"A REGION-WISE COMPARATIVE STUDY OF THE PERFORMANCE OF ICD/CFS IN INDIA"

A dissertation submitted to the School of Maritime Management,

Indian Maritime University in the partial fulfilment of

Master of Business Administration

in

PORT & SHIPPING MANAGEMENT

By

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UNDER THE SUPERVISION AND GUIDANCE

OF

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INDIAN MARITIME UNIVERSITY

(A Central University under the Ministry of Ports, Shipping and Waterways)

CHENNAI CAMPUS

May: 2023

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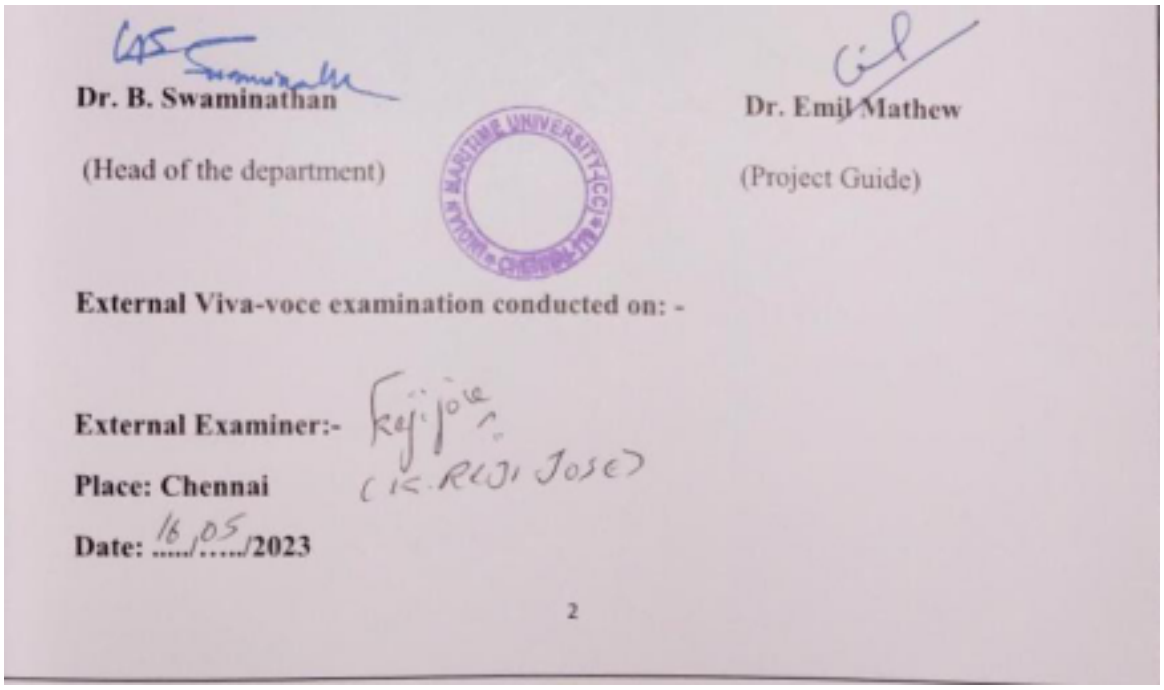
Certificate

This is to certify that the project report titled **"A Region-Wise Comparative Study of the Performance of ICD/CFS in India"** is a bonafide work done by **Rochana V S (Reg. No:- 2103304025)** in partial fulfilment of the requirement for the award of the degree ofMaster of Business Administration in Indian Maritime University, Chennai.



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External Examiner:-

Place: Chennai

Date: 16/05/**2023**

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DECLARATION

I, **Rochana V S,** do hereby declare that the dissertation entitled **"A Region-Wise Comparative Study of the Performance of ICD/CFS in India"** is exclusively a bonafide work done by me under the supervision and guidance of **Dr. Emil Mathew**, Assistant Professor, School of Maritime Management and is submitted to Indian Maritime University in partial fulfilment of the requirement for the award of the degree of Master of Business Administration.

I further declare that no part of this report has been previously submitted to any other university or academic body for the award of any degree or diploma.

Place : Chennai
Date :...../..... /2023

Rochana V S
(Reg. No:- 2103304025)

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The dissertation entitled **"A Region-Wise Comparative Study of the Performance of ICD/CFS in India"** has been done under the supervision and guidance of **Dr. Emil Mathew**, Assistant Professor, School of Maritime Management, Indian Maritime University and I express my sincere gratitude to her for the inspiration and guidance she has given for the accomplishment of this work. With great pleasure I acknowledge the help given to me by my family members and my friends.

Place: Chennai **Rochana V S**

Date: ...../...../**2023** **(Reg. No:- 2103304025)**

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CHAPTER – I

Introduction

1.1 INTRODUCTION

INLAND CONTAINER DEPOT

Inland Container Depots, otherwise known as ICDs, are dry ports equipped for handling and temporary storage of containerized cargo as well as empties. This means that hinterland customers can receive port services more conveniently closer to their premises.

ICDs are a convenient shipping alternative extending port services closer to hinterland customers. The depots are directly linked to the container terminal to the port by rail through a service called 'railtainer' provided by the Rift Valley Railways. This service transports containerized cargo by rail.

DISTINCTION BETWEEN ICD & CFS

Functionally there are no differences; both are transit facilities, which offer services for containerization of break bulk cargo and vice-versa.

An ICD is a place where containers / cargo are aggregated for onward movement to or from the ports. CFS is a place where containers are packed and unpacked and also aggregation/ segregation of cargo takes place. An ICD may have CFS attached to it. ICDs are generally located outside the port towns whereas no site restriction applies to CFS. However, there is no legal distinction between ICD & CFS from the point of view of Customs Act. Keeping in view the requirements of Customs Act, and need to introduce clarity in nomenclature, all containers terminal facilities in the hinterland would be designated as "ICDs".

ICD could be served by rail and/ or road transport. An ICD is generally located in the interiors (outside the port towns) of the country away from the servicing ports. Generally all containers terminal facilities in the hinterland would be designated as "ICDs". ICD is called as dry port.

CFS, on the other hand, is an off dock facility located near the servicing ports which helps in decongesting the port by shifting cargo and Customs related activities outside the port area.

ICD OBJECTIVES

Bring Port services closer to hinterland customers- customers based in the hinterland can have access to the same services offered at the port without having to travel all the way for the same thus saving time and money. The ICDs are therefore an efficient shipping solution.

- Helps in decongestion- the ICDs help decongest the container terminal at the port by reducing container dwell time through enhanced take-off of import containerized cargo for clearance at the ICD. In addition, the depots also facilitate for the dispatch of export containers therefore increasing container turnaround time creating more space at the container terminal.
- Minimize road damage and carnage – the ICDs facilitate the diversion of heavy container traffic from the road to rail. This in turn minimizes road damage caused by heavy trucking thus ensuring smoother roads while giving them more life.
- Provide safety and security to transit cargo – cargo transported by rail is safer and more secure therefore ensuring the safe transportation of cargo to and from the port.
- Saving customer costs – Customers reduce the amount of time and money that would have otherwise been spent traveling all the way to the Port to clear or forward cargo.
- Inland Container Depots are rail linked and therefore allow containers to be sent by rail directly to a satellite terminal, by providing a more efficient and cost effective transport solution for importers and exporters.

Container traffic is a modern, the most effective kind of freight transportation both in domestic and international service. The container traffic is carried out by various modes of land (rail and road), water and air transport by means of removable transport appliances – containers. Any cargo can be transported in container if meets the requirements. Container traffic allows reducing dramatically freight transport costs and terms of delivery.

Containerization is a method of distribution of goods using containers. The use of containers has not only facilitated but has also revolutionized the carriage of goods among developed countries. Exporters in developing countries are also making greater use of containers for the transportation of the goods. The enactment of multimodal transportation of export cargo.

Containerization is a system of intermodal freight and cargo transport using standard ISO containers that can be loaded and sealed intact onto container ships, railroad cars, planes and trucks. The idea of using standard containers that could be easily and quickly packed and loaded onto ships, aircraft, trucks and trains, resulted in a huge reduction in port handling costs, contribute significantly to lower freight charges, increased cargo security and, in turn, booster trade flows.

1.2 OBJECTIVES OF THE STUDY

- To carryout region-wise comparative study of the performance of ICDs/CFS in India.
- To suggest findings from the above study.

1.3 SCOPE OF THE STUDY

- The researcher thought that the future traffic in the EXIM trade is going to be containers; more containers are handled due to huge aggregation of cargo. Due to heavy growth of industrialization in the country and increased growth in automobile sector followed by spares relating to automobile and other capital industry are on cars. Most of the industrialist prefers to take the cargo through safer modes. Hence containerization and ICD's have multiplied in geometrical progression compared to the last five years, the dry port concept have given more room for containerized trade and most of the automobile sector from India, export their

finished goods through CKD(Completely Knocked Down) Condition except few units like Hyundai and Volkswagen.

