MANUAL
ON
PORT STATISTICS
(2015)

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PREFACE

Ports are complex organizations whose components are closely related with each other. Its activities generate vast data which is used by management as a tool to improve port operations. The Ports generate statistics on comprehensive basis for effective management and decision making. Uniformity is needed in the methods, form of collection of statistics and presentation of data/information in order to facilitate inter-port comparisons, which are essential not only for broad analytical purpose but also for evaluation of port performance. Standardized data compilation is necessary for comparison and policy evaluation.

The Working Group (WG) for Strengthening of Major Port Statistics set up by Ministry of Shipping under the chairmanship of Adviser (Transport Research), Transport Research Wing, M/o Road Transport & Highways had inter-alia recommended that *Transport Research Wing, may provide meta data for Major Port Statistics in the form of Manual on the website of the Ministry of Shipping.* As a follow-up of the recommendations of the Working Group, a manual on Port Statistics has been prepared for the first time.

The Manual on Port Statistics covers concepts, definitions, classification and characteristics on which data is collected, sources of data, data collection formats, data compilation methodology and dissemination of data. Besides, the manual gives the details of concepts and definitions followed in last two decades for better understanding of the port statistics.

I am sure that this manual will be of immense use to the compilers and users of port statistics. I record my deep appreciation for the efforts put in by the officials of Transport Research Wing for preparing this manual. Suggestions from the users are welcome to improve this publication.

(Rajive Kumar)

New Delhi
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MANUAL ON PORT STATISTICS

C O N T E N T S

CHAPTER I – Introduction

1.1 India has a coastline of 7517 km with 12 Major Ports and 200 notified Non-major Ports along the coastline and Islands. Major Ports are the ports which are administered by the Union Government, while Non-major Ports are administered by the State Governments**.**

1.2 Major Ports

There are 12 Major Ports in the country. These are - Kolkata (including Dock complex at Haldia), Paradip, Visakhapatnam, Kamrajar (Ennore), Chennai, V.O. Chidambaranar on the East Coast and Cochin, New Mangalore, Mormugao, Jawaharlal Nehru, Mumbai and Kandla on the West Coast. All Major Ports except Kamrajar are administered by the respective Port Trusts, which are autonomous bodies. The administrative control is with Ministry of Shipping, Government of India. Kamrajar Port is a company registered under the Companies Act 1956.

1.3 Non-major Ports

Non-major Ports are the ports which are administered by State/UT governments. There are 200 non-major ports situated along the peninsular coastline and sea-islands. These ports are located in Gujarat (41), Maharashtra (48), Goa (5), Daman & Diu (2), Karnataka (11), Kerala (17), Lakshadweep (10), Tamil Nadu (15), Pondicherry (2), Andhra Pradesh (12), Orissa (13) and West Bengal (1). 69, non-major ports handled cargo traffic in 2013-14.

1.4 The main activities of the Ports relate to (i) Maintenance of Port approaches, navigable channels and along side berths, dredging, conservancy, hydrographic surveys, (ii) Light houses and light vessels under the Port, (iii) Pilotage, towage, berthing and unberthing of visiting ships, (iv) Handling warehousing and transportation of goods in Port area, (v) Civil, mechanical and electrical engineering and maintenance of harbour crafts and plants, (vi) Fire-fighting and fumigation, (vii) Storage, (viii) Medical, welfare & housing services, (ix) Management of port properties and estates.

1.5 Ports mainly derive their revenue from cargo handled charges on the ships visiting them, and other vessel related charges. The main sources of revenue from cargo traffic are (I) Wharfage/landing fees, cargo related charges, (ii) Crane hire charges, (iii) Rentals from warehouses, (iv) Demurrage charges, (v) Charges for providing rail and other transport for the cargo movement and providing water facilities for the visiting ships. Similarly the main sources of revenue from ship traffic are (I) Port dues, (ii) Pilotage, (iii) Berth-hire, (iv) Survey and measuring fees, (v) Ship repairs in dock areas.

1.6 Accurate and up-to-date information and statistics are essential tools for effective management of ports, as of any other enterprise. Modern methods developed to improve either port operations or port planning also need large amounts of statistical information.

1.7 The manual on Port statistics has been prepared for uniformity in the methods and forms of collection and compilation of port statistics in order to facilitate, inter-alia, port to port comparisons. Such comparisons are not only of value for broad analytical purpose, but also essential for evaluation of portôs performance.

1.8 The manual is organized into seven Chapters. First Chapter gives the need for the manual on Port statistics. A statistical manual helps not only the compilers of statistics in compiling the statistics in a standardized way but also helps the users of that statistics in understanding the statistics. Various purposes of gathering information and statistical data on ports are discussed in second chapter. History and origin of ports statistics is covered in third chapter. Fourth Chapter discusses periodic reviews of concepts and definitions in ports statistics. Concepts and definitions for collection and compilation of port data are covered in Chapter Five. Chapter Six gives details on various aspects of data collection such as nodal agency, sources of data, parameters on which data can be collected, formats of data collection from major and non-major ports etc. Chapter Seven details periodicity of compilation of port statistics and its and dissemination. Besides, the manual also includes summary/important recommendations of the various Committees/Working Group on the subject and glossary of commonly used terms in ports statistics.

CHAPTER II –Importance of Port Statistics

2.1 There are several reasons for collecting statistical and other data related to ports. The traditional one is to show the role of the port within the national economy. The amount of investment expenditure, the number of ships visiting the port and their tonnages, the volume of goods loaded and discharged, classified by main groups of commodities, the number of workers engaged in the port industry, etc. indicate the role of ports in the economy.

2.2 Statistical and other data are used as tools for improving port operations. The management may wish to compare, on a continuous basis, the actual port activity with its potential. The data collected for this purpose would provide an intimate understanding of the functioning of the port. This is essential in order that the necessary decisions for increasing the efficiency of the port can be taken. The port activity is a complex one, because most of its components are closely interrelated. As a result, a decision which is good for one sector may produce unfavorable effects in other sectors of the port. A sound decision should therefore, be preceded by a detailed analysis of the possible effects on the whole system. This is only possible if the relations between the parts of the system can be quantified with the help of accurate data.

2.3 For management of port, efficiency parameters/indicators, such as, Occupancy rate; Average time spent by ship at berth when loading/discharging; Average waiting time of ships; Average amount of cargo discharged/loaded by a ship at the port; Number of gangs required and actually working in port; Number of cranes required and actually working in port; Number of forklift trucks required and actually working in port; Number of lorries and trailers required and actually working in port; Throughput per berth; Throughput per meter of quay; Average throughput per man/hour in port; Average throughput per gang/shift in port; Average amount of goods in each type of storage in port; Average time spent by cargo in port etc. are periodically required by the management.

2.4 Another purpose of collecting information and presenting it in a systematic form is to provide an appropriate basis for planning port development. The concern of port authorities and national planners with port planning is justified by the very large cost of providing and maintaining the port facilities, such as breakwaters, locks, dredged deep water berths etc., by the frequent indivisibility of port investments, by the difficulty of changing the layout of a port once made and also by the uncertainty regarding forecasts of future traffic and new technologies.

2.5 The first task in this respect is to forecast the flow of goods and the ship traffic for future years, taking into account, among other considerations, the evolution towards new technologies in ship design, handling methods, and types of packaging.

2.6 The second task is to compare individual investment projects in the port in order to determine the optimum project. Here again, the interrelations between all parts of the port are considered, in order to appraise the overall result of any individual project. The information and statistical system of the port has to provide all the data, including cost data, necessary to quantify their relationships.

2.7 Owing to the complexity of port planning, many ports request the help of external consultants or international agencies having competence to provide technical assistance in the field of ports. This in no way reduces the data requirements; in fact the value of such external assistance depends to a large extent on the availability of accurate and up-to-date information, since it is through such information, both statistical and non-statistical, that the external consultant gains his knowledge of the functioning of the port.

2.8 In addition, information and statistical data related to the port may be useful in other fields of research. In effect, ports are increasingly regarded as links between various means of transport and many data concerning these means of transport are therefore, concentrated in ports. As far as shipping is concerned, it can be said that ports are an important source of data for studies related to subjects such as structure and level of freight rates, national shipping policy, organization of shipping costs arising in ports.

2.9 Port information can also be used to assess the justification of freight surcharges applied by shipping lines to congested ports. Since the decisions of shipping lines regarding surcharges are based on the time spent by their ship in ports, it is important for port authorities to compile data on turn-around time of ships. In order to make possible comparisons between different ports, it is essential that data is collected on a standardized basis.

CHAPTER III –History and Origin of Port Statistics

3.1 Major Ports

3.1.1 Out of the 12 Major ports, four major Ports viz. Mumbai, Calcutta, Chennai and Mormugao are more than 100 years old. Cochin and Visakhapatnam Ports have celebrated their Golden Jubilee. The Ports of Kandla, Tuticorin, New Mangalore and Paradip were developed in the post independent period and are, thus, relatively new. J. L. Nehru Port at Nhava Sheva became operational in 1989. Kamrajar Ennore) Port which was dedicated to the Nation in February, 2001, is the first corporatised port registered under Companies Act, 1956.

3.1.2 Major Ports other than Kamrajar Port are governed by the Major Port Trusts Act, 1963 and the Indian Ports Act, 1908 and the rules and regulations framed thereunder.

3.1.3 Each Major Port has a Board of Trustees representing various interests connected with the port operations and the shipping industry. The Chairman of each Major Port is appointed by Central Government. Besides Chairman, the Port Trust Board comprises Deputy Chairman, representatives of Customs, Railways, Defence, State Govt., Shipowners, Shippers, etc. All members of the Board, other than the Chairman and the Deputy Chairman are part time members.

3.1.4 The Major Ports are empowered to receive loans from Government, raise loans in the open market and levy rates and fees for the services rendered. They are required to receive the prior approval of Tariff Authority for Major Ports (TAMP) for the scale of rates, annual budgets and submit Annual Administration Reports. Their annual accounts are subject to audit by the Comptroller and Auditor General of India.

3.1.5 For its various activities, each Port engages different types of labour. The workers employed by the Port authorities are generally known as "Port Workers" and they work on shore and for work on board the ship, workers registered with Dock Labour Board known as "Dock Labour" are engaged.

3.1.6 The geographical location of major ports and the year since which they started cargo operations is given below:-

S. No.	Name	Geographical location	Stared working since (year)	Cargo handled data available since(year)
1.	Kandla (Gujarat)	situated in the the Kandla Creek, 90 kms. from the mouth of the Gulf Of Kachch. Latitude: 23^0 01' N Longitude: 70^o 13' E	1950	1954-55
2.	Mormugao (GOA)	Latitude:15^0 25ô N Longitude: 72^0 56ô E	2.12.1963 (Commissioned in 1888)	1950-51
3.	JNPT(Mumbai)	Eastern end of Mumbai in the Nhava Sheva area Latitude 18º 56ô43ò N Longitude 72º56ô24ò E.	1989	1989-90
4.	Tuticorin	located on the South Eastern coast of India Latitude 8^o 45'N Longitude 78^o 13'E.	Declared as a minor anchorage port in 1868. Declared as major port on July 11, 1974	1974-75
5.	Vishakhapatnam	Indian East Coast located at 17^0 41ôN and 83^0 18ô E	19.12.1933	1950-51
6.	Chennai (Tamil Nadu)	Latitude 13º 06ô N Longitude 80º 18ô E	126 years old	1950-51
7.	Kamrajar (Tamil Nadu)	On the coromandal coast about 24km north of Chennai Port along the coast line	Declared as a Major Port under the Indian Ports Act, 1908 in March 1999. Incorporated as Kamrajan Port Limited under the Companies Act, 1956 in October 1999.	2001-02
8.	New Mangalore (Karnataka)	On the West Coast of India midway between Kochi and Mormugao	04.05.1974	1974-75

		Latitude : 12^0 55ôN ,Longitude : 74^0 48ôE		
9.	Cochin(Kerala)	On the South West Coast of India, at 9^0 58ôN, 76^0 16ôE.	1932	1950-51
10.	Kolkata (West Bengal)	Latitude of 22°32'53ò North Longitude - 88°18'5òEast	The oldest major port in the country. Declared as major port in 1975	1950-51
11.	Haldia dock complex (HDC)	104 kms downstream of Kolkata, 130 kms upstream from Sandheads Latitude : 22° 02´ North Longitude : 88° 06´ East	A dock managed by Kolkata port trust.	1950-51
12.	Paradip (Orissa)	Situated 210 nautical miles south of Kolkata and 260 nautical miles north of Visakhapatnam;Latitude 20° -15'-55.44òN ; Longitude 86° -40'-34.62ò E	12th March 1966	1966-67
13.	Mumbai	Latitude 18º 54ô N Longitude 72º49ô E	1873	1950-51

3.2 NON-MAJOR PORTS

3.2.1 The Table below gives the list of non-major ports in Maritime States /UTs and which are handling cargo in these states / UTs:-

State	Number of Non- Major Ports (200)	Handled Cargo Traffic during 2013-14 (69)
Gujarat	Mandvi, Navlakhi, Bedi, Sikka, Jafarabad, Okha, Porbandar, Veraval, Bhavnagar, Bharuch, Magdalla, Koteshwar, Mundra/GAPL, Jakhau, Jodia, Salaya, Pindhara, Beyt, Rupen, Mangrol, Kotda, Madhwad, Navabandar, Rajpara, Pipavav / GPPL, Mahuva, Talaja, Ghogha,Khambhat, Dahej, Bhagwa,Onjal,Vansi-Borsi, Billimora, Valsad, Umarsadi, Kolak, Maroli, Umergaon , Mul-Dwarka, Hazira / HPPL. (41)	Bedi, Sikka, Dahej, Bhavanagar, Jafrabad, Porbandar, GPPL, Muldwarka, Magdalla, Okha, GAPL, Jakhau, Mundra, Navlakhi, AHPPL, Hazira, Alang (LDT) (17)

