada Deep Water Port in Andhra Pradesh on the Eastern Coast. This is possible only because of the growth of some new nonmajor ports (minor ports) as Non-Major Ports have been relatively successful under the management of maritime states, to attract significant private participation as an impact of the privatisation of the economy (present\_ntdpc.2802.pdf).

Fourthly, in response to the new manufacturing policy in India to catalyse manufacturing growth and create millions of new jobs, the government policy of investment in major transport infrastructure projects (even in ports) has facilitated and widened the scope for foreign and domestic trade in India. This also has enhanced the development potential of their hinterland regions i.e. the port cities and towns in which they are located. In this case, Port Focused Development Corridor Projects need to be mentioned which are directly related to the regional development of the port towns. To achieve this, 'Corridors of Growth' with direct linkages with seaports, dry ports (ICDs and CFSs), four 'Dedicated Freight/Industrial Corridors,' linking inland development regions with seaports, have been planned to achieve development of smart, sustainable industrial cities which are expected to transform India into a global manufacturing hub. For instance, Delhi - Mumbai Industrial Corridor (DMIC) [Delhi - Mumbai Industrial Corridor (DMIC) comprising of the corridor states such as Delhi, Uttar Pradesh, Haryana, Madhya Pradesh, Rajasthan, Gujarat and Maharashtra] linked to the JNPT seaport has a superior multi - modal transport system and is one of the busiest routes of containerised traffic movement in India, and therefore had a significant effect on the regional development of some of the major and non major port cities of the maritime states of the western coast in India. This is because this DMIC region has a comparatively stronger industrial and urban base than the rest of the country as it is linked with the premier containerised JNPT port of the country. It is found that out of the 27 million cities in these



DMIC states, 20 are directly interacting with JNPT through the ICDs of CONCOR. Most of these cities have an industrial base and are among the more economically stable urban centres in India. These cities act as nodes which catalyse economic growth in the regional and national economy. The only reason behind their current growth and economic viability in the future is the easy access to international markets through JNPT port which have caused a higher level of export oriented industrial development in terms of: a) presence of Export Oriented Units (EOUs) in the port linked Special Economic Zones (SEZs) such as Kandla SEZ, Mundra SEZ etc. catering to Gujarat, Vishakapatnam SEZ (Andhra Pradesh), Daman & Diu (which have emerged as the country's highest performing SEZs in terms of exports by the EOUs) and b) emergence of Industrial clusters of Micro, Small and Medium Enterprises (MSME) in their hinterlands of dry ports (ICDs) connected to seaports (Kidwai, A. H. and Kuzur, G., 2015, WP178.pdf).

Fifthly, with the globalization and the resultant increase in the volume of international trade, together with the development of multimodal transport systems, the maritime trade related activities which were earlier concentrated around the ports have gradually moved closer to inland production and distribution centres of India. These centres are known as Inland Container Depots (ICDs) and Container Freight Stations (CFSs) which function as dry ports. As a result, the growing importance of dry ports is found in post reform India in regions such as the DMIC, which have a greater concentration of EOUs, to facilitate movement of export oriented cargo to the seaports. This is because, once established, these dry ports encourage the growth of existing EOUs, industrial clusters specialising in export based products, particularly in the case of Micro, Small and Medium Enterprises (MSMEs), clusters specialising in basic chemicals and chemical based products, engineering equipment, jewellery and textiles etc. and also facilitate the establishment of new ones. It is found that almost half the clusters in the country in these products have concentrated in the corridor states, particularly in the DMIC states, because of the advantages of connectivity to JNPT as this clustering gives this region potential to develop ancillary industries and services. In this way, dry ports in India have greatly influenced the location and growth of MSMEs, including khadi (hand woven cloth) and village/rural enterprises, which are an important component of the country's export sector to contribute towards the social and overall development of the local economy through the generation of the highest rates of employment growth together with a major share of industrial production and exports (Kidwai, A. H. and Kuzur, G., 2015, WP178.pdf).



Sixthly, apart from the DMIC, the other three corridor development programmes in India have also led to the growth of EOUs, particularly in the maritime states of Karnataka, Tamil Nadu and Andhra Pradesh. Of them, the growth of EOUs in Tamil Nadu and Andhra Pradesh is still in progress.