- The researcher finds from the pilot study certain interesting facets in movement of container through ICD/CFS. This study will envisage container movements through all ICD's /CFS in India. This project will throw more light on movement of containers through these regions separately studying about export and import trade retaining to containers. This study has been done with the help of certain statistics analysis and test which will give insight to the above mentioned objective. This report will be highly useful for practitioners in the trade to analyse the container movement in ICD/CFS throughout India.
- Moreover container handling require huge infrastructure, which only major ports ICD/CFS can handle to the larger extent. This concept of dry ports has minimized the operations inside the ports. The researcher have brought in line all these containerized activities and movements in this region covering all spots.
- By analysing the movement of containers through these ICD/CFS will give an overview of the containers movements. By comparing and analysing the total movement of container between the ICD/CFS the researcher can identify the difference in operating container handling and between different regions in India. The container movement between above mentioned ICD/CFS in different region will provide us with detailed information about fluctuation in the growth of container traffic.
- The researcher can foresee that the future EXIM trade depends on container traffic, but at the same time lack of ICD/CFS will not give required growth to this container traffic, hence a study on the ICD/CFS, region wise through out India may give an insight view of the container movement of ICD/CFS. The researcher also touch upon these dry port concept assuming that facilities and more ICD's will bring more business to this trade. After completing the report the researcher assumes that this will give a complete analysis from the port users point view of container movement in ICD/CFS throughout India.

1.4. Limitations of The Study

The researcher has taken strain in doing the study on Container traffic at ICD/CFS, since most of the terminal depends on ICD/CFS movement. Once when there is any lacuna in the ICD/CFS, terminals productivity gets affected. Most of the data are collected from the Audit Report. Data collection is mainly limited to the Audit Report and it discriminates the data between the Northern, Southern, Eastern and Western Regions.

There could be minute difference, this is the major limitation factor because the study and analysis has been done through graphs embedded system once when these study has been done region to region there is no much difference, and researcher thinks that data collection is almost unique, in some data when the researcher made an analysis.

CHAPTER – II

Literature Survey and Methodology

2.1. REVIEW OF LITERATURE

By Kieran Alcock

"Containerization (or containerization) is a system of intermodal freight transport using standard intermodal containers as prescribed by the International Organization for Standardization (ISO). These can be loaded and sealed intact onto container ships, railroad cars, planes, and trucks."

The shipping container is one of the most significant inventions of the twentieth century. Along with the internet, it has revolutionized the global economy and the way we conduct business today. Consumers in Ireland are aware that the products they purchase on a daily basis come from all over the world. But few realize the effect that intermodal transportation, which is the seamless movement of containerized goods via sea, rail and road, has on the availability of our everyday items. Before containerization, the movement of goods was a slow.

Dr. Jean-Paul Rodrigue

In his book "The geography of transport systems" published by Routledge (ISBN: 0-415-48323-9) has mentioned that, the importance of maritime transportation in global freight trade is unmistakable, particularly in terms of tonnage it handles about 90% of the global total. The global maritime transport system is composed of a series of a series of major gateways granting access to major production and consumption regions.

Terminal costs represent an important component of total transport costs. They are fixed costs that are incurred regardless of the length of the eventual trip, and vary significantly between the modes. Further they can broadly classify in to three types as Infrastructure costs, transhipment costs, and administration costs. Because ships have the largest carrying capacities, they incur the largest terminal costs, since it may take many days to load or unload a vessel.

P.C. Stubbs, W.J. Tyson, M.Q. Dalvi

He has discussed in their book "Transport Economics" (ISBN-0-04-338121-9) published by George Allen & Unwin publisher's limited-London, that over four-fifths of the international trade of the world, measured by weight of goods, is carried by shipping industry. In recent years it has witnessed a rapid and manifold changes arising from the increasing volume and changing pattern of world trade from the emergence of new nations with new maritime priorities and from technological change, most clearly seen in the immense increase in the size of certain vessels and in the revolution in cargo handling brought about by the use of containers.

By Jürgen Böse

In the last four decades the container, as an essential part of a unit-load-concept, has scored a great success in international sea freight transportation. With increasing containerization the number of seaport container terminals and competition has increased considerably. One of the success factors of a terminal is related to the time in port for container vessels and the transhipment rates the ship operators have to pay. In this paper we describe the main logistics processes in seaport container terminals and present methods for their optimization. We focus on the process of container transport by gantry cranes and straddle carriers between the container vessel and the container yard. The primary objective is the reduction of the time in port for the vessels by maximizing the productivity of the gantry cranes, or in other words, minimizing the delay times of container transports that causes the gantry cranes to stop. We investigate different dispatching strategies for straddle carriers to gantry cranes and show the potential of evolutionary algorithms to improve the solutions.

By N Rangaraj

First, goods are generally containerized, and this is especially true for higher value goods. Second, the movement of goods in such cases usually involves more than one major mode of transport; using different modes of transport may be effective for a shipper as it may offer the right mix of cost effectiveness, speed and location flexibility. It could also be globally effective in the sense that it involves lower environmental, energy and overall social costs. For this reason, government policy also is aimed at facilitating this kind of movement.

Containerization, when combined with multi-modal transport capability, it has some obvious advantages in terms of supply chain integration, since it provides for a unified flow of material and handling effectiveness across different transport modes. From the shipper's point of view, containerization is sometimes a forced option while servicing export markets.

Bruno De Borger, Stef Proost, Kurt Van Dender

In their article "Private Port Pricing and Public Investment in Port and website Hinterland Capacity" published in the *"http://ideas.repec.org/a/tpe/jtecpo/v42y2008_i3p527-561.html"* has said that we study pricing by ports that are congestible, share the same overseas customers and have each a downstream, congestible transport network to a common hinterland. In the central set-up, local (country) governments care about local welfare only and decide on the capacity of the port and of the hinterland network. We obtain the following results. First, profit-maximizing ports internalize hinterland congestion in as far as it affects their customers. Second, investment in port capacity reduces prices and congestion at each port, but increases hinterland congestion in the region where the port investment is made. Investment in a port's hinterland is likely to lead to more port congestion and higher prices for port use, and to less congestion and a lower price at the competing port. Third, the induced increase in hinterland congestion is a substantial cost of port investment that strongly reduces the direct benefits of extra port activities. Fourth, imposing congestion tolls on the hinterland road network raises both port and hinterland capacity investments.

By Joshua S. Gans

With containerization, the goods could be prepacked in large weatherproof boxes before even being moved to the port. They would remain in ICD/CFS until the containership came to pick them up. Because of their standardized form, the containers could then be easily moved to the ship's side using trucks and hoisted on the deck of the vessel using large cranes that were permanently affixed to the dock. At the other end of the voyage, the containers could be quickly lifted from the ship and whisked away from the port. This process reduced ship time in port from weeks to days.

Containers redefined the loading tasks of shipping companies to the movement of boxes. The remainder of these functions was transferred to firms in other modes of transport or even to the shippers themselves. Therefore, in order to realize the gains for containerization, new methods of coordination and integration among firms engaged in different modes of transport were essential. The organizational innovations that allowed for this were complex but, nonetheless, they represented a critical component in establishing a viable container system. It was the development of these innovations that marked the beginning of the containerization revolution.

2.2 DATA COLLECTION

Data collection is a term used to describe a process of preparing and collecting data – for example as part of a process improvement or similar project. The purpose of data collection is to obtain information to keep on record, to make decisions about important issues, to pass information on to others. Primarily, data is collected to provide information regarding a specific topic.

Data collection usually takes place early on in an improvement project, and is often formalized through a data collection plan which often contains the following activity.

- Pre collection activity - Agree goals, target data, definitions, methods
- Collection - data collection
- Present Findings - usually involves some form of sorting analysis and/or presentation.

Prior to any data collection, pre-collection activity is one of the most crucial steps in the process. It is often discovered too late that the value of their interview information is discounted as a consequence of poor sampling of both questions and informants and poor elicitation techniques. After pre-collection activity is fully completed, data collection in the field, whether by interviewing or other methods, can be carried out in a structured, systematic and scientific way.

A formal data collection process is necessary as it ensures that data gathered is both defined and accurate and that subsequent decisions based on arguments embodied in the findings are valid. The process provides both a baseline from which to measure from and in certain cases a target on what to improve.

2.2.1 TYPES OF DATA COLLECTION

There are two types of data collection are Primary data and Secondary data. Primary data are those which are collected afresh and for the first time with the help of questionnaire, interview and so on. In this study I used Secondary data in order to meet the requirements of the purpose.

2.2.2 SECONDARY DATA

Secondary data means that are already available i.e., they refer to the data which have already been collected and analysed by someone else. When the researcher utilizes secondary data, then he/she has to look into various sources from where he can obtain them.

Secondary data may either be published data or unpublished data. Usually published data are available in:

(a) Various publications of governments

(b) Various publications of foreign governments or subsidiary organizations

(c) Technical and trade journals

(d) Books, magazines and newspapers

(e) Reports and publications of various associations

(f) Reports prepared by research scholars

(g) Public records and statistics.

The sources of unpublished data are many:

(a) Unpublished biographies

(b) Trade associations

(c) Other public/private individuals and organizations.