Maharashtra	Dahanu, Tarapur,Nawapur,Satpati,Kelwa-Mahim,Arnala(Incl Datiware), Uttan, Bassein, Bhiwandi, Manori, Kalyan, Thane Versova, Bandra, Trombay, Ulwa-Belapur /Panvel, Mora, Mandwa, Karanja, Thal Rewas,Alibag /Dharamtar, Revdanda, Borli/ Mandla, Nandgaon,Murud- Junijira,Rajpuri / Dighi,Mandad, Kumbharu, Shriwardhan ,Bankot, Kelshi, Harnai, Dabhol, Palshet, Borya, Jaigad,Tiwri ï Varoda,Purnagad, Jaitapur, Vijaydurg, Deogad, Achara, Malvan,Niwti, Vengurla,Redi, Kiranpani, Ratnagiri. (48)	Dahanu, Dharmtar, Jaigad, Ratnagiri, Dabhol, Dighi, Kelshi, Redi, Revdanda, Trombay, Vijaydurg, Bhiwandi. (12)
Goa	Panaji,Chapora,Betul,Talpona,Tiracol. (5)	Panaji (1)
Andhra Pradesh	Bhavanapadu, Calingapatnam , Bheemunipatnam, Kakinada (i)Anchorage (ii)Kakinada Deep Water, Narsapur , Machilipatnam, Vadarevu ,Nizampatnam, Krishnapatnam, Gangavaram, Mutyalammapalem, Rawa. (12)	Kakinada deep water, Krishnapattinam, Gangavaram, Kakinada Anchorage, Rawa. (5)
Karnataka	Mangalore, Malpe, Hangarkatta, Kundapur, Bhatkal, Honavar, Tadri, Belekeri, Karwar, Padubidri, Manki. (11)	Karwar, Malpe, Mangalore, Hangarkatta,Kundapur. (5)
Tamil Nadu	Cuddalore, Nagapattinam, Rameswaram, Pamban, Colachel, Valinokkam, Kanyakumari, Kamrajan ,Punnakkayal, Tirukkadaiyur PY-3(Oil field), Kattupalli, Thiruchopuram, Manappad, Kudankulam. (15)	Cuddalore,Kamrajan ,Kattupalli,Nagapattinam,Thirukkadaiyur. (5)
Orissa	Gopalpur, Bahabalpur, Bahudamuham, Palur, Baliharichandi, Astaranga, Jatadhar Muhan, Barunei muhan, Dhamra, Chudamani, Inchuri, Chandipur, Subanarekha Mouth (Kirtania) (13)	Dhamra, Gopalpur. (2)
Kerala	Koavalam /Vizhinjam, Valiathura,Neendakara, Kollam, Alappuzha, Kodungallore - Munumbum,,Ponnani ,Thalassery,Kannur, Kasaragode, Cheruvathur /Neeleswaram, Manieswaram, Azhikkal, Kozhikode/Beypore, Kayamkulam, Kottayam, Vadakara. (17)	Kozhikode,Azhikkal,Koavalam/ Vizhinjam,Kollam. (4)

Andaman & Nicobar	Port Blair, Mus, Car Nicobar, Havelock, Mayabunder, Diglipur, Rangat, Hut Bay, Katchal, Campbell Bay, Neil Havelock, Dugong Creek, Nancowry, Chowra, Teressa, Kondul, Pillow Millow, East Island, Cinque Island, Jolly Bouy Island,Tillonchong, Castle Bay, South Bay. (23)	Port Blair, Diglipur, Mayabunder, Rangat, Hut Bay, Car Nicobar, Katchal, Nancowry, Campbell. (9)
Puducherry	Pondicherry, Karaikal. (2)	Karaikal (1)
Lakshadweep	Agatti, Amini, Andrott, Bitra, Chetlat, Kavaratti, Kadmat, Kiltan, Kalpeni, Minicoy. (10)	Agatti, Amini, Andrott, Chetlat, Kadmat, Kavaratti, Kiltan, Minicoy (8)
Daman & Diu	Daman, Diu. (2)	
West Bengal	Kulpi (1)	

CHAPTER IV- Review of Port Statistics

4.1 Periodic review of statistics being collected is necessary to ensure that only the relevant statistics is being collected, it meets the requirement of the users both inside the organization and outside the organization. Similarly the concepts and definitions, methodology, terminology and data presentation needs to be regularly reviewed for its relevance for decision making by Port Management.

4.2 Committee on Standardisation of Concepts and Definitions of Traffic Data and Performance Indicators pertaining to Major Ports (1995)

4.2.1 The concepts and definitions used for computing performance indicators of Major Ports were first reviewed in 1995. In 1995, variations in compilation of traffic data and performance indicators reported by the ports to Ministry of Surface Transport **(MOST)** and also published in the respective administrative reports were observed. It was found that concepts and definitions followed by major ports and methodology followed for compilation of performance indicators like average pre-berthing detention time, turn round time, output per ship berth-day , berth occupancy etc and methodology followed were not uniform. It was ,therefore, considered desirable that a thorough review of concepts and definitions be made to bring out standardization in concepts and definitions used in ports to facilitate inter port and intra-port comparisons.

4.2.2 Ministry of Surface Transport vide their Order No. F.No. PT/19011/1/95-PT dated 8th September, 1995 constituted a Committee to go into the details of concepts and definitions followed by the ports in the methods used in working out the performance indicators etc. The composition and terms of reference of the Committee are as follows:-

COMPOSITION

Adviser (TR), MOST	Chairman
Manager (MS), JNPT	Member
Director (PNR), BPT	Member
Director (P&R), CPT	Member
Joint Director (P&S), MOST	Member
Representative of Development Wing, MOST	Member
Deputy Director (P&S), MOST	Member Convener

4.2.3 Terms of Reference:

i) To look into the concepts, definitions and methodologies followed by various ports in compilation of the performance indicators and overseas traffic data flag-wise ï Indian flag, Foreign flag and suggest a uniform pattern.

ii) To look into the variations in data furnished by Ports particularly for performance indicators, i.e. pre-berthing delay, turn round time, percentage of idle time, output per ship-berth day.

iii) To look into other items like berth occupancy, container traffic etc., where Ports do not follow uniform procedure of compilation and to standardize procedure for compilation.

iv) To suggest standard method of reporting transshipment figures.

4.2.4 The Committee recommended the definitions to be followed for Cargo Handled, Vessel Cargo Traffic, Transshipment, Ship Sailed/Handled, Container Traffic, and methodology for working out various parameters such as Berth Occupancy, Pre-berthing Waiting Time, Pre-berthing Delay, Turn Round Time, Output per ship Berth day, Percentage of Idle Time, Availability & Utilization of Cargo Handling, and Equipment. The concepts and definitions recommended by the Committee are given in **Annex-I.**

4.3 Ministry of Shipping (MOS) Committee (2002)

4.3.1 The concepts and definitions of port statistics were again reviewed in 2002 by Ministry of Shipping. The concepts and definitions as given by the MOST Committee (1995) under the Chairmanship of Adviser (TR) were revised. Certain changes in the definition of Transshipment, Turn Round Time (TRT), Pre-berthing waiting Time, Dwell Time were suggested.

4.3.2 The changes suggested by MOS Committee in the concepts and definitions are given in **Annex-II.**

4.4 Working Group on Strengthening of Major Port Statistics (2009)

4.4.1 Over the years the type of cargo being handled has undergone structural change, with the container traffic gaining importance. Most of the ports have set up or are in the process of setting up dedicated container berths/terminals. Categorization of commodities had not been reviewed for more than two decades. Performance indicator for container handling are important and need continuous monitoring for efficient operation of container terminals.

4.4.2 During last one and half decade, due to changes in policy such as allowing Public Private Partnership (PPP), development of ports by private sector etc., the operating environment for ports had undergone changes. In order to understand the changes, new parameters and indicators for monitoring policy effects need to be identified for data collection.

4.4.3 The Department of Shipping set up a Working Group under the chairmanship of Adviser (Transport Research) in May 2009 for Strengthening of Major Port Statistics with the following terms of reference:

(i) To look into the concepts, definitions and methodologies followed by port authorities in compilation of sea-borne cargo & physical performance indicators.

(ii) To suggest uniform procedures/methods for compilation and dissemination of various physical and financial performance indicators to facilitate comparison and benchmarking productivity and efficiency.

(iii) To recommend/suggest efficiency/performance indicators relating to container handling.

(iv) To suggest time frame for timely compilation and finalization of port statistics.

4.4.4 **The composition of the Working Group was as under** :_

1.	Adviser (Transport Research), Transport Research Wing, Deptt. of Road Transport & Highways	Chairman
2.	Managing Director, Indian Ports Association	Member
3.	Secretary, TAMP	Member
4.	Director, IIPM	Member
5.	Deputy Chairman, Mormugao Port Trust	Member
6.	FA&CAO, New Mangalore Port Trust	Member
7.	Director(R/P), Visakhapatnam Port Trust	Member
8.	Director (P&R), Kolkata Port Trust	Member
9.	Chief Manager (Operations), JNPT	Member
10.	Director (TRW-Ports)	Convener

4.4.5 The Working Group recommended certain changes in accounting of cargo handled to correctly reflect the cargo imported, exported, transshipped and transited from Major Ports. The definition of Turn Round Time and its components have been defined to enable inter-port comparison of Major Portsô performance. Besides, Physical and Financial parameters/indicators for inter-port comparison had also been refined. Uniform formats for supply of periodic data to/for various organizations/purposes-Indian Ports Association, Transport Research Wing and Administrative Reports of Major Ports have been designed to reduce compilation workload and duplication of effort. In addition, specific recommendations were made to improve the quality of the Major Port Statistics.

4.4.6 The important recommendations of the Working Group for Strengthening of Major Port Statistics are given at **Annex-III.**

4.5 The recommendations of the Working Group have been accepted by Ministry of Shipping for implementation from 1st April,2015.

CHAPTER V- Concepts and Definitions

The following concepts and definitions are to be followed by ports for compiling port statistics:-

5.1 CARGO TRAFFIC

Cargo Handled

5.1.1 Cargo is the goods or produce transported generally for commercial gain by ship or any other mode of transport. Cargo handled at the port is the key data of the port as it reflects nature of port activity. As the port has to provide different facilities according to the type of the cargo being handled, the cargo handled by the port may be categorised as :

(a) **Break Bulk Cargo**: The cargo is handled in units, packages, crates, bags and the like.
(b) **Dry Bulk Cargo**: Homogeneous dry cargo (solid or pulverised) that is unpacked or undivided into parts and handled in mass. Liquid Bulk and Gas.
(c) **Liquid Bulk Cargo**: Homogeneous Liquid cargo (including gas) that is unpacked or undivided into parts and handled in mass.
(d) **Containerised Cargo** : Cargo packed in containers for easy handling and transporting of the same as a unit.

5.1.2 The cargo handled by ports is classified by type of trade. Main types are:

(a) **Overseas traffic** i.e. the traffic between ports in two different countries, with the inward movement of goods termed ôimportsô and outward movements termed ôexportsô, both movements comprising the countryôs foreign trade.

(b) **Coastal Traffic** i.e. the traffic between different ports in the same country.

(c) **Transit Traffic** i.e. the traffic physically passing through a port in one country (without entering into that countryôs foreign trade) having originated in a second foreign country, and being consigned to a third country. The transit traffic may leave the country by sea or any other mode of transport (rail, canal, road, pipeline or air).

5.1.3 The cargo handled in a port is differentiated into:

(a) **Cargo loaded** i.e. goods placed on a merchant ship for transport by sea
(b) **Cargo unloaded** i.e. goods taken off a merchant ship.

(This distinction shows whether the inward and outward traffic of a port is balanced or not, which affects the general pattern of ship traffic and hence port facilities required to cater to the traffic.)

(c) **Transshipment** - A port may handle some cargo, which is destined for some other port, by unloading this cargo from a merchant ship and loading it on to another to complete journey, is termed as Transshipment Cargo**.** The cargo may even have dwell time ashore before its outward journey.

5.1.4 The definitions of cargo loaded, cargo unloaded and transshipment are as per European Commission (EC) published in their publication ñGlossary of Transport Statisticsò Further as per their definition, the transshipment cargo is counted twice ï once as unloaded and then as loaded.

5.1.5 In India, Major Ports are following the same definition in respect of cargo loaded and cargo unloaded. However, in respect of transshipment, present definition of transshipment being followed by the ports (as per MOS Committee, 2002) is:

(i) If cargo is transshipped directly from one ship/barge to another without unloading at the port or where cargo is transshipped in the midstream, the transshipped cargo should be counted once.

(ii) If transshipped cargo is unloaded at the port and again loaded, it is to be counted twice. It is clarified that where the cargo transshipped to a daughter vessel is brought to the shore and then unloaded into another ship, the cargo transshipped should not be counted thrice.

5.1.6 In the above definition, the treatment of transshipped cargo within the port limit depends upon whether the cargo is handled in mid-stream or at berth. Following present definition, if the cargo is destined for the port and is transshipped to the berth in a daughter vessel (due to some technical reasons / draft restrictions) then that cargo is being counted twice by some of the ports.

5.1.7 Thus-

i. The cargo destined for a port should be counted once only, even if it is transshipped from a vessel to another vessel/barge or any other mode in midstream/ inside the harbour and then brought to the berth.
ii. If the cargo is not destined for the port but handled at the port from one vessel to another vessel/ barge and not brought to the berth, it shall also be counted once.
iii. If the transshipped cargo is unloaded at the port, stored and then loaded to another ship, it should be counted twice.
iv. The transshipped cargo, when counted once, will be considered as cargo unloaded while transshipped cargo being counted twice will be considered once as cargo unloaded and once as cargo loaded.

5.1.8 **Cargo Handled** during a period is the total of cargo loaded, cargo unloaded and cargo transshipped during that specified period (e.g. Financial Year i.e. from 1st April of a year to 31st March of the next year).

5.1.9. Some Indian Ports handle transit traffic for land-locked countries such as Nepal, Bhutan, etc. The transit traffic for such countries may be included in the Annual Administration Reports of ports and to be shown in a separate table.

5.1.10. Ports are following different starting times of the year on 1st April for counting of cargo handled depending upon the start/change of shifts at the respective ports. However, as the total time for counting purposes remains one full year, the ports may continue with the existing practice.

5.1.11. For the purpose of determining the cargo handled by a port ï

(i) Loading /unloading of cargo to /from the ship at sea/waterways within port limits from/to barges or dumb steel lighters, performing the transfer from/to the berth at port (i.e. topping up / lighterage), should not be separately counted as mid-stream operation as these operations are carried out due to draft limitations or some other technical reasons. Hence, the cargo loaded/unloaded in mid-stream should be counted only once.

(ii) Cargo availing ôInnocent Passageõthrough the port area e.g. petroleum crude moving through pipelines, which is not in the nature of cargo handled by the port, should not be considered as port traffic irrespective of the fact whether revenue is collected by the port or not.

(iii) Any transfer of liquid cargo, which does not involve ship to shore interface or vice versa, shall not be taken into consideration for the purpose of cargo throughput. Intermediary transfer from one tank to another or any other non-ship installation shall not be included in the cargo throughput.