Moreover, among the open door policies of the Government of India, New State Industrial policy (2012), Policy of Preferred Regions, Central SEZs Acts, State SEZs Acts as per SEZ Rules, 2006 had been adopted to promote urban area export oriented enterprises through SEZs to facilitate the townships in SEZs mostly in port cities and towns of maritime states such as Gujarat, Andhra Pradesh, Karnataka, Tamil Nadu etc. thereby focusing on the unequal growth and development of those States. One of the vivid examples of this is the development of Kandla-Gandhidham-Adipur urban complex in the immediate hinterland of the Kandla port, which portrays a direct linkage between Kandla port and this port urban industrial complex as this urban complex plays an important role in port and urban activities. This is because many port based industries such as petrochemical and chemical industries are situated in this complex which depends on the import of the required raw materials (petroleum, chemicals) on the Kandla port. The port and its ancilliary activities also dominate the urban activities at this port. ([www.wikipedia.org](http://www.wikipedia.org)).

So, the role of ports in the regional development of the port towns and cities can be finally, explained in terms of the direct linkage between the growth of the new hub ports together with the importance of the development corridors (dedicated freight and industrial corridors) linked to the seaports in industrial development, measured in terms of the higher level of export oriented industrial development and the higher levels and significance of urbanisation measured by the incidence of million plus cities in the port linked corridor region such as DMIC region, where those cities are expected to act as growth centres in those region (Kidwai, A. H. and Kuzur, G., 2015, WP178.pdf).

## 6. Conclusion

In post-independence period, it can be concluded from the trade performance of the Indian ports that in case of both the Major and Minor ports, the volume of the overseas trade is higher than the coastal trade, but the variation in coastal trade is higher than the overseas trade. Hence a greater thrust is needed on the increase in the volume of the coastal trade at both the ports. Moreover, in case of both of the major and minor ports, imports has shown a greater share in overseas trade while exports has shown a greater share in coastal trade. Hence, policies should be framed so as to increase volume of exports in case of overseas



trade and that of imports in case of coastal trade in both of the major and minor ports, so as to make the overall position of the all ports (both major and minor) much more competitive in the global trade sector.

Next, it can be also be concluded that in the context of the urbanisation of the port towns in India, it is found that percentage growth rates of urbanisation of the port towns of Western coast are much higher than those of the Eastern coast because of the higher growth in the number of the port towns at the Western than at the Eastern Coasts in the post-independence period.

Thus, from the above overall analysis, it can be concluded that, as an impact of the growth of trade at the Indian ports (both major and minor) at the Western than at The Eastern coasts, western coast has shown a growth in the greater number of port towns there than the eastern coast.

Moreover, regarding the impact of the growth of ports on the development of port towns in the post-independence period, major changes have taken place in the Indian port system which has direct influence on the growth of port towns, particularly, in post reform period, unlike colonial India.

In post reform period of post-independence period, major changes have taken place in Indian port system which are summed up as follows-

a) gradual decline in the role of old colonial seaports together with the growing emergence of new ports, ancillary to those existing seaports with a view to cater to the excess demand of international freight transport within the country.

b) growing significance of non-major sea ports (minor ports) in internal trade (coastal trade) and also to serve the major ports in international trade due to several infrastructural bottlenecks as faced by Major ports.

c) It is to be mentioned that land trade over sea trade have gradually gained significance in case of internal trade, unlike colonial India, because of the development of multimodal transport system within the country. In face of liberalisation/globalisation/privatisation of the country's economy in 1991, with a view to adopt several major port focused development projects and programmes as structural adjustment policies, by the Government of India (such as NMDP, GDHS, SP, CDP etc.), as mentioned above, there have been gradual growth of International containerized traffic terminals or CONCOR terminals, dry ports, acting as ICDs and CFSs, in response to the rapid increased volume of trade and the growing global demand of containerisation.



Growth of both the sea ports as well as the dry ports within the country, as an impact, have led to the development of several dedicated freight and industrial corridors, thus, giving rise to the growth of many EOUs, SEZs, MSMEs, in such port linked corridor regions, directly linked to several Major Ports of the country. Hence, emergence of such several industrial clusters in these regions in the hinterlands of the ports and port cities thus have given rise to the growth of million plus port cities, as a result, thereby, creating a direct linkage between the growth of ports and industrialization, urbanization of these port cities. Not only that, mention may be made of a project promoted by Kandla Port Trust as apart of "Make In India" initiative which poses a future implication, for setting up industries directly requiring waterfront at Port Based Multi-Product Special Economic Zone at Tuna, Gujarat, India with a global expression of interest ([www.wikipedia.org](http://www.wikipedia.org)).

So, it can be concluded that all the above mentioned port focused development programmes have formed a new locational matrix for urbanisation and industrial and service sector development in the country which has significant implications for the geography of port development and also for the resultant map of growing and lagging port city regions within the country (Kidwai, A. H. and Kuzur, G., 2015, WP178.pdf).

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