CHAPTER – III

Company Profile

3.1. INDUSTRY ANALYSIS

CFS is Container Freight Station is an extended arm of the port. In Proper definition, CFS is termed as the Port facility for loading and unloading the containerized cargo to and from ships. Extension of customs area. It gives the opportunity to increase container throughput of the port. Container Freight offers third party Logistics to its customers. The name Container Freight Station was founded in 1990.

CFS is a place where containers are stuffed, de-stuffed and aggregation/ segregation of export/import cargo takes place. With the growing volume of international trade, the need for expeditious clearance of goods at the port within the minimum possible time has been gaining importance. This is more so when the ports are facing congestion at their premises. Further, for optimal utilization of existing infrastructure, space, equipment, goods that are landed at ports need to be evacuated straight away without any loss of time. Accordingly the concept of container Freight Stations (CFS) has grown in importance along with the development and growth of ports.

A CFS is an extended arm of Port/ICD/ Air cargo Complex, where import/export goods are kept till completion of their examination and clearance. The imported goods can be immediately shifted from the port to CFS which also helps in the reduction of port congestion. All the activities related to clearance of goods for home consumption, warehousing, temporary admissions, re-export, temporary storage for onward transit and outright export and Transhipments take place from such stations. Therefore, clearance of goods from CFS is an important point of consideration for trade in respect of export/ import Cargo as it is the final customs contact point.

Since in port it is very difficult to stuff and de stuff cargos in the containers and examining them because of other operations the Customs Officers gave license for CFS under few condition.

It should be within 15kms from the port, Customs Superintendent and Inspector will be there to examine the cargo, access the bill, verification and Documentation of the cargos are done by the customs in CFS.

Container yard occupies the largest area in the ICD/CFS. It is stacking area were the export containers are aggregated prior to dispatch to port; import containers are stored till Customs Clearance. Likewise, some stacking areas are earmarked for keeping special containers such as refrigerated hazardous, overweight over-length, etc.

Bring Port services closer to hinterland, customers based in the hinterland can have access to the same services offered at the port without having to travel all the way for the same thus saving time and money. The ICDs are therefore an efficient shipping solution.

- Helps in decongestion- the ICDs help decongest the container terminal at the port by reducing container dwell time through enhanced take-off of import containerized cargo for clearance at the ICD. In addition, the depots also facilitate for the dispatch of export containers therefore increasing container turnaround time creating more space at the container Terminal.
- Minimize road damage and carnage – the ICDs facilitate the diversion of heavy container traffic from the road to rail. This in turn minimizes road damage caused by heavy trucking thus ensuring smoother roads while giving them more life.
- Provide safety and security to transit cargo – cargo transported by rail is safer and more secure therefore ensuring the safe transportation of cargo to and from the port.
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ICDs are a convenient shipping alternative extending port services closer to hinterland customers. The depots are directly linked to the container terminal to the port by rail through a service called ‘railtainer’ provided by the Rift Valley Railways. This service transports containerized cargo by rail.

COMPANY PROFILE:

- **Tughlakabad:** On September 1st, 1993, the Inland Container Depot in Tughlakabad was inaugurated. It is located in Delhi's southeast. It is the CONCOR flagship terminal and a leader in the nation's development of containerization. India's largest dry port is ICD/TKD. All of the states in Northern and Western India make up its hinterland. ICD/TKD offers daily rail service to JNPT, GTIL, NSCT, PPSP, and MDPT, which are gateway ports. It offers brand-new, cutting-edge facilities and equipment, as well as fantastic train connections to the gateway ports. It is advantageously situated, having access to main roadways in Delhi linking all National Highways coming out of the state, and contacts both the NH-2 and the NH. It has ISO 9001-2008 certification as well.

- **Khodiyar:** It is an inland container depot in Ahmedabad, India. It is approximately 311 kilometres from Pipavav Port and 403 from Mundra Port. The port can deal with over 3 lakh TEUs of container cargo every year and is unfolded over a space of 31.8 hectares. It has a unique warehouse for managing the export and import services. It consists of a warehouse of 7,000 square meters to deal with the Full Container Load (FCL) and a warehouse of 2,000 square meters to deal with Lower than Container Load (LCL) supposed for export functions. Whereas there's a separate space of 4,500 square meters reserved for the LCL and FCL consignments related to the imports. The port additionally harbours a separate warehouse 2,000 square meters for hazardous cargo and a separate warehouse of 10,200 square meters for bonded cargo. The port is supplied with essentially the most superior and distinguished equipment to handle cargo operations. It has 7 attain stackers, 12 forklifts, 13 trailers, 2 hydra cranes, 1 crane for heavy cargo dealing with, 3 mechanized cranes, and weighbridge (as much as 60 MT). There's a facility for bonded warehousing, bonded trucking, and air cargo companies. This makes this port splendid for guaranteeing uninterrupted companies for import and export enterprise operations.

- **Bengaluru:** It was setup at the KIADB industrial land at Igglur, Attibele Hobli, Anekal Taluk, Bengaluru Urban District. It is the 2nd ICD in Bengaluru city and the only one located in the southern part of the sprawling metropolis close to the arterial Hosur Road (NH-7). The ICD Bengaluru is designed to handle close to 60,000 TEUs per annum from imports and exports of industries and trade located in Bengaluru Urban District and adjoining districts of Bengaluru Rural, Ramnagaram, Mandya, Tumkur, Hassan, Mysore, Chamrajnagar, Kodagu etc. This ICD will cater to incoming and outgoing cargo traffic of building materials, industrial raw materials and products, agriculture produce and food products etc. Covered space of 12,500 sq., m, paved yards of 7500sqm, office space for Customs , Bank, Shipping lines, CHA's, etc., Canteen, Dormitories, public conveniences, electronic weigh bridge, CCTV based round the clock security arrangements etc. are provided.

- **Dadri ICD (Star Track Terminals):** Star Track Terminals is an Inland Container Depot and is a joint venture between APM Terminals Inland Services and Container Corporation of India. APM Terminals is present in North India at Star Track Terminals Pvt. Ltd., Dadri through a joint venture between APM Terminals India Pvt Ltd and Container Corporation of India Ltd (CONCOR). With more than 67,700 sq mt of paved area and warehouse equipped with modern infrastructure, process and equipment's, this is one of the most advanced facilities in North India. Solutions and services provided by APM Terminals Dadri include container and cargo handling/storage, empty and bonded depots, customized garment on hanger (GOH) facilities, reefer monitoring and transportation.

- **Terminal Profile of ICD/Ludhiana:** ICD DDL is situated on the main line on JAMMU-AMRITSAR-DELHI and only next to Ludhiana on Ludhiana-Ambala section. ICD-DDL is contiguously situated with the DDL railway yard. Ludhiana has its name in Punjab and whole of India due to large number of cottage and small scale woollen industries for hosiery and is also rightly called as the Manchester of India. This city is ideally located in the middle of the state and conveniently approachable from the industries spread all over Punjab, hence rightly called the Industrial capital of the State, therefore the best choice for the ICD to act as Hub centre. This ICD caters to the other neighbouring states of Himachal Pradesh, J&K, Haryana and Rajasthan.

ICD has a modern infrastructure, 90% of the area is paved with concrete block flooring using latest technology. There are modern warehouses both for import and export handling of cargo with an area of 5000 sq. mtrs. We have the facility of customs clearance of export & import cargo and storage of customs cleared cargo, consolidation of LCL cargo, office of the Asst. Commissioner of Customs having his team of officers who takes care of all customs clearance. There are more than 6000 exporters and as many as 5000 importers using CONCOR facility in a big way.

CHAPTER – IV

Analysis of Study

4.1 FUNCTIONS OF ICD/CFS

The primary functions of ICD/CFS may be summed up as under:

- Receipt and dispatch/delivery of cargo.
- Stuffing and stripping (de-stuffing) of containers.
- Transit operations by rail/road to and from serving ports.
- Customs clearance. Consolidation and desegregation of LCL cargo.
- Temporary storage of cargo and containers. Reworking of containers.
- Maintenance and repair of container units.

4.2 DRY PORTS IN THE COUNTRY

According to the report till April 2022, The total number of dry ports/Inland Container Depot (ICD) in the country along with operational capacity currently, region-wise, as given by Department of Revenue, Ministry of Finance.

REGION-WISE CFS/ICD & ITS OPERATIONAL CAPACITY (IN TEUs HANDLED)

The below table and line chart shows the number of Dry ports region-wise and its respective operational capacity handled till April 2022.

According to the below tale we can see that Northern region has the more number of ports that is 33 ports, than the other regions, then followed by Northern region, Western region which has 25 ports and the eastern region has only 5 ports.

Table 4.2: Total number of ICD/CFS in Northern region of India & its operational capacity in 2020-2021

S.No.	Region	Number of Dry Ports/ICD	Operational Capacity (in TEUs handled)
1	Northern	33	1261253
2	Southern	17	423176
3	Eastern	5	50233
4	Western	25	920243

Since Northern region has 33 ports which is greater when compared to other regions, the operational capacity handled by the Northern region is also high, and that is 1261253 TEUs, when compared to the other regions. And it is also found that Eastern region has handled only 50233 TEUs.