Weight/Volume Measurements of Cargo Handled

5.1.12 The cargo handled by port is measured by weight or volume (subsequently converted into weight). To measure cargo weight/ volume, the following method is to be used for uniform compilation of cargo statistics by all Ports.

(i) Dry Bulk and Liquid Bulk Cargo

5.1.13. For accounting the throughput of Dry Bulk and Liquid Bulk cargo, ñSurveyò method, which is prevalent, may be adopted. Any other information available to measure cargo weight/volume, which forms the basis of charging for cargo handling services, will be given preference.

(ii) Break Bulk Cargo

5.1.14. Weight of cargo, as declared in the Bill of Lading, may be taken as the throughput. Any other method (e.g. survey), carried out to measure cargo weight and which forms the basis of charging cargo handling services, will be given preference.

(iii) Containers

5.1.15. Actual tonnage of the cargo inside the container alongwith the tare weight of the container or weight of cargo as declared in Bill of Lading plus tare weight of the container may be taken as the throughput. For the purpose of calculating tare weight, if actual tare weight is not available, the following values may be considered as tare weight:

20ôContainer ï 2.25 Tonnes

40ôContainer ï 3.75 Tonnes

Non-Standard containers ï Actual tare weight

Methodology for Accounting of Cargo

5.1.16. The following method for accounting of cargo traffic is to be followed:

(i) Cargo destined for a port is discharged within its port limit to any other mode of transport (barge/ship etc.) and thereafter brought to the berth and unloaded or cargo originating from a port is loaded to barge/ship at the berth and subsequently loaded to a ship within its port limit, the cargo handled should be counted only once for throughput purposes.

(ii) Cargo not manifested for the port is discharged in the port limit to any other mode of transport (barge/ship etc.) and subsequently moves directly to the destination port, it shall be counted only once for throughput purposes. The cargo will be accounted as transshipped cargo unloaded.

(iii) Cargo manifested for some other port is unloaded in a port (directly or transshipped through daughter vessel), stored and again loaded on to another ship for the destination port, it shall be counted twice -- once as transshipped cargo unloaded and once as transshipped cargo loaded.

(iv) In the event of transfer of cargo in the mid-stream but outside the port limits, the cargo transferred should be counted only when the port has rendered services. If the cargo is brought into the port for further discharge or vice versa this should be counted only once if it is destined for the port, otherwise twice.

Example

5.1.17. A ship carries 200000 tonnes of cargo to Mumbai Port from Jeddah Port, out of which 50,000 tonnes is for Mormugao Port and 40,000 tonnes is for Kandla Port. The cargo

for Mormugao is unloaded to another ship in midstream and cargo for Mumbai and Kandla Port is unloaded onto a daughter vessel and unloaded at berth. The cargo for Kandla is subsequently loaded to a ship destined for Kandla.

5.1.18. Thus the total cargo handled by Mumbai Port should be 2,40,000 tonnes i.e. 50,000 tonnes (transshipped to Mormugao) + 1,10,000 tonnes (Mumbai cargo) + 2x40,000 (transshipment cargo for Kandla).

5.2 SHIP TRAFFIC

5.2.1. A port is usually visited by a variety of ships which differ in type, size and flag. In addition, same ships may call several times in a year at one port. These calls may frequently differ in respect of the origin and destination, the type of operations, the nature and volume of cargo carried to/from that port. Details of ships handled are essential for detailed analysis of present traffic and projecting future traffic so as to plan for most adequate facilities.

5.2.2. The number of ships handled/sailed should be shown under two categories (i) Cargo vessels and (ii) Non-cargo vessels. The grouping of the vessels should be done in the following manner:

(i) **Cargo Vessels** : Break Bulk, Dry Bulk ï Mechanical and Conventional, Liquid Bulk, Container, Lash, Passenger-cum-Cargo, RORO

(ii) **Non-cargo Vessels** : Passenger, Fishing, Navy, Research-cum-Survey, Others (to be specified).

Ships Arrival

5.2.3. It is the number of cargo and non-cargo ships that actually arrived at the port during a specified period (e.g. Financial Year i.e. from 1st April of a year to 31st March of next year).

Ships Sailed

5.2.4. It is the number of cargo and non-cargo ships that actually sailed from the port during a specified period (e.g. Financial Year i.e. from 1st April of a year to 31st March of next year).

5.2.5. For the purpose of counting of the number of ships sailed / vessel traffic and calculation of performance parameters the following procedure shall be followed:-

(i) A ship which enters the port during the previous year but continues cargo operations in the current year will be counted in the current year.
(ii) A ship which enters the port in the current year but does not start cargo operations in the current year will not be counted in the current year.

(iii) A ship which entered the port in the current year, completed cargo operations but detained in the port due to any reason till 31st March of the current year will be counted in the current year.

(iv) A ship which completed cargo operations in the previous year but sailed from the port in the current year will be included in the current year.

5.3 PORT PERFORMANCE PARAMETERS

Berth Occupancy

5.3.1 The time spent by a ship at a berth is the berth occupancy. Berth availability for a berth can be worked out by both on the basis of total days in a year i.e. 365 days (366 days for leap year) and the actual days for which the berth is available, after excluding the days for which the berth is not available due to dredging, repair, bore tide restriction, etc. In compilation of Berth Occupancy, the specific cases shall be dealt with as follows:

(i) In case of double banking or accommodation of more than one vessel at a berth, the overlapping period should be counted once only.

(ii) In case the berth is occupied by a vessel due to litigation, weighting for dismantling, etc. or occupied by navy vessels, dredgers, exhibition vessels, portôs own vessels, etc. that period should be excluded.

Berth Capacity

5.3.2 The quantum of cargo (metric tonnes/TEUs) a berth is designed to handle in a year is the Berth Capacity.

Port Performance

5.3.3 The operational performance of a port is generally measured in terms of certain efficiency parameters and indicators such as õTurn Round Timeö, õPre-Berthing Waiting Timeö, õAverage Ship Berth-day Outputö, etc.

Dwell Time of Cargo

5.3.4 Dwell time of cargo broadly reflects the efficiency of the port. Any reduction in dwell time will reduce the transaction cost and also increase the capacity of the existing port infrastructure. This would facilitate the trade in general and enhance the competitiveness of Indian goods in the international markets.

5.3.5 The duration for which an entity stays in the port for service is the dwell time of that entity. In the port parlance, the entities are mainly the vessel and cargo/containers. Thus, **Dwell Time of cargo/ container** is the time for which cargo / container remains in a terminalôs in-transit storage area while awaiting shipment to vessels in case of

export or evacuation by rail/road in case of import. Dwell time for import cargo is time between time and date of discharge of last tonnage of vessel till last tonnage of cargo is loaded from the port. For Export cargo, it is time and date of first arrival of cargo till the first tonne of loading on the vessel.

Turn Round Time

5.3.6 Shipôs Turn Round Time (TRT) in the port is the primary indicator to judge the quality of service being given by the port to the ships. **TRT is** :

ôThe total time spent by a vessel at the port from its arrival at reporting station till its departure from the reporting station. It thus includes pre-berthing waiting time, navigation time (inward movement and outward movement time), stay at working and non-working berths and shifting timeô However, the detention/idle time due to litigation, fire, repair/dry docking, delay in the decision regarding dismantling, etc. is not to be includedô

5.3.7 In case a vessel undertakes the cargo and passenger operations in the same voyage, time relating to passenger operations may be excluded.

5.3.8 The Turn Round Time shall comprise the following components:

(i) **Pre-Berthing Waiting Time**
(ii) **Inward Movement Time**
(iii) **Stay at Working / Non-working Berths**
(iv) **Shifting Time**
(v) **Outward Movement Time**

(i) Pre-Berthing Waiting Time

5.3.9 This is the time taken by a ship from its arrival at the anchorage and reported to the reporting station till it arrives at the operational berth excluding time taken for inward movement.

5.3.10. The average pre-berthing waiting time can be obtained by dividing the total pre-berthing waiting time of all cargo vessels sailed from the port during a period by the number of cargo vessels sailed during that period. The pre-berthing waiting time on port account and non-port account shall be maintained separately.

ii) **Inward Movement**

5.3.11 This is the navigation time taken by a ship for moving from anchorage or reporting station to an operational Jetty/Berth/Mooring as the case may be.

5.3.12 In case the navigation is first to non-working berth, Inward Movement will be the time taken from anchorage point to non-working berth and time taken for shifting from non-working berth to operational berth/jetty/mooring.

(iii) **Stay at Working / Non-working Berth**

5.3.13 This is the total time spent by a cargo ship at one or more berths in one voyage. Thus, it is the sum of stay at each berth including anchorage, holding points, mid-stream, etc. However, the detention / idle time due to litigation, fire, repair/dry docking, delay in the decision regarding dismantling, etc. may be deducted since this does not form a part of the TRT.

5.3.14. The berthing time of a cargo ship comprises two components i.e. Stay at Working Berth and Stay at Non-working berth. The Stay at Working berth comprises working time and non-working time. The non-working time spent at working berth is the time for which cargo operations are not carried out owing to various reasons including reasons not attributable to the port.

5.3.15. Non-working time is to be analysed for the entire vessel and different vessel/cargo categories separately. Reasons for non-working time at working berth may be analysed separately on Port account and Non-Port account. The time spent by a vessel at a non-working berth is to be analysed for different reasons like want of working berth, poor performance, want of cargo, etc., and any other reasons. In case single loading/unloading facility is available for more than one berth, one ship loader and pipeline for two berths the idle time of ship awaiting loading/unloading may be treated as time spent at non working berth.

(iv) Shifting Time

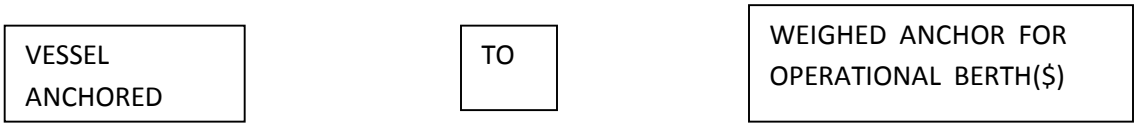
5.3.16. This is the navigation time taken by a ship for moving from one working / non-working berth/anchorage to another working / non-working berth/anchorage.

(v) Outward Movement

5.3.17. This is the navigation time taken by a ship from the time of unberthing from the last berth till the vessel reaches reporting station.

The components of Turn Round Time are diagrammatically shown below:

(I) P.B.W.T.
(Pre-berthing Waiting Time)



(II) I.M.
(Inward Movement)

WEIGHED ANCHOR FOR OPERATIONAL BERTH	OR	PILOT BOARDED (*)	TO	TIME OF BERTHING AT OPERATIONAL BERTH ($)

(*) In case of vessel directly berthed ñIMò should be calculated from ñPilot Boardedò to ñTime of Berthingò at operational berth.

($) In case the navigation is first to non-working berth, Inward Movement will be the time taken from anchorage point to non-working berth and time taken for shifting from non-working berth to operational berth/jetty/mooring.

(III) Stay at Working/ Non-working Berth

TIME OF OCCUPATION OF FIRST OPERATIONAL BERTH	TO	TIME OF VACATION OF FIRST OPERATIONAL BERTH
TIME OF OCCUPATION OF SECOND BERTH	TO	TIME OF VACATION OF SECOND BERTH
TIME OF OCCUPATION OF N^{th} BERTH	TO	TIME OF VACATION OF N^{th} BERTH

Where ñNò is the number of last berth

(IV) S.T.

(Shifting Time)

TIME OF VACATION OF FIRST BERTH	TO	TIME OF OCCUPATION OF SECOND BERTH
TIME OF VACATION OF SECOND BERTH	TO	TIME OF OCCUPATION OF THIRD BERTH
TIME OF VACATION OF N-1th BERTH	TO	TIME OF OCCUPATION OF Nth BERTH

Where n is the number of last berth

O.M. (Outward Movement)

TIME OF VACATION OF LAST BERTH	TO	TIME PILOT DISEMBARKED THE VESSEL

TRT = PBWT+IM+BT+ST+OM

5.3.18. The average turn-round time may be obtained by dividing the total turn-round time by the number of vessels sailed. The turn-round time on port account and non-port account shall be maintained separately.

5.3.19. **Other Performance Indicators**

(a) Cargo Traffic

(i) Average Stay at Working Berth = $\frac{\text{Total Stay at Working Berth of Vessels sailed}}{\text{Total Number of Vessels sailed}}$

(ii) Average Pre-Berthing Waiting Time = $\frac{\text{Total Pre-Berthing Time of Vessels sailed}}{\text{Total Number of Vessels sailed}}$

(iii) Average Non-working time= Total Non-working time at Working & Non-working Berths
Total Number of Vessels sailed

(iv) Average Parcel Size = Total Cargo handled by Vessels sailed
Total Number of Vessels sailed

Note:- Vessels where loading and unloading operations involve two different types of cargo e.g. coking coal, iron ore, iron and steel, etc., the number of vessels/voyages should be counted twice.

(v) Average Parcel Size (For Container Vessels in terms of TEUs) = No. of TEUs handled by Container Vessels sailed
Total Number of Container Vessels sailed

(vi) Percentage of Non-working time at Working Berth = Non-working time at Working Berth X 100
Total Stay at Working Berth

(vii) Average Ship Berth-Day Output = Total Cargo handled by Vessels sailed
Total Stay at Working Berth

(viii) Effective Output per Ship Berth-Day = Total Cargo handled by Vessels sailed
Total Working Time at Working Berth

(xi) Average Hook-shift Output = Total Tonnage handled
Total Number of Hook-shifts deployed

(x) Average Gang-shift Output = Total Tonnage handled
Total Number of Gang-shifts deployed

(xi) Availability and Utilisation of Cargo Handling Equipment:

(a) **Availability:** It is the ratio of actual number of hours the equipment are available for use in a certain period to the number of possible equipment-hours in that period.

(b) **Utilisation:** It is the ratio of actual hours the equipment is engaged for work in a certain period to the number of possible equipment-hours in that period.

Let **A = Number of possible equipment hours in a month** (24 hours may be taken in a day if the port operates in three shifts and if the port operates in two shifts, 16 hours may be considered), then

A = Number of equipment in the fleet X Number of days in a month X 24

B = Number of Hours the equipments are available for work in a month

C = Number of Hours the equipment are under major overhaul or under scheduled (or periodic) maintenance or preventive maintenance in a month.