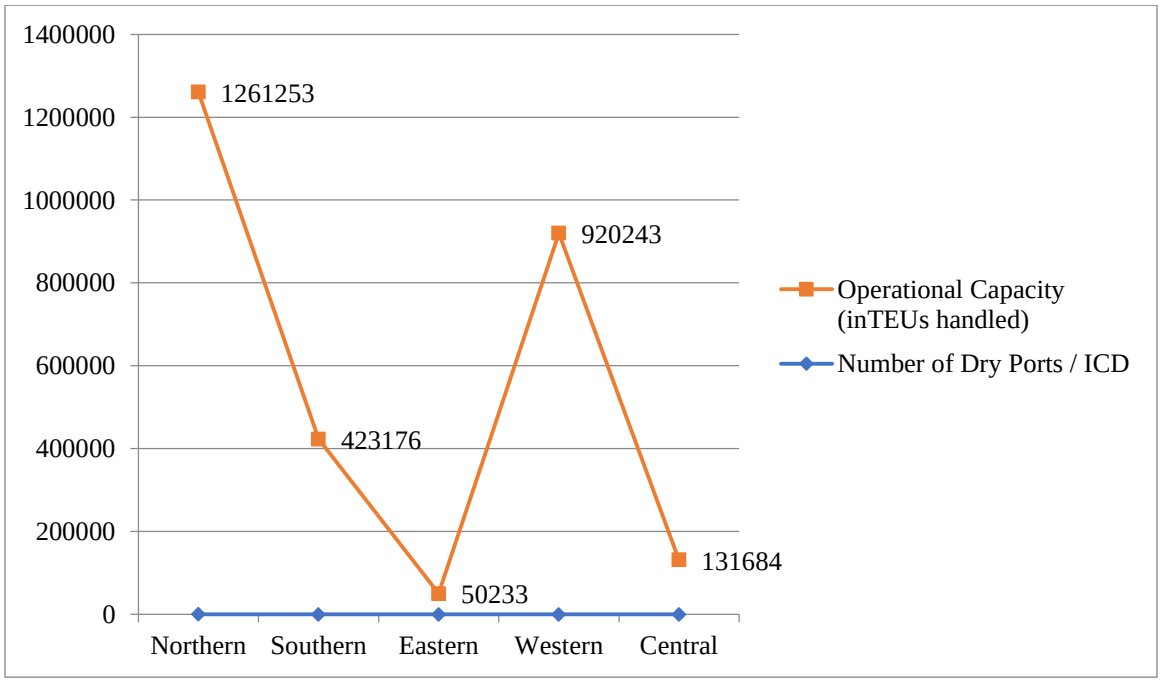

Figure 4.2: Operational capacity handled in ICD/CFS in Northern region in 2020-2021

4.2.1 NORTHERN REGION

The table shows total number of Dry ports, which is ICD & CFS in Northern region in India during the year 2020-2021.

Table 4.2.1: ICD/CFS in Northern region in 2020-2021

State	Number of Dry Ports / ICD
Delhi	2
Haryana	11
Himachal Pradesh	1
Punjab	8
Uttar Pradesh	9
Uttarakhand	2

The figure below shows the total number of Dry Ports, which is ICD & CFS in different states of Northern region of India.

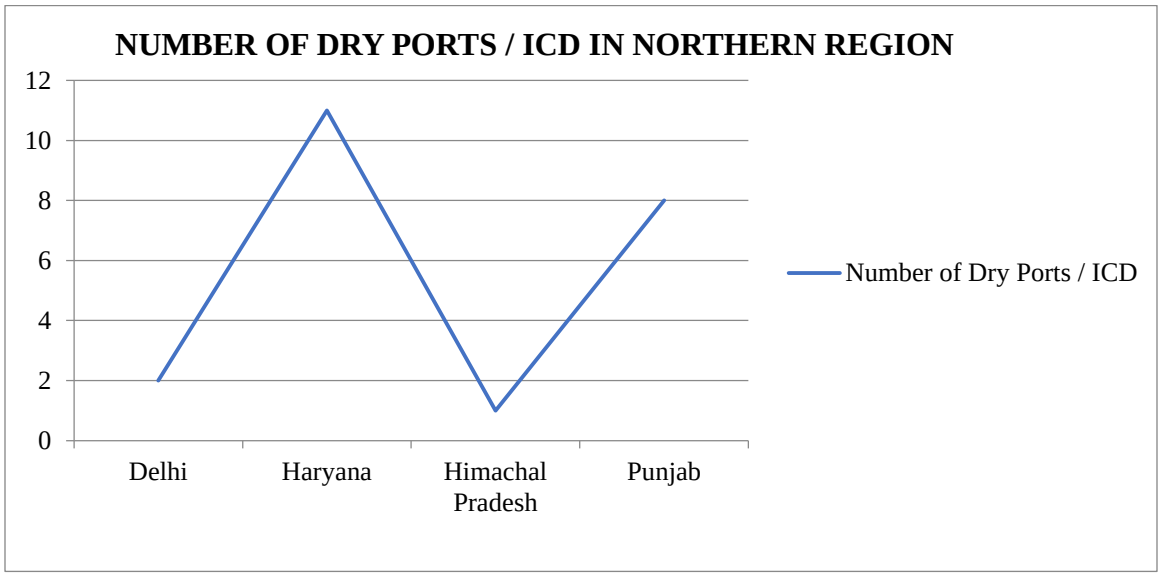

Figure 4.2.1: ICD/CFS in Northern region in 2020-2021

The table 4.2.1.1 indicates the operational capacity (in TEUs handled) of Northern region in India.

Table 4.2.1.1: Operational capacity handled in ICD/CFS in Northern region in 2020-2021

State	Operational Capacity (in TEUs handled)
Delhi	255050
Haryana	546603
Himachal Pradesh	1070
Punjab	245855
Uttar Pradesh	173771
Uttarakhand	38904

From the figure 4.2.1.1 we can see that, though the number of dry ports in Delhi and Uttarakhand are same, the operational capacity handled by Delhi is much more than the Uttarakhand. But, the operational capacity handled by the dry ports in Punjab and Uttar Pradesh doesn't have much difference.

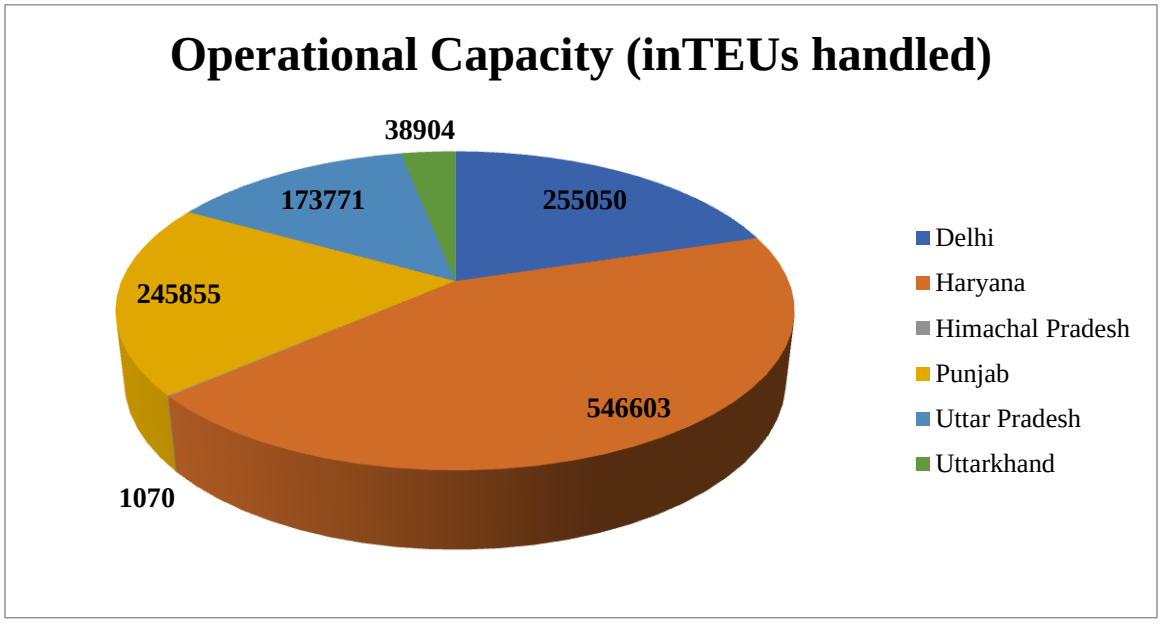

Figure 4.2.1.1: Operational capacity handled in ICD/CFS in Northern region in 2020-2021

SOUTHERN REGION

The table and line graph below shows the total number of Dry Ports, that is ICD & CFS in Southern region in India.

Table 4.2.2: ICD/CFS in Southern region in 2020-2021

State	Number of Dry Ports / ICD
Andhra Pradesh	1
Karnataka	2
Kerala	1
Tamil Nadu	11
Telangana	2

The below figure shows the different dry ports, which is ICD & CFS in different southern states of India.

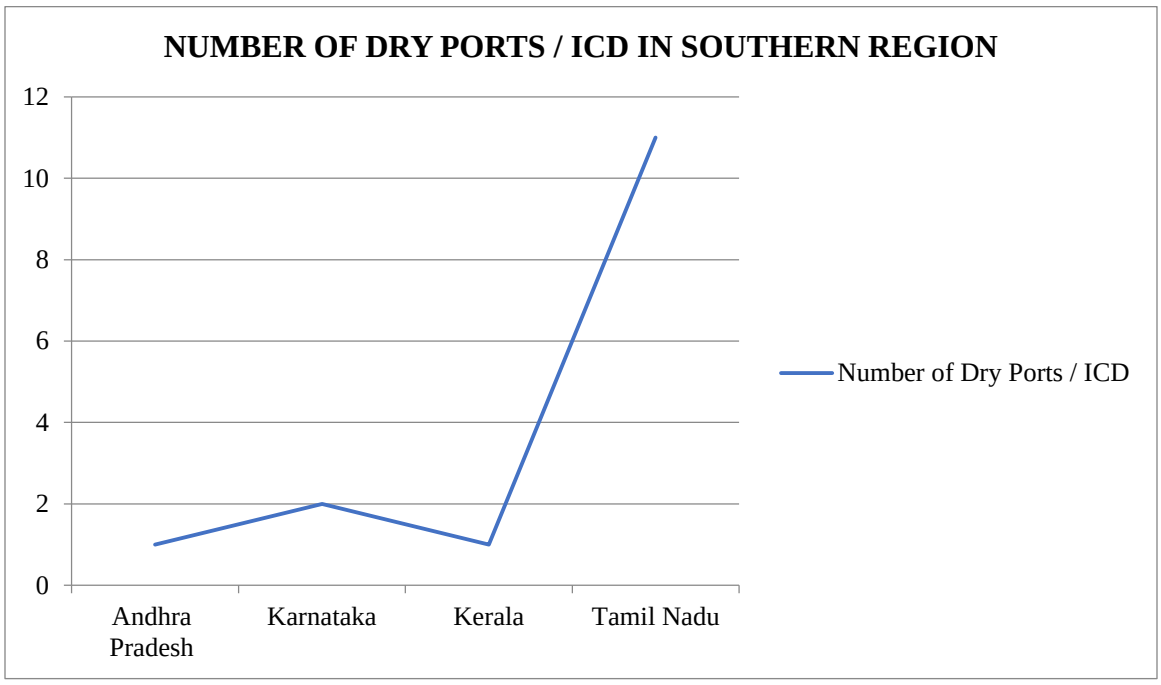

Figure 4.2.2: ICD/CFS in Southern region in 2020-2021

The below table and pie indicates the operational capacity (in TEUs handled) of Southern region in India.

Table 4.2.2.1: Operational capacity handled in ICD/CFS in Southern region in 2020-2021

State	Operational Capacity (in TEUs handled)
Andhra Pradesh	16271
Karnataka	59623
Kerala	2785
Tamil Nadu	219672
Telangana	124825

From the fig. 4.2.2.1, we can see that, the operational capacity handled by the Tamil Nadu is much more than the other states in the southern region of India. The reason behind the more operational capacity in Tamil Nadu is the number of dry ports in Tamil Nadu is more than the other states in the Southern region of India.

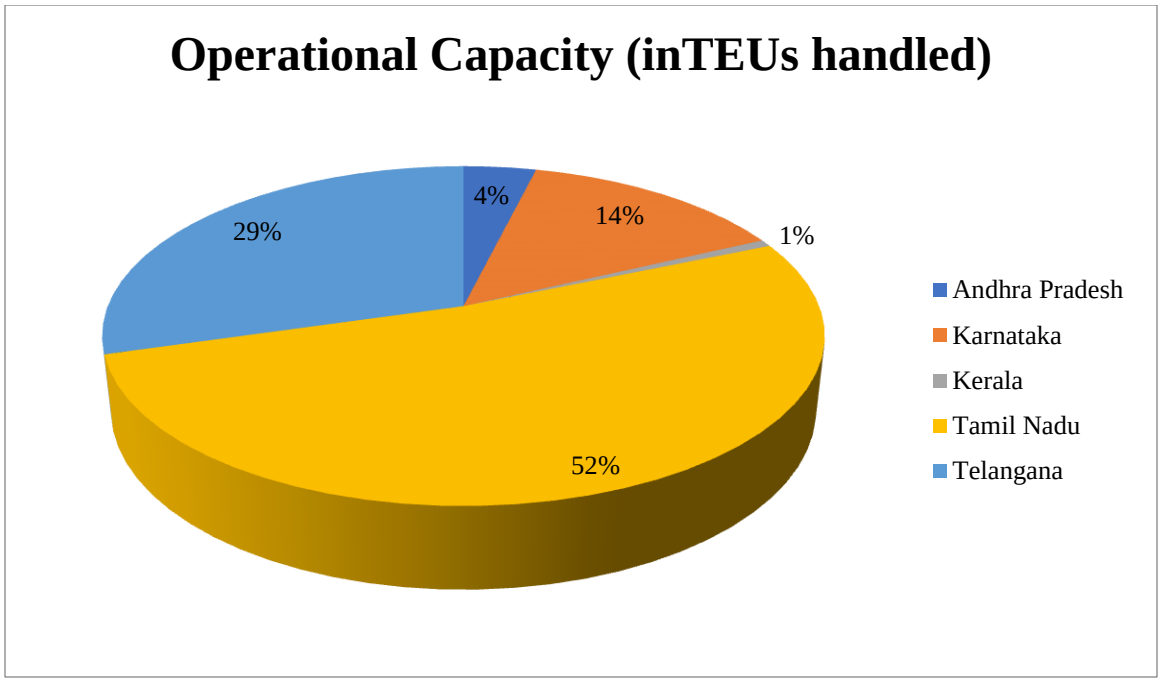

Figure 4.2.2.1: Operational capacity handled in ICD/CFS in Southern region in 2020-2021

Although, Andhra Pradesh and Karnataka has equal number of Dry Ports, there is a significant difference between the operational capacity handled in these two states. Similarly, the operational capacity handled in Telangana is more than two times of Karnataka.

EASTERN REGION

The table below shows the total number of Dry Ports, that is ICD & CFS in Eastern region in India.

Table 4.2.3: ICD/CFS in Eastern region in 2020-2021

State	Number of Dry Ports / ICD	Operational Capacity (handled in TEUs)
Odisha	3	31428
West Bengal	2	18805

In the table 4.2.3, the number of dry ports in Odisha and West Bengal does not have much difference, but the operational capacity handled by Odisha is more than West Bengal.

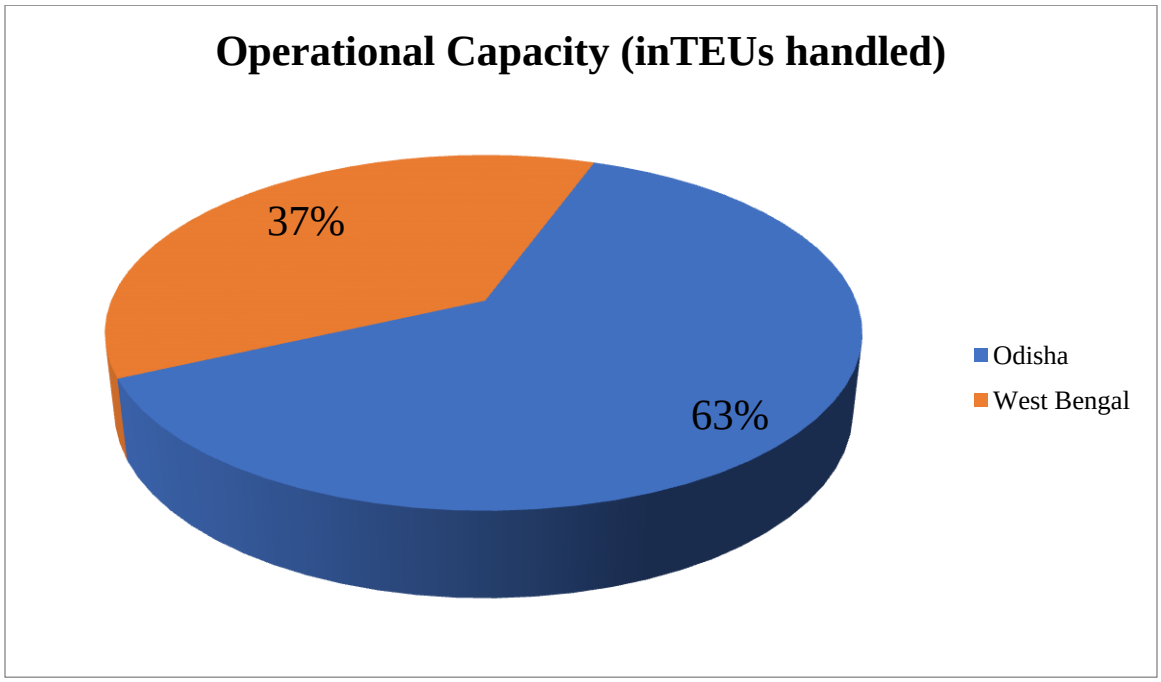

Figure 4.2.3: ICD/CFS in Eastern region in 2020-2021

WESTERN REGION

The table 4.2.4 shows the total number of Dry Ports, that is ICD & CFS in Western region in India.