D = Number of Hours the equipment are under breakdown / maintenance or recess in a month

E = Actual hours for which the equipment are engaged for work in a month (for calculation of actual hours of work, the number of shift-hours may be taken. However, necessary adjustment in the total shift-hours may be made. For example, if the equipment is engaged for work for say 50 shifts in a month and the average recess period in each of the 8-hour shifts is say 0.5 hours, then the number of hours the equipment was used = 50 x (8 - 0.5) = 375 hours).

Actual availability (B) = A ï C ï D

% Availability = $\frac{\mathbf{B}}{\mathbf{A}}$ **x 100**

% Utilisation =

(i) In terms of Actual Equipment Availability Hours = E / B x 100
(ii) In terms of Possible Equipment Hours = E / A x 100

(b) Container Traffic

(i) Average Dwell Time = $\frac{\text{Time of container stay at port}}{\text{No. of containers handled}}$

(ii) Moves per Crane hour = $\frac{\text{Total No. of crane moves}}{\text{Total crane hours}}$

(iii) Effective Moves per Crane hour = $\frac{\text{Total No. of crane moves}}{\text{Effective crane hours}}$

(iv) Moves/berth hour = $\frac{\text{Total Moves}}{\text{Total berth hours}}$

(v) Effective Moves/berth hour = $\frac{\text{Total Moves}}{\text{Effective berth hours}}$

(vi) TEU per Meter quay = $\frac{\text{Total TEUs handled}}{\text{Total length of quay}}$

5.4 Financial Parameters and Indicators

Income

5.4.1 Operating Income

The Operating Income will include the following:

1. Cargo handing and storage charges
    - Handling and storage charges (excluding container)
    - Storage fees
    - Charges for container handling (including containerized cargo)
    - Income from BOT contracts
    - Demurrage
    - Miscellaneous income

2. Port & dock charges
    - Fees for pilotage, towage etc.
    - Berth hire charges
    - Port dues
    - Dry docking charges
    - Miscellaneous income

3. Railway earnings
    - Freight and haulage
    - Siding charges
    - Terminal charges
    - Wharfage and demurrage
    - Miscellaneous charges

4. Estate rantals
    - Rent from land
    - Rent from buildings, sheds and godowns
    - Premium on leased land
    - Recoverable property taxes etc.
    - Miscellaneous income

[Premium on leased land should be amortised equally throughout the lease period.]

5.4.2 **Non Operating Income**

The Non-operating income shall include the finance and miscellaneous income as reported as per the current Accounting Policy.

Expenditure

5.4.3 **Operating Expenditure**

The break-up of Operating Expenditure will include the following:

1. Cargo handling and storage expenditure
2. Port and dock facilities for shipping
3. Railway workings
4. Rentable land and buildings
5. Management and General Administrative Expenses

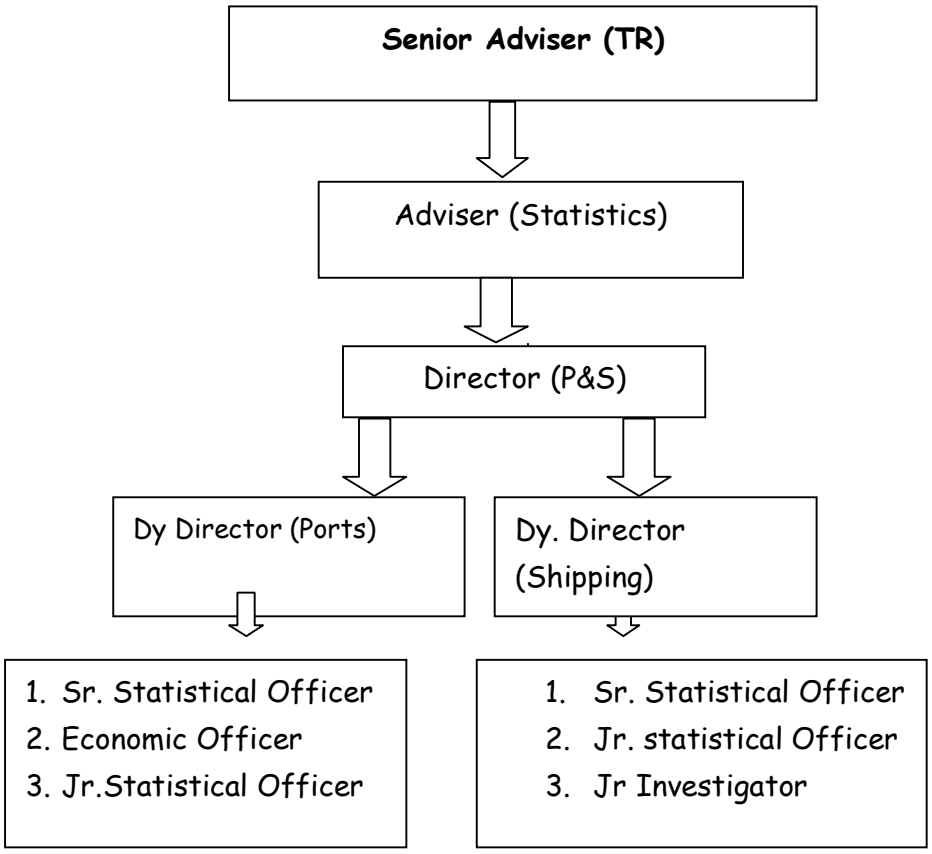
5.4.4 **Non Operating Expenditure**

The expenditure reported as finance and miscellaneous expenditure as per the accounting policy i.e. social security expenditure, Corporate Social Responsibility expenditure, interest paid/payable and other expenditure shall be non operating expenditure.

CHAPTER VI - Collection of Data

6.1 **Nodal Agency-** Transport Research Wing (TRW), Ministry of Road Transport & Highways, is the nodal agency inter-alia for collection, compilation and publication of data on Indian Ports.

6.2 In the TRW, following hierarchy of officers exists for handling ports and shipping statistics:-



6.3. Source of data- Port statistics is being collected from all the major/ non-major ports on monthly/quarterly/ half yearly/ annual basis. The primary sources of data on Major Ports are the respective Port Trusts and their Administrative Reports. Data on Non-major are obtained from State Maritime Boards/Port Departments of maritime states/ UTs in the prescribed formats. The list/names of major/non-major ports is given in chapter I.

6.4. Formats for Major Ports –The following formats for data collection on monthly and half yearly basis in respect of cargo traffic and port performance have been prescribed for collection of data from major ports.

6.4.1 Monthly Formats

M-I- Commodity Group-wise and Category-wise Cargo Traffic Handled

M-II Commodity-wise & Category-wise Cargo Traffic Handled

i) During the Month

ii) Cumulative during the Financial year

M-III Performance of Major Ports

i) During the Month

ii) Cumulative during the Financial year

M-IV Distribution of Pre-berthing Waiting time

i) During the Month

ii) Cumulative during the Financial year

6.4.2 Quarterly Format

Q-I Performance Indicators for Container Terminals

6.4.3 Half-Yearly Formats

H-I - Cargo Traffic Handled at Major Port

H-II - Performance in Terms of Vessels Handled

i) All Vessels

ii) Overseas Vessels

iii) Coastal Vessels

Half yearly data to be furnished for six month period ending September and for the whole year for the period ending March.

6.4.4 Yearly Formats

The following formats have been designed for annual compilation of data by Major Ports. The ports may provide annual data in the following formats:-

Vital Port Infrastrucure

V-I - Topography of Port

V-II - Berth Particulars

V-III - Floating Crafts

V-IV - Cargo Handling Equipments

V-V - Storage Facilities.

Cargo Traffic (except Container)

C-I - Commodity-wise & Category-wise Cargo Traffic Handled

C-II - Flag-wise Distribution of Traffic

C-III - Origin and Destination-wise Overseas Traffic Handled

C-IV - Commodity-wise Traffic Handled (During last 5 years)

C-V - Commodity-wise Loaded Cargo Received by Different Modes of Transport

C-VI - Commodity-wise Unloaded Cargo Despatched by Different Modes of Transport

C-VII - Commodity-wise & Category-wise Transit Traffic of Other Countries Cargo Handled

Container Traffic

Co-I - Number & Types of Containers Handled

Co-II - Container Cargo & Tare Weight of Containers Handled

CO-III - Inland (Landward) Container Movement - Outgoing from Port after Unloading from Ship

Co-IV - Inland(Landward) Container Movement - Incoming to Port for Loading on to Ship

Performance Indicators

P-I -Performance of Major Port

P-II - Distribution of Pre-berthing Waiting Time

P-III - Distribution of Non-working Time at Working Berths

P-IV -Commodity-wise Performance Indicators

P-V - Berth Occupancy

P-VI - Availability of Cargo Handling Equipments.

P-VII - Shore Labour Productivity

P-VIII - Dock Labour Productivity

P-IX - Availability and Utilization of Equipments (other than Container Handling)

P-X - Availability and Utilization of Container Handling Equipment

P-XI - Performance of Container Handling Equipment

P-XII - Performance of Dredgers

Financial Statistics

F-I ï Financial Indicators

F-II ï Capital expenditure on Plan and non-plan Schemes

Other Major Port Statistics

O-I - Number, Type and Size of Ships Sailed

O-II - Passenger Traffic at Major Port

O-III - Accidents at Major Port

O-IV - Employment and Mandays lost at Major Port

6.4.5 The formats for data collection from Major Ports viz.

(a) Monthly - M I to M IV

(b) Quarterly - QI

(c) Half Yearly - H I and H II

(d) Yearly - V-I to V-V, C-I to C-VII, Co-I to Co-IV, P-I to P-XII, FI & F II and O-I to O-IV are given at Annex. IV.

6.5 Formats for Non-major Ports

6.5.1. Half-Yearly Formats

NMH-I - Cargo Traffic Handled at Port ï Commodity ï Group-wise

NMH-II Cargo Traffic Handled at Port ï Commodity -wise and category-wise

Half yearly data to be furnished for six month period ending September and for the whole year for the period ending March.

6.5.2. Yearly Formats

The following formats have been designed for annual compilation of data by Non-Major Ports. The ports may provide annual data in the following formats:-

NM-I Commodity-wise, Category-wise Cargo Traffic Handled including flag-wise distribution

NM-II Other Data

A. Annual Passenger Traffic by Ships at Non -major port
B. Number of Steamer/Sailing vessels which left during the year from Non -major port
C. Employment at Non-major port (As on 31st March)
D. Number of Berths and Draft at Non-major Port
E. Equipment available at Non-major Port
F. Physical Performance of vessels at Non-major port
G. Investment Infrastructure in Non-major port
H. Port Capacity of Non-major port As on

6.5.3 The formats for data collection from non-major ports viz. Hoalf Yearly ï NM-II and NM H-II and yearly NM-I & NM-II are given at Annex. V.

Parameters and Indicators for Data Collection

6.6 Every Port collects and compiles data regarding various aspects of its activity to achieve specific objectives particularly for managing day-to-day operations. In addition, data is required for forecasting vessel and cargo traffic, policy planning and port development. It is essential to identify those data which is important enough to record in relation to the objectives of Port and Ministry of Shipping.

6.7 The statistical requirements of all Ports differ owing to their nature and size of operations. Hence, complete standardization of Ports is neither feasible nor desirable due to difference in individual portôs layout and operational requirements. However, uniformity is needed in the methods, form of collection and presentation of data/information in order to facilitate inter-port comparisons, which are essential not only for broad analytical purpose but also for evaluation of port performance.

6.8 The statistical information required for policy planning and port development purpose can be classified in the following categories:-

(i) **Vital Port Infrastructure**: It is basic and is important for measuring the impact of changes on port performance.
(ii) **Cargo Traffic**: It is the key data which gives a picture of the port activity during a period.

(iii) **Port Performance Parameters/Indicators**: These are measures of various aspects of port operations, which provide insight into the operations of key areas for planning and control.

(iv) **Vessel Traffic**: The data is of vital interest owing to the high cost of port facilities necessary to handle vessels at the port.

(v) **Financial Statistics**: As a provider of commercial services, the ports have a close interest in the revenue generated by those services and cost incurred in providing them.

(vi) **Other Port Statistics:** Manpower deployed, man-days lost, financial parameters, accidents, etc. which are useful for planning and policy formulation.

6.9 Major Ports

Major ports are large organistaions and have dedicated manpower to collect and compile statistics required for ports management, policy and planning purposes. A list of parameters and indicators for which data can be collected, compiled for policy planning, port development and statistical dissemination is as given below:-

6.9.1 Vital Port Statistics

Parameters

(a)	Topography of the Port	:	Location (Latitude & Longitude), Entrance channel (Length, Minimum Depth and Minimum width), Turning Circle (No. and Diameter), Type of Dock/Port
(b)	Berth Particulars	:	Berth Name/No., Type of Birth, Designed Depth (Mtrs), Permissible Draft, Quay Length,
(c)	Floating Craft	:	Type of craft, No., Type and Capacity.
(d)	Cargo Handling Equipment	:	Type of Equipment, No. and Rated Capacity.

(e) Storage Capacity at Port : No., Area and Location (inside/ outside Port) for

(i) Dry Storage Accommodation

(ii) Containers

(iii) Liquid Storage tanks

(iv) CFS

(v) Reefer points

6.9.2 (i) Cargo Traffic (excluding Container Traffic)

Parameters

The following data will be collected for each cargo ship handled :

i. Commodity Loaded / Unloaded / Transhipped
ii. Quantity
iii. Overseas / Costal traffic
iv. Cargo Category ï Container / Break Bulk / Liquid Bulk/ Dry bulk ï Mechanical / Conventional
v. Country & Port of Origin / Destination
vi. Flag of Ship
vii. Mode of Despatch / Receipt of Cargo ï Rail, Road, Pipeline, Inland Waterways alongwith Quantity

Indicators

i. Share of Coastal and Overseas traffic
ii. Share of Import Cargo to Overseas cargo
iii. Percentage share of Indian Flag Vessel in the Overseas and Coastal Cargo Traffic Handled
iv. Parcel Size (Cargo handled/No. of Cargo Ships Handled)
v. Cargo Handled per Employee

6.9.2 (ii) Container traffic

Parameters

i. No. of Container Imported / Exported / Transhipped ï categorized as stuffed/empty, 20ð40ðothers (Total in TEUs), Container Traffic Loaded/Unloaded/Transhipped (separately for Indian lines & Foreign lines)
ii. Commodity - wise break up of Container Cargo ï Loaded/Unloaded /Transhipped.
iii. Tare Weight & Container Cargo Weight separately.
iv. Reefer Container Traffic ï Import/export in TEUs & Tonnage
v. Inland Container Movement ï Incoming/Outgoing to Port by Rail/Road in TEUs & Tonnage.
vi. ICD Container Movement ï In & Out (in TEUs) by Mode(Rail/Road/IWT)
vii. Country-wise Origin and Destination of Containers

Indicators

(i) Level of Containerization - Percentage of Container Cargo to General Cargo (Container + Break Bulk)

6.9.3 Performance / Efficiency Parameters

The following parameters may be compiled for each ship according to category of vessels, important commodity wise and separately on Port & Non-port account.

(a) Vessel traffic

Parameters	Indicators
For each cargo ship sailed - Pre-berthing Waiting Time - Inward Movement Time - Stay at Working Berth and Non-working Berth - Non-working Time at Working Berth - Shifting Time - Outward Movement Time	- Output per Ship-berth Day - Percent of Non-working Time at Working Berth - Average Stay at Working Berth - Average Non-working Time - Average Turn Round Time - Average Pre-berthing Waiting Time - Average Inward Movement Time - Average Outward movement Time - Average Shifting Time - Parcel size

(b) Container Traffic

Parameters	Indicators
- Containers Handled (No.) - TEUs Handled - Cranes(No.) - Crane Moves (Total) - Crane Hours(Total) - Berth Hours (Total) - Crane Idle Time(hours) - Berth Idle Time (hours) Yard productivity - Area of Yard - Cranes Used (No.) - TEUs Handled - Effective Crane Handling Time (hours) - Crane Idle Time	- Average Dwell Time (Time of Container Stay at Port/ No. of containers Handled) - Moves per Crane Hour(Total No. of Crane Moves / Total Crane Hours) - Effective Moves per Crane Hour(Total No. of Crane Moves / Effective Crane Hours) - Moves/berth Hour (Total Moves/ Total Berth Hours) - Effective Moves/Berth Hour (Total Moves/ Effective Berth Hours) - TEU per Meter quay (Total TEUs Handled / Total Length of Quay)

(c) Shore and Dock Labour Productivity

The following parameters may be compiled for each ship, according to type of Cargo and for important commodities.

Parameters	Indicators
- No. of Hooks Worked. - Hook-hours Worked - Effective Hook-hours Worked - Man-hours Worked - Effective Man-hours Worked - Tonnage Handled - Gang Shifts(No.)	- Average Productivity per Hook (Tonnes) - Average Productivity per Hook-hour (Tonnes) - Average Productivity per Effective Hook-hour (Tonnes) - Average Productivity per man-hour (Tonnes) - Average Productivity per Effective man-hour (Tonnes) - Output per gang shift

(d) Availability and Utilization of Equipment

Cargo equipments (i) Wharf Crane (ii) Mobile Crane (iii) Fork Lift Truck

Parameters	Indicators
- No. of Equipment -Possible Gross Equipment Available Hours (No. of equipment(s) x No. of days x 24) - Non-available Equipment Hours - Net Available Equipment Hours (Gross No. of Hours of Equipment Availability ï Non Available Hours. - Actual Equipment working time (hours)	- Percent Availability of equipment (Actual equipment available hours / Possible Gross equipment available hours x 100) - Percent Utilization of Equipment i. Net Available Working Hours (Actual Equipment Working Time/ Net Available Equipment hours x 100) ii. Gross Available Working Hours (Actual Equipment working time / Gross Available Equipment Hours x 100)

(e) Berth Performance

Parameters	Indicators
Berth Availability (days) Berth Occupancy (days)	-Percentage Occupancy of Berth

6.9.4 Vessel Traffic

Parameters

i. No. of vessels handled by type of vessel category (Cargo & Non Cargo)
ii. Flag wise Distribution of Ships Handled
iii. Size of ships handled (DWT, GRT, NRT)

6.9.5 Financial Parameters

1. **Income**

(a) Operating income
- (i) Cargo Handling & Storage Income
- (ii) Vessel Related Income
- (iii) Railway Income
- (iv) Estate

(b) Non-operating Income

2. **Expenditure**

(a) Operating Expenditure

- (i) Cargo Handling & Storage Expenditure
- (ii) Vessel related Expenditure
- (iii) Railway Expenditure
- (iv) Estate

(b) Non-operating Expenditure

3. **Classification of Assets (Capital Employed)**

- (i) Cargo Handling and Storage
- (ii) Port and Dock Facilities
- (iii) Railway
- (iv) Estate
- (v) Others

4. **Operating Ratio**

(a) Cargo Handling Operating Ratio = $\frac{\text{Cargo Handling Expenditure}}{\text{Cargo Handling Income}}$

(b) Vessel Related operating ratio = $\frac{\text{Vessel Relating Expenditure}}{\text{Vessel Related Income}}$

(c) Railway related operating ratio = Railway Related Expenditure / Railway Related Income

(d) Operating Ratio = Total Operating Expenditure / Total Operating Income

5. **Capital Expenditure**

(i) Plan Schemes
(ii) Non-Plan(Capital)

6. Total Investment in PPP Projects (by port and concessionaire separately)

(i) Investment in land

(ii) Other Investment excluding Investment in Land

(a) Civil works
(b) Equipments
(c) Other investments

Efficiency Indicators

(i) Return on Capital Employed
   a. Net Surplus to Net Capital Employed
   b. Net Income to Total Capital Employed
(ii) Current Ratio
(iii) Asset Turnover Ratio
(iv) Management & GA Expenditure to Operating Expenditure
(v) Percentage of Salaries and Wages to Total Operating Expenditure

6.9.6 Other Port Statistics

Parameters

i. Manpower Employed category - wise at Major Ports & by Dock Labour Board
ii. Mandays Lost
iii. Accidents by type ï categorized into fatal and Non fatal in Ports & Non-port area
iv. Passenger traffic ï embarkation and disembarkation

v. Dredging carried out & expenditure incurred ï Routine maintainance and Capital dredging by Dredging Corporation of India and Private dredgers separately.

Indicators

i. Cost per Tonne of Cargo Handled
ii. Tonnage Handled per Employee

6.9.7 Ports can also compile other statistics as per requirement for their internal use/ MIS purpose. An Indicative list is given below:-

(i) Port user - wise Quantity of Important Commodities Loaded/Unloaded
(ii) Trains, Vehicles Received and Despatched
(iii) Type-wise no. of wagons received/ dispatched - Total and for Important Commodities
(iv) Average Indent and Supply of Wagons (daily average) for the clearance of Imported Cargo from Port area.
(v) Commodity-wise Percent of Import and Export of major items to the Total Traffic.
(vi) Value of Trade - Import & Export separately for Overseas & Coastal.
(vii) Commodity - wise distribution of Import & Export on Stream and Wharf separately.
(viii) Cargo Handled by Shipping Lines.
(ix) Dry Docking Statistics.
(x) Traffic Handled to & from Trunk Railway.
(xi) Training Programmes attended by Port officials and Skills Imparted.
(xii) Maintainenceof port Equipment Statistics
(xiii) Congestion in Port Area ï for each type of cargo- quay & transit shed disposition of ware housing stock & distribution.
(xiv) Pilot - wise Movements
(xv) No. of cycles of each Crane and Quantity handled (commodity wise)
(xvi) Power/Fuel Consumption per Tonne of Cranes
(xvii) Efficiency of Barges and Other Daughter Vessels Efficiency
(xviii) Harbour Mobile Crane Efficiency
(xix) Floating Craft Efficiency
(xx) Stores Statistics ï Balance of stores in transit (cash values), stores issued, Material Returned, Stores Purchased, Stores for Reorder etc.
Also data on slow moving balances of stores e.g. Items which are in stores for more than

(i) 3 months since last moved

(ii) 6 months since last moved

(iii) 12 months since last moved

(xxi) Housing Related information.

6.10 Non-Major Ports:

There is wide variation in data on cargo handled on non-major ports (eg as high as 125226 thousand tonnes of cargo handled at Sikka in Gujarat during 2013-14 to as low as 1000 tonnes handled at Kundapur in Karnataka during the same period) Moreover, at most of the non-major ports dedicated manpower to collect and compile detailed statistics does not exist. In view of the above constraint, data on limited parameters is uniformly compiled by non-major ports.:-

- No. of berths and drafts
- Equipment available.
- Capacity.
- Commodity wise overseas and coastal traffic handled
- Employment (Annually)
- Passenger Traffic
- Streamers/sailing , vessels entering non-major ports.
- Physical performance parameters (Turn Round Time)

6.11 Scope and coverage :- Data is being collected and compiled for all the 12 Major ports and 69 non-major ports ,(handling cargo in 2013-14), in the country.

6.12 Statistical audit for Major Ports

Assessment of Quality of the data produced by the Major Ports is to be carried out once in two years through Statistical Audit by officers authorized by the Ministry of Shipping. TRW shall prepare guidelines for undertaking statistical audit by June 2015. Officers authorized by the Ministry shall undertake statistical audit as per the guidelines and submit report to the TRW which shall take follow up action for improving the quality of data.

CHAPTER VII - Compilation and Dissemination of Data

7.1 The collected data on commodity- group wise Cargo handled by Major ports and State Maritime Boards/ Departments is compiled in the form of various Tables at different periodicities as given below.

Monthly

7.1.1 The data on commodity group wise cargo handled by major ports is collected every month from all major ports through Indian Port Association (IPA). Monthly analysis of the cargo handled by major ports is uploaded on the website of Ministry of Shipping (http://shipping.nic.in/) under the link õTransport Research Wingô

Half-yearly

7.1.2 TRW collects half yearly data (ending 30th September and 31st March of a year) from Major and Non-major ports on the cargo handled and projects under implementation and under formulation. Besides data is also collected on efficiency indicators ï TRT, Average pre-berthing detention (Total and Port A/c), output per ship berth-day from major ports. The information collected from these ports is compiled and published in biannual publication **"Update on Indian Port Sector".** The publication provides comprehensive information on latest developments having a bearing on maritime cargo traffic. Besides the publication covers statewise analysis of the developments in the area of sea borne traffic for maritime state/UTs particularly in respect of cargo-traffic, efficiency indicators and projects under implementation. The publication is uploaded on the website of Ministry of shipping (http://shipping.nic.in/) under the link ñPublicationsò within 3 months of the end of the half year.

Annual

7.1.3 TRW collects detailed data from Major ports and Non-major ports as per the prescribed formats in respect of cargo traffic-volume and its composition, performance indicators, port capacity and its utilization, equipment availability and utilization, employment and financial performance. The data after compilation is published in annual publication **"Basic Ports Statistics"** and is uploaded on website of Ministry of Shipping by the end of the next Financial Year. The publication gives performance of Indiaôs port sector in terms of cargo traffic and performance indicators in the backdrop of Indiaôs broad macro performance and global developments. Statistical data pertaining to various aspects of port operations, efficiency, finance are presented in 90 tables.

7.2 Major User Groups

7.2.1 Ports are large organizations which provide services. They have prominent role in local and national economy. There are a number of service organizations which cluster around ports. These include Shipping Agents, Chambers of Commerce and Industries, exporters and importers, media, researchers, etc. which are users of ports statistics.

7.2.2 Ministry of Shipping, Niti Aayog, Shipping Companies, Ports Organisations, Central Statistics Office, Government Departments, Indian National Ship Owners Association, Indian Port Association, ICC Shipping Association and Researchers are the major user groups of ports statistics.

7.3 Data gaps and limitations

7.3.1 The following data gaps in major ports statistics exist:

(i) Data on country-wise break-up of Origin and destination-wise of cargo is frequently asked for by researchers. However, the shipping lines/companies generally provide information on the port of country from where the cargo is loaded or to where the cargo is to be unloaded and not the actual country from where the cargo originated or is destined to.

(ii) Container cargo is the fastest growing traffic at Major ports. However, the commodity-wise data moving in containers is not being maintained by all ports.

(i) As the cargo handled by non-major ports is very less and highly varying from port to port, also due to non-availability of sufficient manpower to handle statistics at non-major ports, it is not feasible to compile detailed statistics, similar to major ports , by non-major ports.

Annex-I

Recommended concepts and definitions of Committee on Standardisation of Concepts and Definitions of Traffic Data and Performance Indicators pertaining to Major Ports.(1995)

Port Traffic

Cargo handled

Cargo handled is the total of cargo loaded, cargo unloaded and cargo transshipped during the year from 1st April to 31st March next year.

Vessel Cargo Traffic

It is the cargo handled in respect of the vessels sailed during the year from 1st April to 31st March next year.

Transshipment

The treatment of transshipped cargo within the Port limits would depend upon whether the cargo is handled in midstream or at the berth. There are 2 possibilities.

(i) If cargo is transshipped directly from one ship/barge to another without unloading at the Port or where cargo is transshipped in the midstream, the transshipped cargo should be counted once.

(ii) If transshipped cargo is unloaded at the Port and again loaded, it is to be counted twice. It is clarified that where the cargo transshipped to a daughter vessel is brought to the shore and then unloaded at the Port and again loaded into another ship, the cargo transshipped should not be counted thrice.

Ships Sailed/Handled

(i) Ships sailed is the number of ships that actually left the port during the financial year between 1st April and 31st March next. This comprises (a) cargo vessels which sailed after completion of cargo operations and (b) non-cargo vessels sailed.

(ii) Ships handled is the number of ships operated at the ports during the financial year between 1st April and 31st March next. Ships in which cargo operations commenced during the financial year and continued in the next financial year should not be included. It may be noted that the ships which are detailed in the Port, after completion of cargo operations, for some reasons and have not left the port during the year, must be included in the estimate of ships handled. It is clarified that the cargo loaded or unloaded partially, must be included in the ócargo handledô during the year while the same be not included in the ñVessel Cargo Trafficò

The number of ships handled/sailed should be shown under 2 categories (i) Cargo Vessels and (ii) Non-cargo Vessels; the grouping of vessels be done in the manner indicated below:-

I Cargo Vessels

(i) Break Bulk
(ii) Dry Bulk
(iii) Liquid Bulk
(iv) Lash
(v) Lash
(vi) Passenger cum cargo
(vii) RORO

II. Non-cargo Vessels

(i) Passenger
(ii) Fishing
(iii) Navy
(iv) Others (specify)

Container Traffic

Container traffic is the aggregate of containerized cargo and the tare weight of containers. The tare weight must be shown separately and be included while estimating the total container traffic but need not be included in the commodity-wise break-up of containerised cargo under imports and exports.

The existing system of reporting container traffic in terms of TEUs should continue. In this case, container moves on account of shifting must not be included. However, this information may be separately maintained by the Port for use in working out the equipment utilization plans.