Table 4.2.4 ICD/CFS in Western region in 2020-2021

State	Number of Dry Ports / ICD
Gujarat	9
Maharastra	9
Rajasthan	7

The below table 4.2.4.1 indicates the operational capacity (in TEUs handled) of Western region in India.

Table 4.2.4.1: Operational capacity handled in ICD/CFS in Western region in 2020-2021

State	Operational Capacity (inTEUs handled)
Gujarat	373916
Maharastra	251274
Rajasthan	295053

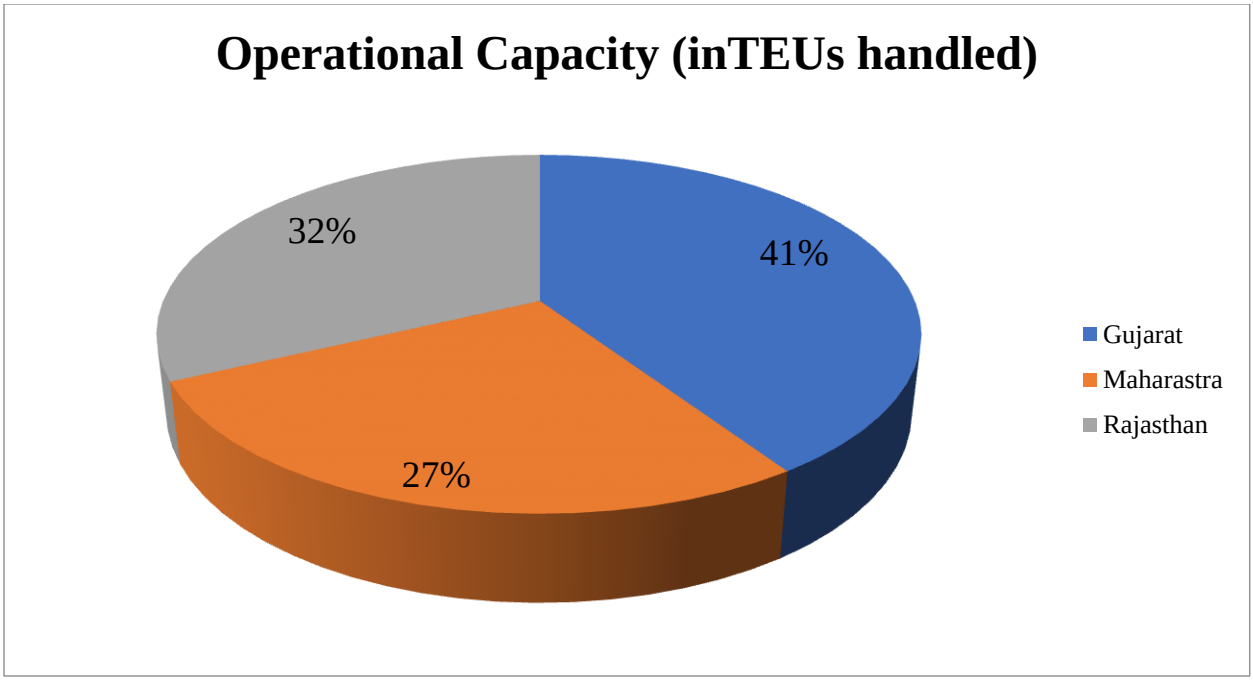

Figure 4.2.4.1: Operational capacity handled in ICD/CFS in Western region in 2020-2021

The operational capacity handled in three different states of Western region in India. The study shows that, the dry ports in Gujarat have handled more cargoes compared to the other states in the year 2020-2021.

4.3 COMPARISON OF ICD /CFS OPERATIONAL CAPACITY (IN TEUs HANDLED) IN 2021-2022 WITH 2011-2012:

The table is about the comparative analysis of the operational capacity handled by ICD/CFS in 2021-2022 and 2011-2012. From the table, we can see that operational capacity of ICD/CFS in the Northern region of India has shown a massive growth.

Table 4.3: Region-wise operational capacity ICD/CFS in India before & after 10 years

REGION	2011-2012	2021-2022
NORTHERN REGION	751455	1261253
SOUTHERN REGION	253717	423176
EASTERN REGION	46568	50233
WESTERN REGION	249877	920243

The table 4.3 shows, the operational capacity of four different regions of India – Northern, Southern, Eastern, Western regions; before and after 10 years.

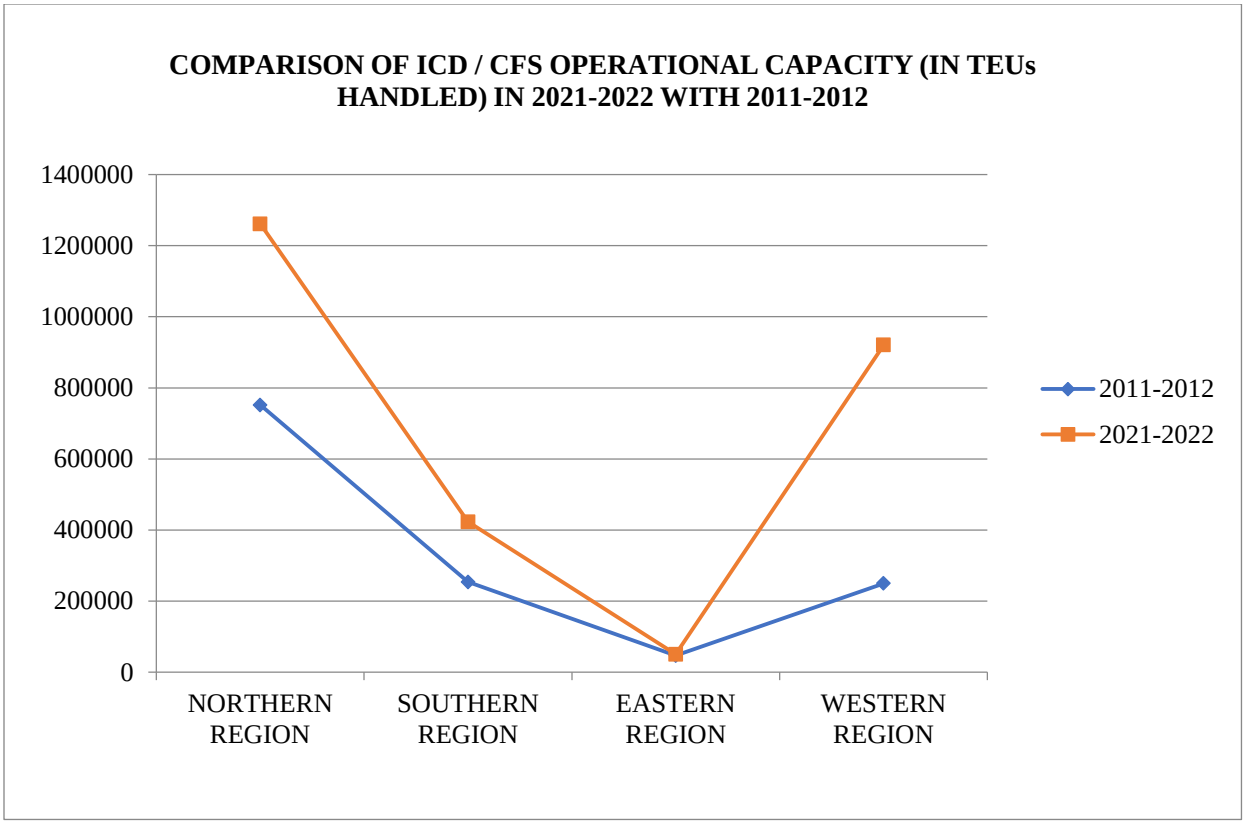

Figure 4.3: Region-wise operational capacity ICD/CFS in India before & after 10 years

From the figure 4.3, we can know that there is no drastic change in the growth of ooperational capacity handling in Eastern region of India, whereas in other three region there isa significant change in the operational capacity handling of the dry ports. The Northern and Western region has shown a drastic growth in the operational capacity handling of dry ports, whereas in southern region the operational capacity has grown nearly twice when compared to 2011-2012.

4.4 COMPARISON OF ICD /CFS OPERATIONAL CAPACITY (IN TEUs HANDLED) IN VARIOUS YEARS:

The table shows the operational capacity in ICD & CFS of different regions in India in various years.