Berth Occupancy

Berth occupancy be worked out both on the basis of 365 days and the actual days for which berth is available, after excluding the days on which berth is not available due to dredging/repair etc. It is further clarified that berth occupancy cannot be shown more than 100% ; where more than 1 vessel/barge occupies the berth at a time due to smaller size of vessels/barges the notional occupancy could exceed 100% though it is technically not feasible. In such cases, the ports may show separately ñextra occupancyò by giving the overlapping period of occupancy. When berth is occupied by the Portôs own craft or vessels which are not intended to carry out Cargo/Passenger operations (eg. Navy vessels, book vessels etc.), it may be useful to show separately the period for which berth is occupied under such cases.

Pre-berthing Waiting time

This is the time taken by a ship from its arrival at the anchorage (reporting station) till it starts its movement to the working berth i.e. operational berth. If a vessel is brought into the port and kept at a berth awaiting availability of working berth, time spent at the waiting berth is to be included in pre-berthing waiting time.

The average pre-berthing waiting time can be obtained by dividing the total pre-berthing waiting time can be obtained by dividing the total pre-berthing waiting time of all cargo vessels sailed from the port by the number of cargo vessels berthed. Transit time from reporting station to non-working berth, if any, and transit time from non-working to working berth should not be included.

Pre-berthing delay

Pre-berthing delay is the total of Pre-berthing waiting time of the vessel and its transit time to the berth.

Turn Round Time

The total time spent by a vessel at the port from its arrival at reporting station till its departure from reporting station for onward journey. It thus includes pre-berthing delay, time taken for cargo operations and idle time. However, the detention/idle time due to litigation, fire, repair/dry docking, delay in the decision regarding dismantling, etc. may be deducted.

The average turn-round time may be obtained by dividing the total turn-round time by the number of vessels sailed. This may be compiled separately for Cargo/Passenger vessels.

Output per ship berth day

This may be compiled under 2 scenarios, as under, and given separately:

(i) Average Berthday Output

Aggregate cargo handled divided by the total number of berth days (both at working and non-working berths) spent by the cargo ships during the year from 1st April to 31st March next.

(ii) Effective Berthday Output

$$\text{Effective Berthday Output} = \frac{\text{Aggregate Cargo Handled}}{\text{Total Time Worked (in days) By the Vessels}}$$

Where

Total Time Worked By the Vessels = Total Number of Days spent by Cargo Ships At Working Berth -- Idle Time At Working Berth

Percentage of Idle time

This may be compiled under three different scenarios as under:-

(i) The total idle time spent by cargo ships at berths (working and non-working) expressed as a percentage of the total time spent at berths (both working and non-working).

(ii) The total idle time spent by cargo ships at working berth expressed as a percentage of the total time spent at berths (both working and non-working).

(iii) The total idle time spent by cargo ships at working berth expressed as a percentage of the total time spent at working berth.

The scenarios at items (ii) and (iii) given above help in understanding the concepts. However, the parameter as under item (i) is relevant and the Ports should accordingly compile idle time on this basis.

Utilisation of Cargo Handling Equipment

The following formulae may be used to compile percentage availability and utilization of cargo handling equipment.

$$\text{Percentage Availability of Cargo Handling Equipment} = \frac{\text{Number of Hours The Equipment (all the equipment of one type taken Together) were Available During a Month.}}{\text{Number of Equipment x 24 x Number of Days In the Month.}} \times 100$$

Where

Number of Equipment Hours Available = Total Equipment Hours -- Hours lost due to major breakdown ï Hours lost due to maintenance schedule.

It may be noted that for compiling the number of hours available, holidays are to be included.

$$\text{Percentage Utilisation of Equipment} = \frac{\text{Actual number of Hours The Equipment (All Equipment of One Type Taken Together) Worked in a Month.}}{\text{Number of Equipment x 24 x Number of Days in the month.}} \times 100$$

This may be worked out on a monthly basis separately for each equipment like Wharf Crane, Mobile Crane, Fork Lift Truck, etc. For working out the yearly estimate, the Port should take cumulative figures for the equipment availability/utilization (in hours),

Annex-II

Concepts/definitions of various parameters used in port traffic & performance indicators modified by Ministry of Shipping Committee (2002)

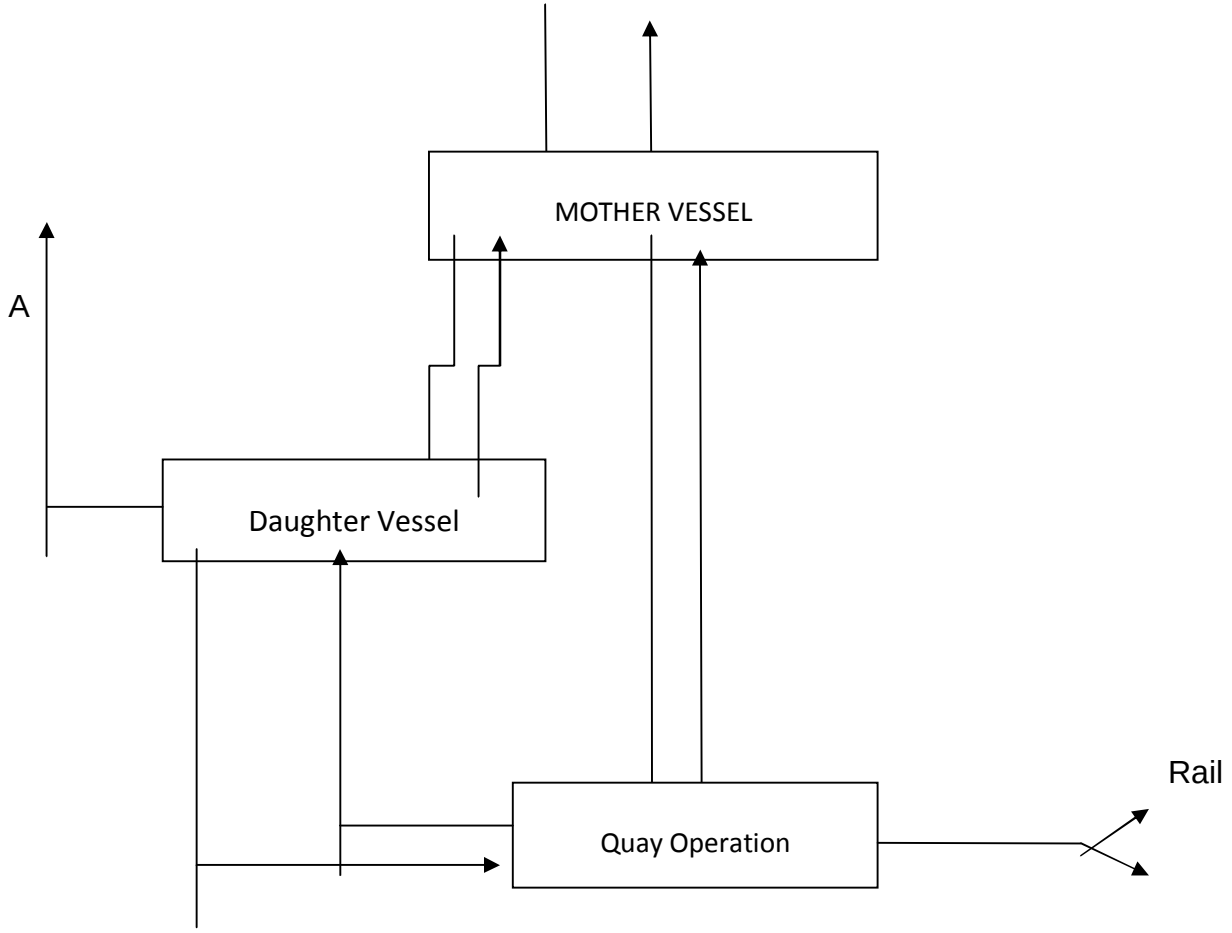
S.No.	PARAMETER	Definition/Concept being used earlier	Proposed modification in Definition/Concept
1	2	3	4
1	**SHIP SAILED / HANDLED:**		
	(a) Ships Sailed	(a) It is the number of ships that actually left the port during the financial year **between** 1st April to 31st March next. This comprises (i) cargo vessels, which sailed after completion of cargo operations and (ii) non-cargo vessels sailed.	(a) It is the number of ships that actually left the port during the financial year **from** 1st April to 31st March next. This comprises (i) cargo vessels, which sailed after completion of cargo operations and (ii) non-cargo vessels sailed.
	(b) Ships handled	(b) It is the number of ships operated at the port during the financial year **between** 1st April to 31st March next. Ships in which cargo operations commenced during the financial year and continued in the next financial year should not be included. It may be noted that the ships which are detained in the port, after completion of cargo operations, for some reasons and have not left the port during the year, must be included in the estimate of ships handled. It is clarified that the cargo loaded or unloaded partially must be included in the ócargo handledôduring the year while the same be not included in the ñVessel Cargo Trafficò	(b) It is the number of ships operated at the port during the financial year **from** 1st April to 31st March next. Ships in which cargo operations commenced during the financial year and continued in the next financial year should not be included. It may be noted that the ships which are detained in the port, after completion of cargo operations, for some reasons and have not left the port during the year, must be included in the estimate of ships handled. It is clarified that the cargo loaded or unloaded partially must be included in the ócargo handledôduring the year while the same be not included in the ñVessel Cargo Trafficò
		The number of ships handled/sailed should be shown under two categories (i) Cargo vessels, and (ii) Non-cargo vessels; The grouping of the vessels be done in the manner indicated below: **(i) Cargo Vessels:** / **(ii) Non- Cargo Vessels** Break Bulk / Passenger Dry Bulk / Fishing Liquid Bulk / Navy Container / Others (Specify)	The number of ships handled/sailed should be shown under two categories (i) Cargo vessels, and (ii) Non-cargo vessels; The grouping of the vessels be done in the manner indicated below: **(i) Cargo Vessels:** / **(ii) Non-cargo Vessels:** Break Bulk / Passenger Dry Bulk / Fishing Liquid Bulk / Navy Container / Others (Specify)

		Lash Passenger-Cum-Cargo RORO	Lash Passenger-Cum-Cargo RORO
2	**(i) PRE-BERTHING WAITING TIME**	This is the time taken by a ship from its arrival at the anchorage (reporting station) till it starts its movement to the working berth i.e. operational berth. If a vessel is brought into the Port and kept at a berth awaiting availability of working berth, time spent at the waiting berth is to be included in pre-berthing waiting time. The average pre-berthing waiting time can be obtained by dividing the total pre-berthing waiting time of all cargo vessels sailed from the port by the number of cargo vessels berthed. Transit time from reporting station to non-working berth, if any, and transit time from non-working to working berth should not be included.	This is the time taken by a ship from its arrival at the anchorage (reporting station) till it starts its movement to the working berth, i.e. operational berth. If a vessel is brought into the Port and kept at a berth awaiting availability of working berth, time spent at the waiting berth is to be included in pre-berthing waiting time. The average pre-berthing waiting time can be obtained by dividing the total pre-berthing waiting time of all cargo vessels sailed from the port by the number of cargo vessels berthed. Transit time from reporting station to non-working berth, if any, and transit time from non-working to working berth should not be included. However any time taken by the shipper of his agent in making the vessel ready for berthing should be excluded. **Waiting time due to non-port account to be excluded**
	(ii) PRE-BERTHING DELAY	Pre-berthing delay is the total of pre-berthing waiting time of the vessel and its transit time to the berth.	Pre-berthing delay is the total of pre-berthing waiting time of the vessel on port account and its transit time to the berth. **Waiting time due to non-port account to be excluded**
3	**TURN ROUND TIME**	The total time spent by a vessel at the port from its arrival at reporting station till its departure from the reporting station for onward journey. It thus includes pre-berthing delay, time taken for cargo operations and idle time. However, the detention/idle time due to litigation, fire, repair/dry docking, delay in the decision regarding dismantling, etc. may be deducted. The average turn-around time may be obtained by dividing the total turn-round time by the number of vessels sailed. This may be compiled separately for Cargo/Passenger vessels	The total time taken by a vessel from immediately when the vessel is ready for berthing till it leaves the berth but the time taken for waiting due to non-port account shall not be taken into account. The time shall start when the vessel is ready for berthing. However, the time taken by the shipper or agent in making the vessel ready for berthing shall be excluded i.e. waiting time due to non-port account. To this time taken for inward and outward movements of the vessel, Idle time at the Berth. Time taken to complete loading/unloading of the cargo are to be added. The waiting time spent by the vessel in the harbour on their account after sailing order has been given shall be excluded.

4	**OUTPUT PER SHIP BERTH DAY:** **Average berth-day output**	Aggregate cargo handled divided by the total number of berth days (both at working and non-working berths) spent by the cargo ships during the year from 1st April to 31st March next.	The average berth-day output is defined as the ratio of the aggregate cargo to the total no of berth days. Average Berth-day output = Aggregate cargo handled / Total no. of Berth days The total no. of berth days= Time spent by the vessel to handle aggregate cargo + non-working time spent by the vessel at working berth ï the time spent by the vessel, if any, at non-working berth.
5	**AVAILABILITY & UTILISATION OF CARGO HANDLING EQUIPMENT:** **a) Availability**	The following formulae may be used to compile percentage availability and utilization of cargo handling equipment: Percentage availability cargo Handling Equipment = Number of Hours the equipment (all the equipment of one type taken together) were available during a Month ---------- x 100 Number of equipment X 24 X number of days in the month Where number of equipment hours available = total equipment hours ï hours lost due to major breakdown ï hours lost due to maintenance schedule. It may be noted that for compiling the number of hours available, holidays are to be included.	It is the ratio of no. of hours the equipments are available to the no. of possible equipment hours in a month. Let A= No. of possible equipment hours in a month (24 hours may be taken if the Port operate in three shifts. If the port is operating only in two shifts, 16 hours may be considered) = No. of equipment in the fleet X No. of days in a month X24. B= No. of Hours the equipment are available for work in a month X 24 C= No. of Hours the equipment are under major overhaul or under scheduled (or Periodic) maintenance or preventive maintenance in a month. D= No. of Hours the equipment are under breakdown/maintenance in a month. E= Actual hours the equipment is engaged for work in a month (for calculation of actual hours of work, the no. of shift hours may be taken. However, necessary adjustment in the total shift hours, may be made. For

	b) Utilisation	Percentage Utilization of cargo handling equipment / Utilization of cargo handling equipment = Actual number of hours the equipment (All equipment of one type taken together) worked in a month / Number of equipment X 24 X number of days in the month. This may be worked out on a monthly basis separately for each equipment like wharf crane, mobile crane, forklift truck, etc. for working out the yearly estimate, the Port should take cumulative figures for the equipment availability/utilization (in hours).	example, if the equipment is engaged for work say 50 shifts in a month and the meal break in each shift is say 0.5 hours, then the No. of hours the equipment was used = 50 x (8-0.5) = 375 hours. Availability= A-C-D / A It is the ratio of actual hours the equipment is engaged for work in a month to the no. of possible equipment hours in a month. Utilisation= E / A The change has already been communicated vide this Ministry's letter No. PR-24021/28/98-PG dated 28.8.1998.