Table 4.4: Region-wise operational Capacity of ICD/CFS in India

YEAR	NORTHERN REGION	SOUTHERN REGION	EASTERN REGION	WESTERN REGION
2011-2012	751455	253717	46568	249877
2012-2013	857761	302583	27575	72069
2013-2014	618088	344699	31169	73351
2014-2015	698170	415267	46758	94616
2015-2016	928106	453058	44087	111161
2016-2017	750188	464640	50234	123412
2020-2021	1261253	423176	50233	920243

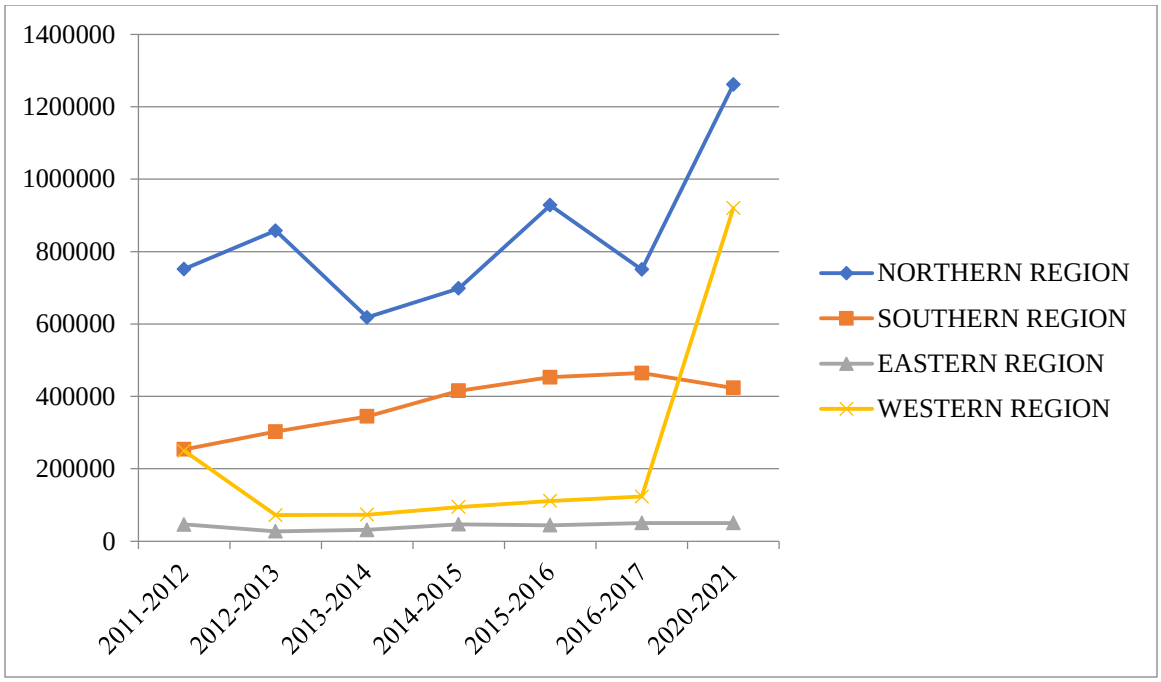

Figure 4.4: Region-wise operational Capacity of ICD/CFS in India

From the figure 4.4, we can see that, the Eastern region is the least cargo handled region, this is because, the number of dry ports located in this region is less, when compared to the other regions. Since the number of dry ports located in Northern region of India is higher than the other regions, the operational capacity of is also high in that region.

VOLUME OF TRANSACTION IN ICD & CFS AT NORTHERN REGION

The table shows the operational capacity in ICD & CFS of Northern region in India.

Table 4.4.1: Operational Capacity of ICD/CFS in Northern region

YEAR	OPERATIONAL CAPACITY OF NORTHERN REGION (handled in TEUs)
2011-2012	751455
2012-2013	857761
2013-2014	618088
2014-2015	698170
2015-2016	928106
2016-2017	750188
2020-2021	1261253

In the year 2020-2021, the operational capacity of ICD & CFS in the Northern region of India has grown drastically.

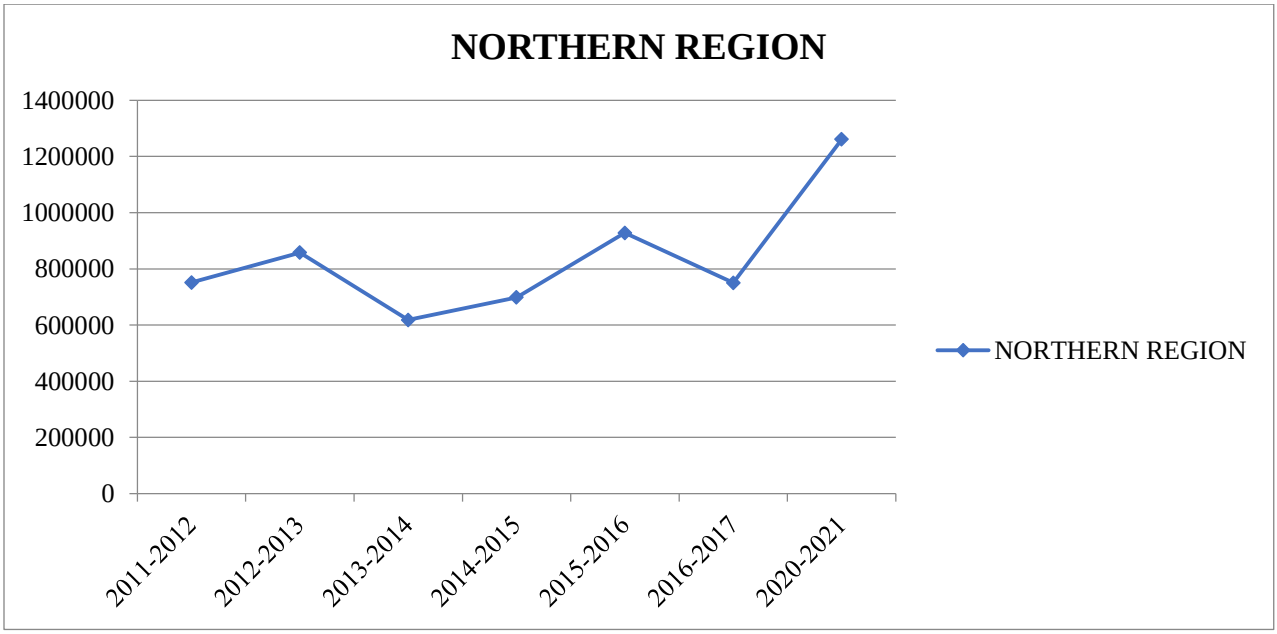

Figure 4.4.1: Operational Capacity of ICD/CFS in Northern region

VOLUME OF TRANSACTION IN ICD & CFS AT SOUTHERN REGION

The table shows the operational capacity of ICD & CFS of Southern region in India.

Table 4.4.2: Operational Capacity of ICD/CFS in Southern region

YEAR	OPERATIONAL CAPACITY OF SOUTHERN REGION (handled in TEUs)
2011-2012	253717
2012-2013	302583
2013-2014	344699
2014-2015	415267
2015-2016	453058
2016-2017	464640
2020-2021	423176

The figure 4.4.2 shows that, the operational capacity of dry ports in Southern region of India had gradually increased.

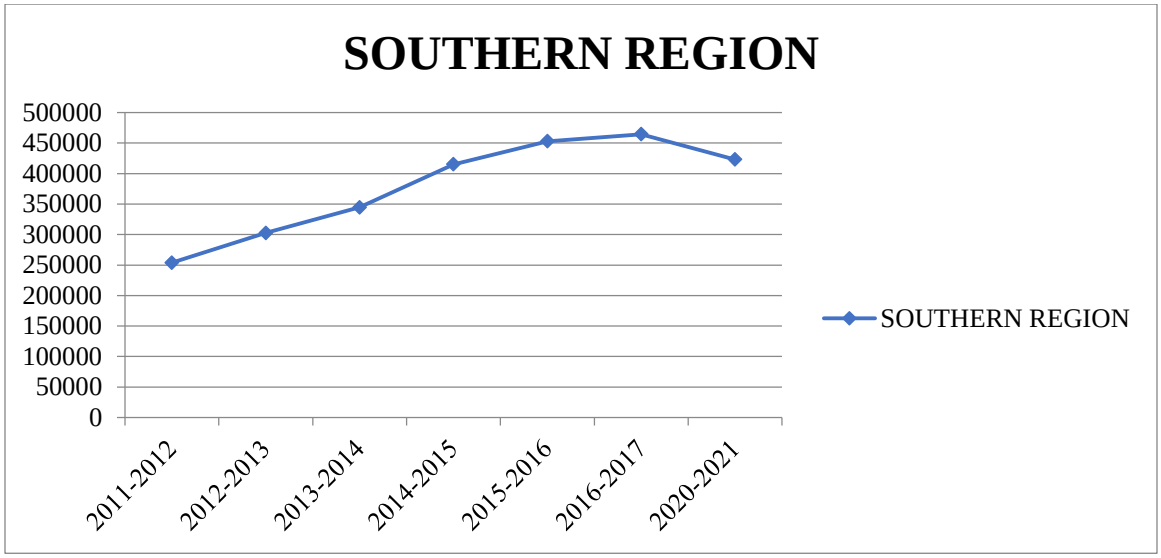

Figure 4.4.2: Operational Capacity of ICD/CFS in Southern region

VOLUME OF TRANSACTION IN ICD & CFS AT EASTERN REGION

The table shows the operational capacity in ICD & CFS of Eastern region in India.