S H I P O P E R A T I O N



A ï Transhipment to be counted once.

B ï Transhipment to be counted twice.

Annex-III

Recommendations of the Working Group on "Strengthening of Ports Statistics" to be adopted from 1.4.2015

Concept and Definitions

Cargo Handled

For the purpose of determining the cargo handled by a port ï

(i) Loading /unloading of cargo to /from the ship at sea/waterways within port limits from/to barges or dumb steel lighters, performing the transfer from/to the berth at port (i.e. topping up / lighterage), should not be separately counted as mid-stream operationas these operations are carried out due to draft limitations or some other technical reasons. Hence, the cargo loaded/unloaded in mid-stream should be counted only once.

(ii) Cargo availing 'Innocent Passageô through the port area e.g. petroleum crude moving through pipelines, which is not in the nature of cargo handled by the port, should not be considered as port traffic irrespective of the fact whether revenue is collected by the port or not.

(iii) Any transfer of liquid cargo, which does not involve ship to shore interface or vice versa, shall not be taken into consideration for the purpose of cargo throughput. Intermediary transfer from one tank to another or any other non-ship installation shall not be included in the cargo throughput.

Transhipment

The cargo destined for a port should be counted once only, even if it is transshipped from a vessel to another vessel/barge or any other mode in midstream/ inside the harbour and then brought to the berth.

(i) If the cargo is not destined for the port but handled at the port from one vessel to another vessel/ barge and not brought to the berth, it shall also be counted once.

If the transshipped cargo is unloaded at the port, stored and then loaded to another ship, it should be counted twice.

(ii) The transshipped cargo, when counted once, will be considered as cargo unloaded while transshipped cargo being counted twice will be considered once as cargo unloaded and once as cargo loaded.

Turn Round Time (TRT)

TRT is total time spent by a vessel at the port from its arrival at reporting station till its departure from the reporting station. It thus includes pre-berthing waiting time, navigation time (inward movement and outward movement time), stay at working and non-working

berths and shifting time. However, the detention/idle time due to litigation, fire, repair/dry docking, delay in the decision regarding dismantling, etc. is not to be included.

Pre-berthing waiting Time

This is the time taken by a ship from its arrival at the anchorage and reported to the reporting station till it arrives at the operational berth excluding time taken for inward movement.

Dwell Time

Dwell Time of cargo/ container is the time for which cargo / container remains in a terminalôs in-transit storage area while awaiting shipment to vessels in case of export or evacuation by rail/road in case of import. Dwell time for import cargo is time between time and date of discharge of last tonnage of vessel till last tonnage of cargo is loaded from the port. For Export cargo, it is time and date of first arrival of cargo till the first tonne of loading on the vessel.

The Working Group was of the view that not much useful purpose would be served in compiling Dwell Time for Dry Bulk cargoes and Break Bulk cargoes by Major Ports. As regards Containerised Cargo, Dwell Time is crucial and is generally used for making inter-port comparisons. Major Ports having specialized Container Berths or Terminals should compile Average Dwell Time of Containers with empty/loaded/import/export break up as these operations are mostly computerized.

Uniform procedures/methods for collection and presentation of statistics

Present classification of cargo traffic featuring seven-commodity statement (prepared by IPA) includes ñOther Liquid Cargoò except POL Crude/Products being clubbed with ñOther Cargoô In order to get the complete picture of Liquid Cargo, the existing seven commodities classification may be broadened to include Other Liquid Cargo (including Vegetable Oil) as separate category.

(ii) In present commodity classification of cargo traffic, as shown in the seven-commodity and seventeen-commodity statements (prepared by IPA), Thermal Coal and Coking Coal are separately recorded. In addition to above two categories of coal, Major Ports are handling other categories of coal/coke such as Steam Coal, Anthracite Coal, Industrial Coal, Petroleum Coke, etc. These coal categories are being clubbed with ñOther Cargoôin seven or seventeen commodity classification. In order to have a complete picture of coal cargo handled by ports coal traffic may be recorded in three categories i.e. Thermal Coal, Coking Coal and Other Coal/Coke (i.e. all coal/coke other than Thermal Coal and Coking Coal).

(iii) In order to assess the performance of Major Ports (excluding private operators), Major Ports should furnish separately for cargo traffic handled by the facility/terminal owned/operated by the Major Port and that handled by private/BOT operator. Similarly performance/efficiency parameters data pertaining to cargo handled by the facility/terminal owned/operated by the Major Port should be furnished separately on an annual basis.

(iv) The data on cargo handled by a Major Port includes cargo handled by Private Terminal Operator(s). However, the financial data on various financial parameters namely Operating Income, Operating Expenditure (Headwise), Operating Surplus, Net Surplus, Distribution of Revenue and Expenditure (Operational Headwise) etc. pertains to cargo handled by the major ports themselves i.e. excluding income and expenditure of Private Terminal operator(s). Thus Financial statistics being published in the publications of TRW and IPA do not give complete picture. The Working Group suggests that IPA and TRW should include basic financial statistics in respect of Private Terminal Operator(s) in their publications in a separate Table.

Parameters for Inter-Port comparison

The following parameters/indicators have been identified for inter-port comparison of performance of Major Ports:

Physical Parameters/Indicators

(i) Average Pre-berthing Waiting Time
(ii) Average Stay at Berth
(iii) Average Turn Round Time excluding Navigation Time
(iv) Percentage of Non-Working time to Stay at Working Berth

Financial indicators

(i) Return on Capital Employed

a. Net Surplus to Net Capital Employed
b. Net Income to Total Capital Employed

(ii) Working Capital per Employee
(iii) Current Ratio
(iv) Asset Turnover Ratio
(v) Management & General Administration Expenditure to operating Expenditure
(vi) Percentage of salaries and wages to total operating expenditure

Benchmarking of Productivity and efficiency

Considering the variations in Indian ports vis-aï vis world class international ports, benchmarking of productivity and efficiency of Major ports with international ports is not feasible. However, benchmarking of major port efficiency in terms of Turn Round Time excluding navigation time, Pre-berthing Waiting Time, Percentage of Non-working Time to Stay at Berth and Stay at Berth for different category of cargo/vessels may be considered for Major Portôs for comparison of cargo operations.

Dissemination of major Port Statistics

All the Major Ports should disseminate data in uniform formats so that it becomes easy for the users to aggregate and compare the data. In addition to these formats, the Major

Ports may publish other statistics in their annual Administrative Report if such statistics give important information of that particular Major Port.

Role of port services in the Economy

(i) The importance of Service sector to the Indian economy, in terms of its contribution to Gross Domestic Product (GDP), employment generation and foreign exchange earnings has significantly increased over the years. In 2008-09, the sector contributed about 52% in the GDP. However to measure the dynamics of the service sector, short term indicators are required. The three service indices, namely Index of Service Production (ISP), Consumer Service Prices Index (CSPI) and Producers Price Index(PPI) may be compiled annually. TRW may be entrusted with the work of compiling the indices.

(ii) The Major Ports may furnish the requisite data for Gross Domestic Product and other macroeconomic indicators to CSO through TRW.

Improving Quality of Major Port Statistics

(i) Periodic review of Major Port statistics is required to assess the system and identify the possible changes required for meeting the user needs. The Working Group suggests that such review of Major Portôs Statistics be undertaken once in five years.

(ii) TRW should organize training programme/workshops for officials/staff involved in compiling statistics at Major Ports.. The workshops shall cover all statistical concepts, definitions/issues of compilation, processing, and total quality management issues.

(iii) Major Ports of India- A Profile may be brought out within six months after close of Financial year i.e. by the end of September for preceding Financial Year. ôBasic Port Statistics of Indiaôshould be brought out in the year following the end of the Financial Year i.e. for the year 2009-10 in 2010-11. For ñUpdate on Indian Port Sectorô, a bi-annual publication, the existing timeframe of June for the period ending 31st March and in December for the period ending September may be maintained.

(iv) Vessel traffic and cargo traffic data is of commercially sensitive nature and hence individual vessel wise traffic data should not be made available to the users.

(v) TRW may provide the metadata for major port statistics in the form of a manual on the website of Ministry of Shipping.

(vi) All Major Ports should invariably send the data through e-mail to reduce the cost and time in furnishing the data. This will also enable the receiving agencies to electronically process the data

(ix) All the regular publications on Ports, Shipping and Inland Waterways of TRW should be put on the website of Ministry of Shipping.

(x) Concurrent audit of statistical activities is necessary for early detection of errors and mistakes during the progress of work, and their rectification in time is essentially an internal activity of the Major Port. The assessment of quality of the data produced by the Major Ports may be carried out through statistical audit by officers authorized by the Ministry of Shipping.

Formats For Major Ports

M-I

Commodity Group-wise and category-wise Cargo Traffic Handled

Port: **Period:……..** *(Month,Year)*

(in '000 tonnes)

S.N.	Commodity	During the Month			April to ….*(Current month)*		
		Unloaded	Loaded	Total	Unloaded	Loaded	Total
1	2	3	4	5	6	7	8
1	POL- (Crude, LPG, LNG & Product)						
2	Other Liquids						
3	Iron Ore						
4	Ferlizer Finished						
5	FRM Dry						
6	Thermal Coal						
7	Coking Coal						
8	Other Coal						
9	Container (Tonnes)						
	(TEUs)						
10	LPG						
11	Other Cargo						
	Total (1 to 11)						

Commodity-wise & Category-wise Cargo Traffic Handled

Port: **Month:**

(in '000 tonnes)

S.N.	Commodity	Overseas			Coastal			Grand Total
		Unloaded	Loaded	Total	Unloaded	Loaded	Total	
1	2	3	4	5	6	7	8	9
A	**LIQUID BULK**							
1	POL- Crude							
2	POL-Products							
3	LPG/LNG							
4	Edible Oil							
5	FRM-Liquid							
6	Others							
B	**DRY BULK**							
1	Iron Ore (All)							
	(a) Pellets							
	(b) Fine							
2	Other Ores							
3	Thermal Coal							
4	Coking Coal							
5	Other Coal							
6	Fertilizer							
7	FRM-Dry							
8	Food Grains (excluding pulses)							
9	Pulses							
10	Sugar							
11	Cement							
12	Salt							
13	Iron Scrap							
14	Others							
C	**BREAK BULK**							
1	Iron & Steel							
2	Timber & Logs							
3	Tea & Coffee							
4	Food Grains (excluding pulses)							
5	Pulses							
6	Sugar							
7	Cement							
8	Project Cargo							
9	Fertilizer							
10	Automobiles (Tonnes)							
	(Nos.)							
11	Others							
D	**CONTAINER** (Tonnes)							
	(TEUs)							
E	**TRANSHIPPMENT**							
1	Container (Tonnes)							
	(TEUs)							
2	Others (Specify)*							
	TOTAL (A+B+C+D+E)							

* : Only those commodities which are included in A to C may be specified. Remaining commodities may be clubbed in others.

Commodity-wise & Category-wise Cargo Traffic Handled (Cumulative)

Port: **Period: April to……***(Month,Year)*

(in '000 tonnes)

S.N.	Commodity	Overseas			Coastal			Grand Total
		Unloaded	Loaded	Total	Unloaded	Loaded	Total	
1	2	3	4	5	6	7	8	9
A	**LIQUID BULK**							
1	POL- Crude							
2	POL-Products							
3	LPG/LNG							
4	Edible Oil							
5	FRM-Liquid							
6	Others							
B	**DRY BULK**							
1	Iron Ore (All)							
	(a) Pellets							
	(b) Fine							
2	Other Ores							
3	Thermal Coal							
4	Coking Coal							
5	Other Coal							
6	Fertilizer							
7	FRM-Dry							
8	Food Grains (excluding pulses)							
9	Pulses							
10	Sugar							
11	Cement							
12	Salt							
13	Iron Scrap							
14	Others							
C	**BREAK BULK**							
1	Iron & Steel							
2	Timber & Logs							
3	Tea & Coffee							
4	Food Grains (excluding pulses)							
5	Pulses							
6	Sugar							
7	Cement							
8	Project Cargo							
9	Fertilizer							
10	Automobiles (Tonnes)							
	(Nos.)							
11	Others							
D	**CONTAINER** (Tonnes)							
	(TEUs)							
E	**TRANSHIPPMENT**							
1	Container (Tonnes)							
	(TEUs)							
2	Others (Specify)*							
	TOTAL (A+B+C+D+E)							

* : Only those commodities which are included in A to C may be specified. Remaining commodities may be clubbed in others.

M-III(i)

Performance Of Major Ports

Port: **Month:**

Item	Dry Bulk		Liquid Bulk	Break Bulk	Container	All
	Mech.	Conv.				
1. No. of Vessels Sailed- (Total No.)						
a) At Berth- (No.)						
(i) Overseas						
(ii) Coastal						
b) At Stream- (No.)						
2. Total Cargo Traffic Handled - (000 Tonnes)						
a) At Berth - (000 Tonnes)						
b) At Stream - (000 Tonnes)						
3. Pre Berthing Waiting Time(Hrs)-Total						
a) Pre Berthing Waiting Time(Hrs)-Port a/c						
b) Pre Berthing Waiting Time(Hrs)-Non Port a/c						
4. Working Time (Hrs)						
5. N.W Time at working berth(Hrs)-Total						
a) N.W Time at working berth(Hrs)-Port a/c						
b) N.W Time at working berth(Hrs)-N.P a/c						
6. Time at Non working berth(Hrs)-Total						
a) Time at Non working berth(Hrs)-Port a/c						
b) Time at Non working berth(Hrs)-N.P a/c						
7. Navigation Time (Hrs)-Total						
a) Inward Movement (Hrs)						
b) Outward Movement (Hrs)						
8. Shifting Time						
9. Turn Round Time (Hrs)-Total=(3+4+5+6+7+8)						
a) Turn Round Time (Hrs)-Port a/c=(3(a)+4+5(a)+6(a)+7+8)						
b) Turn Round Time (Hrs)-N.P a/c=(3(b)+5(b)+6(b))						

Note: Performance parameters are to be compiled for berthed vessels only. Vessels handled at stream are not to be included.