Table 4.4.3: Operational Capacity of ICD/CFS in Eastern region

YEAR	OPERATIONAL CAPACITY OF EASTERN REGION (handled in TEUs)
2011-2012	46568
2012-2013	27575
2013-2014	31169
2014-2015	46758
2015-2016	44087
2016-2017	50234
2020-2021	50233

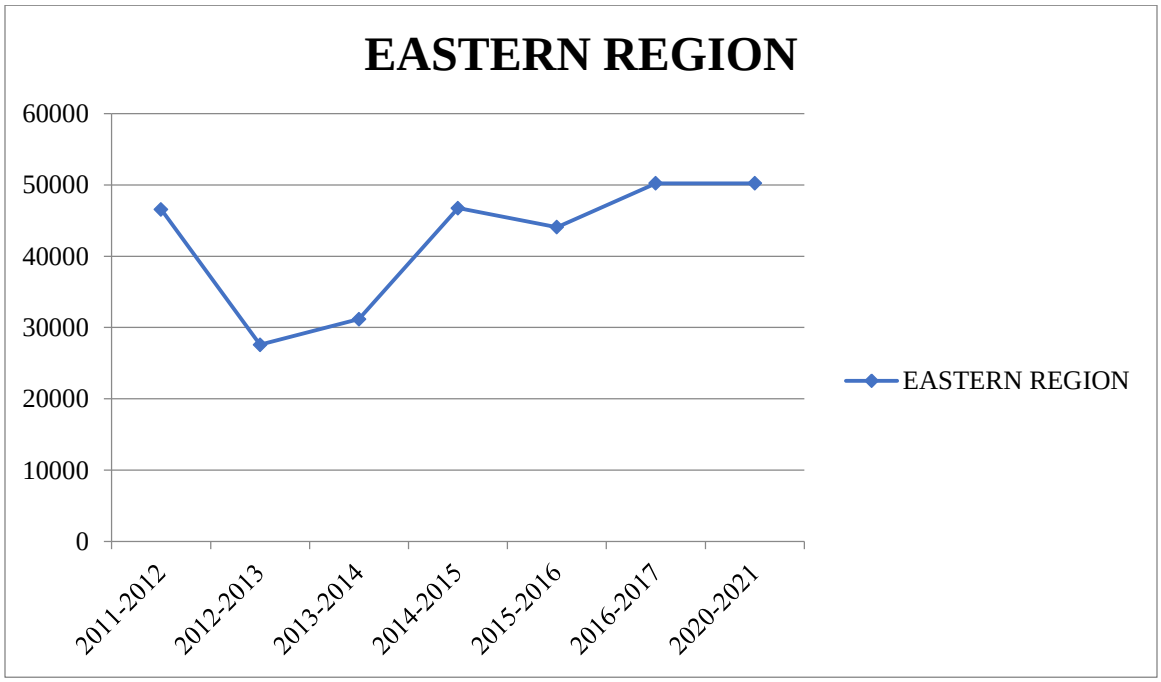

Figure 4.4.3: Operational Capacity of ICD/CFS in Eastern region

VOLUME OF TRANSACTION IN ICD & CFS AT WESTERN REGION

The table shows the operational capacity in ICD & CFS of Western region in India.

Table 4.4.4: Operational Capacity of ICD/CFS in Western region

YEAR	OPERATIONAL CAPACITY OF WESTERN REGION (handled in TEUs)
2011-2012	249877
2012-2013	72069
2013-2014	73351
2014-2015	94616
2015-2016	111161
2016-2017	123412
2020-2021	920243

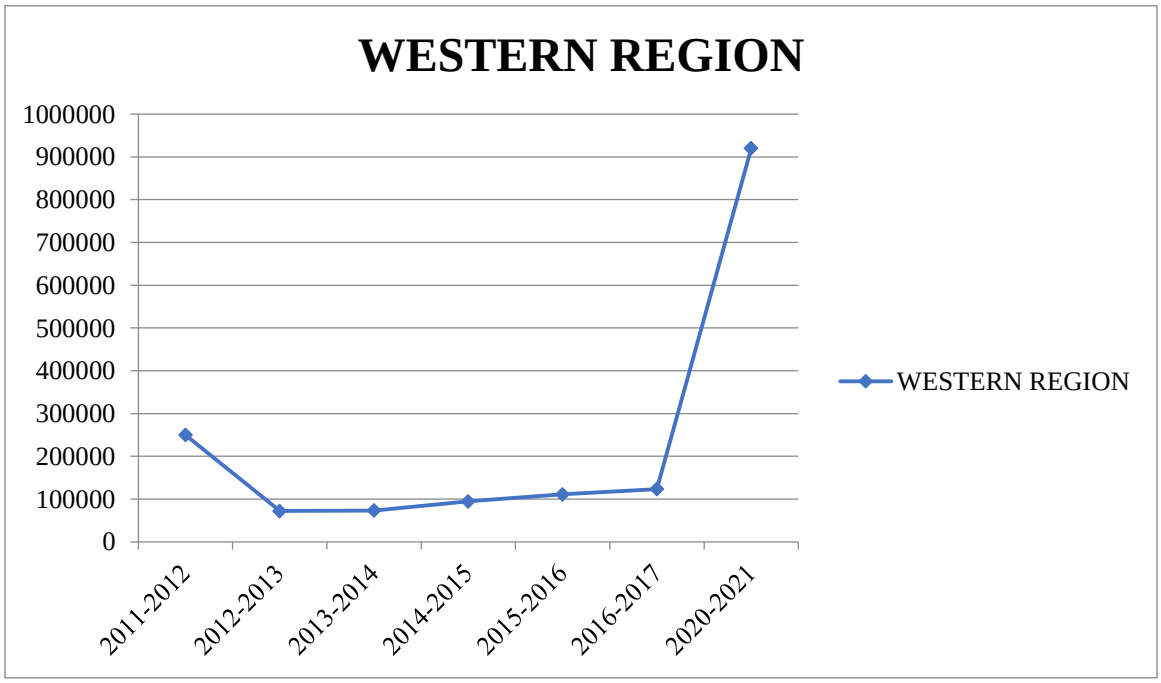

Figure 4.4.4: Operational Capacity of ICD/CFS in Western region

From the table 4.4.4, it is known that the operational capacity of ICD/CFS in Western region of India has grown enormously in the year 2020-2021.

CHAPTER – V

Findings, Suggestions and Conclusion

5.1. FINDINGS

The container traffic at ICD/CFS throughout India is showing an upward surge, the researcher did a study on the movement of container traffic throughout India, region-wise. From the study, the researcher understood that, such study is the need of the hour to increase or to find out how much increase in container trade is growing. Rapid industrialisation is one of the major ingredients to develop this EXIM trade, and more cargoes are containerized to move the cargo safe to the destination without breaking the supply chain.

In this context, the researcher have utilized tables and graphs to find the variation in the operational capacity of containers handled dry ports in the four regions (north, south, east, west) of India. From the table 4.4, the Northern and Southern region there is a drastic growth in the operational capacity of the dry ports, that is ICD / CFS. Whereas in the other two regions, that is in Eastern and Western region though there is growth, the change is not much when compared to the northern and southern region.

While considering the ten year change of the four regions of India, the Northern and the Western region has shown a greater change in the operational capacity when compared to southern region, whereas the eastern region of India has no significant difference while considering the years 2011-2012 & 2021-2022.

5.2. CONCLUSION

As there is increase in use of containers, there is a rise in container movements in maritime sector, the researcher thought to do a study on movement in ICD/CFS. Taking time constraints as consideration the researcher has done the study on region-wise comparative study on the performance of ICD/CFS in India. The container handling details in ICD/CFS of Northern, Southern, Eastern and Western regions comes under this study. Since the analysis used in the project is mainly based up on the container traffics, the researcher had to depend up on the Audit Report of India data. Thus the researcher has utilized only secondary data to complete this entire study.

This study shows the operational efficiency of the container handled and movements of container in ICD/CFS throughout India. This analysis of ICD/CFS movement helps us to predict the future trend of moving container throughout India. This study was conducted with above methodology and the findings are related to such perspective.

5.3 SUGGESTIONS AND RECOMMENDATIONS:

- First all the ICD/CFS throughout India should be integrated by using fibre optic communication to know the flow of traffic between the regions and between the ICD/CFS which will be helpful for traffic movement.
- Capacity of ICD/CFS in terms of infrastructure is the key constraints; hence the low productivity has become the key challenges for improving container operations. So the ICDs should work on improving infrastructure.
- The issues around congestion at this ICD/CFS can cause significant obstacles to port operations until these hurdles are overcome with new terminals, it may be next to impossible to handle container movements with ease and comfort.
- Reorganize the entire procedure for disposal of uncleared cargo, with reference to valuation of such cargo, to enable expeditious of uncleared/unclaimed cargo and avoid congestion in CFS.

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