N.W- Non-working. N.P a/c- Non-port a/c

Mech. -Mechanically Handled . Conv.- Conventionally handled.

M-III(ii)

Performance Of Major Ports (Cumulative)

Port: **Period: April…..***(year)* **to……***(Current Month,Year)*

Item	Dry Bulk		Liquid Bulk	Break Bulk	Container	All
	Mech.	Conv.				
1. No. of Vessels Sailed- (Total No.)						
a) At Berth- (No.)						
(i) Overseas						
(ii) Coastal						
b) At Stream- (No.)						
2. Total Cargo Traffic Handled - (000 Tonnes)						
a) At Berth - (000 Tonnes)						
b) At Stream - (000 Tonnes)						
3. Pre Berthing Waiting Time(Hrs)-Total						
a) Pre Berthing Waiting Time(Hrs)-Port a/c						
b) Pre Berthing Waiting Time(Hrs)-Non Port a/c						
4. Working Time (Hrs)						
5. N.W Time at working berth(Hrs)-Total						
a) N.W Time at working berth(Hrs)-Port a/c						
b) N.W Time at working berth(Hrs)-N.P a/c						
6. Time at Non working berth(Hrs)-Total						
a) Time at Non working berth(Hrs)-Port a/c						
b) Time at Non working berth(Hrs)-N.P a/c						
7. Navigation Time (Hrs)-Total						
a) Inward Movement (Hrs)						
b) Outward Movement (Hrs)						
8. Shifting Time						
9. Turn Round Time (Hrs)-Total=(3+4+5+6+7+8)						
a) Turn Round Time (Hrs)-Port a/c=(3(a)+4+5(a)+6(a)+7+8)						
b) Turn Round Time (Hrs)-N.P a/c=(3(b)+5(b)+6(b))						

Note: Performance parameters are to be compiled for berthed vessels only. Vessels handled at stream are not to be included.

N.W- Non-working. N.P a/c- Non-port a/c

Mech. -Mechanically Handled . Conv.- Conventionally handled.

Distribution of Pre-berthing Waiting Time

Port: **Month:**

(in Hrs.)

S.No	Item	Container		Break Bulk	Dry Bulk		Liquid Bulk	Total
		Cellular	Combination		Mechanical	Conventional		
1	2	3	4	5	6	7	8	9
A	**Port Account**							
1	Non-Availability of							
	(i) Berth							
	(ii) Tug Craft							
	(iii) Pilot							
2	Strike/Stoppage							
3	Night Navigation Restriction							
4	Draft Restriction							
5	Others							
B	**Non-Port Account**							
1	Ships Account							
2	Shippers Account							
3	Agents Option							
4	Want of Ullage							
5	Documents not ready							
6	Tidal Restrictions							
7	Weather Restriction							
8	Want of Cargo							
9	Labour Holidays/Recess							
10	Power Failure							
11	Cargo Lashing							
12	Others							
C	**Total**							

Note: 1. Lash and Ro-Roo be included in Break Bulk

Distribution of Pre-berthing Waiting Time (Cumulative)

Port: **Period: April…..***(year)* **to……***(Current Month,Year)*

(in Hrs.)

S.No	Item	Container		Break Bulk	Dry Bulk		Liquid Bulk	Total
		Cellular	Combination		Mechanical	Conventional		
1	2	3	4	5	6	7	8	9
A	**Port Account**							
1	Non-Availability of							
	(i) Berth							
	(ii) Tug Craft							
	(iii) Pilot							
2	Strike/Stoppage							
3	Night Navigation Restriction							
4	Draft Restriction							
5	Others							
B	**Non-Port Account**							
1	Ships Account							
2	Shippers Account							
3	Agents Option							
4	Want of Ullage							
5	Documents not ready							
6	Tidal Restrictions							
7	Weather Restriction							
8	Want of Cargo							
9	Labour Holidays/Recess							
10	Power Failure							
11	Cargo Lashing							
12	Others							
C	**Total**							

Note: Lash and Ro-Ro are to be included in Break Bulk

Q-I

Performance Indicators for Container Terminals

Financial Year: **Quarter:……** ***(QI/QII/QIII/QIV)***

Port/
Terminal:

Sr. No.	Indicator	Performance
1	Average Moves/crane Hour	
2	Average Moves/Berth Hour	
3	Average TEU/Mtr. Quay	
4	TEU/Employee	
5	Average Dwell Time(Day)	

Cargo Traffic Handled at Major Ports

Port: **Period:**Upto 30 Septé .*(Year)*/upto 31st March…. *(Year)*

(in 000 Tonnes)

S.N.	Commodity	Overseas					Coastal					Grand Total
		Unloaded		Loaded		Total	Unloaded		Loaded		Total	
		IF	FF	IF	FF		IF	FF	IF	FF		
1	2	3	4	5	6	7	8	9	10	11	12	13
A	**LIQUID BULK**											
1	POL- Crude											
2	POL-Products											
3	LPG/LNG											
4	Edible Oil											
5	FRM-Liquid											
6	Others											
B	**DRY BULK**											
1	Iron Ore (All)											
	(a) Pellets											
	(b) Fine											
2	Other Ores											
3	Thermal Coal											
4	Coking Coal											
5	Other Coal											
6	Fertilizer											
7	FRM-Dry											
8	Food Grains (excluding pulses)											
9	Pulses											
10	Sugar											
11	Cement											
12	Salt											
13	Iron Scrap											
14	Others											
C	**BREAK BULK**											
1	Iron & Steel											
2	Timber & Logs											
3	Tea & Coffee											
4	Food Grains (excluding pulses)											
5	Pulses											
6	Sugar											
7	Cement											
8	Project Cargo											
9	Fertilizer											
10	Automobiles (Tonnes)											
	(Nos.)											
11	Others											
D	**CONTAINER** (Tonnes)											
	(TEUs)											
E	**TRANSHIPPMENT**											
1	Container (Tonnes)											
	(TEUs)											
2	Others (Specify)*											
	TOTAL (A+B+C+D+E)											

Note: The information on Cargo traffic handled during first half of Financial year April to Sept. will be provided by Major Ports in October month of that Financial year and traffic handled during second half of the Financial year would be provided in April of next Financial year.

* : Only those commodities which are included in A to C may be specified. Remaining commodities may be clubbed in others.

IF: Indian Flag. FF: Foreign Flag

Performance in Terms of Vessels Handled - All Vessels

Port: **Period:**Upto 30 Septé *.(Year)/*upto 31st March…. *(Year)*

Item	Dry Bulk		Liquid Bulk	Break Bulk	Container	All
	Mech.	Conv.				
1. No. of Vessels Sailed- (Total No.)						
a) At Berth- (No.)						
(i) Overseas						
(ii) Coastal						
b) At Stream- (No.)						
2. Total Cargo Traffic Handled - (000 Tonnes)						
a) At Berth - (000 Tonnes)						
b) At Stream - (000 Tonnes)						
3. Pre Berthing Waiting Time(Hrs)-Total						
a) Pre Berthing Waiting Time(Hrs)-Port a/c						
b) Pre Berthing Waiting Time(Hrs)-Non Port a/c						
4. Working Time (Hrs)						
5. N.W Time at working berth(Hrs)-Total						
a) N.W Time at working berth(Hrs)-Port a/c						
b) N.W Time at working berth(Hrs)-N.P a/c						
6. Time at Non working berth(Hrs)-Total						
a) Time at Non working berth(Hrs)-Port a/c						
b) Time at Non working berth(Hrs)-N.P a/c						
7. Navigation Time (Hrs)-Total						
a) Inward Movement (Hrs)						
b) Outward Movement (Hrs)						
8. Shifting Time						
9. Turn Round Time (Hrs)-Total=(3+4+5+6+7+8)						
a) Turn Round Time (Hrs)-Port a/c=(3(a)+4+5(a)+6(a)+7+8)						
b) Turn Round Time (Hrs)-N.P a/c=(3(b)+5(b)+6(b))						

Note: The information on performance during first half of Financial year April to Sept. will be provided by Major Ports in October month of that Financial year and traffic handled during second half of the Financial year would be provided in April of next Financial year.

N.W- Non-working. N.P a/c- Non-port a/c

Mech. -Mechanically Handled . Conv.- Conventionally handled.

[The performance Indicators for overseas vessels and coastal vessels are to be given separately]

Performance in Terms of Vessels Handled - Overseas Vessels

Port: **Period:**Upto 30 Septé .*(Year)*/upto 31st March…. *(Year)*

Item	Dry Bulk		Liquid Bulk	Break Bulk	Container	All
	Mech.	Conv.				
1. No. of Overseas Vessels Sailed- (No.)						
a) At Berth- (No.)						
b) At Stream- (No.)						
2. Total Cargo Traffic Handled by Overseas Vessels- (000 Tonnes)						
a) At Berth - (000 Tonnes)						
b) At Stream - (000 Tonnes)						
3. Pre Berthing Waiting Time(Hrs)-Total						
a) Pre Berthing Waiting Time(Hrs)-Port a/c						
b) Pre Berthing Waiting Time(Hrs)-Non Port a/c						
4. Working Time (Hrs)						
5. N.W Time at working berth(Hrs)-Total						
a) N.W Time at working berth(Hrs)-Port a/c						
b) N.W Timeat working berth(Hrs)-N.P a/c						
6. Time at Non working berth(Hrs)-Total						
a) Time at Non working berth(Hrs)-Port a/c						
b) Time at Non working berth(Hrs)-N.P a/c						
7. Navigation Time (Hrs)-Total						
a) Inward Movement (Hrs)						
b) Outward Movement (Hrs)						
8. Shifting Time						
9. Turn Round Time (Hrs)-Total=(3+4+5+6+7+8)						
a) Turn Round Time (Hrs)-Port a/c=(3(a)+4+5(a)+6(a)+7+8)						
b) Turn Round Time (Hrs)-N.P a/c=(3(b)+5(b)+6(b))						

Note: The information on performance during first half of Financial year April to Sept. will be provided by Major Ports in October month of that Financial year and traffic handled during second half of the Financial year would be provided in April of next Financial year.

N.W- Non-working. N.P a/c- Non-port a/c

Mech. -Mechanically Handled . Conv.- Conventionally handled.

[The performance Indicators for overseas vessels and coastal vessels are to be given separately]

Performance parameters are to be compiled for berthed vessels only. Vessels handled at stream are not to be included.

Performance in Terms of Vessels Handled - Coastal Vessels

Port: **Period:**Upto 30 Septé *.(Year)/*upto 31st March…. *(Year)*

Item	Dry Bulk		Liquid Bulk	Break Bulk	Container	All
	Mech.	Conv.				
1. No. of Coastal Vessels Sailed- (Total No.)						
a) At Berth- (No.)						
b) At Stream- (No.)						
2. Total Cargo Traffic Handled by Costal Vessels- (000 Tonnes)						
a) At Berth - (000 Tonnes)						
b) At Stream - (000 Tonnes)						
3. Pre Berthing Waiting Time(Hrs)-Total						
a) Pre Berthing Waiting Time(Hrs)-Port a/c						
b) Pre Berthing Waiting Time(Hrs)-Non Port a/c						
4. Working Time (Hrs)						
5. N.W Time at working berth(Hrs)-Total						
a) N.W Time at working berth(Hrs)-Port a/c						
b) N.W Time at working berth(Hrs)-N.P a/c						
6. Time at Non working berth(Hrs)-Total						
a) Time at Non working berth(Hrs)-Port a/c						
b) Time at Non working berth(Hrs)-N.P a/c						
7. Navigation Time (Hrs)-Total						
a) Inward Movement (Hrs)						
b) Outward Movement (Hrs)						
8. Shifting Time						
9. Turn Round Time (Hrs)-Total=(3+4+5+6+7+8)						
a) Turn Round Time (Hrs)-Port a/c=(3(a)+4+5(a)+6(a)+7+8)						
b) Turn Round Time (Hrs)-N.P a/c=(3(b)+5(b)+6(b))						

Note: The information on performance during first half of Financial year April to Sept. will be provided by Major Ports in October month of that Financial year and traffic handled during second half of the Financial year would be provided in April of next Financial year.

N.W- Non-working. N.P a/c- Non-port a/c

Mech. -Mechanically Handled . Conv.- Conventionally handled.

[The performance Indicators for overseas vessels and coastal vessels are to be given separately]

Performance parameters are to be compiled for berthed vessels only. Vessels handled at stream are not to be included.

Topography of Port (As on 31st March)

Port: **Year:**

Location		Entrance Channel			Turning Circal		Type of Dock/Port
Latitude	Longitude	Length (km.)	Minimum Depth (mtrs.)	Minimum Width (mtrs.)	No.	Diameter	
1	2	3	4	5	6	7	8

Berth Particulars (As on 31st March)

Port: **Year:**

S.No.	Berth Name, No.	Type of Berth	Designed/ depth (mtrs.)	Permissible draft (mtrs.)	Quay length (mtrs.)	Remarks
1	2	3	4	5	6	7

Note: Any specific information on size of vessel in terms of LOA or DWT may be indicated in remarks column.

Floating Crafts (As on 31st March)

Port: Year:

S.No.	Type of Craft	Owned by Port		Hired by Port		Remarks
		No.	Rated Capacity	No.	Rated Capacity	
1	2	3	4	5	6	7
1	**Dredgers**					
	i)					
	ii)					
2	**Tugs**					
	i)					
	ii)					
3	**Launches**					
	i) General purpose Launches					
	ii) Survey Launches					
	iii) Mooring Launches					
	iv) Pilot Launches					
	v)					
	vi)					
4	**Barges**					
	i)					
	ii)					
5	**Floating Cranes**					
	i)					
	ii)					
6	**Others**					
	i)					
	ii)					

Note: All equipments of major ports including those of Private Terminal operators needs to be included.

Cargo Handling Equipments (As on 31st March)

Port: **Year:**

S. No.	Type of Equipment	Owned by Port		Hired by Port		Remarks
		Number	Rated Capacity (Tonnes)	Number	Rated Capacity (Tonnes)	
1	2	3	4	5	6	7
1	Wharf Cranes					
	(a) ELL					
	(b) Harbour Mobile Crane					
2	Mobile Cranes					
3	Fork Lift Trucks					
4	Pay Loaders					
5	Tractor					
6	Transfer Cranes					
7	Top Lift Trucks					
8	Gantry Cranes					
	a) Yard Gantry Cranes					
	b) Rail Mounted Gantry Cranes					
	c) Rubber Tyred Gantry Cranes					
9	Reach Stackers					
10	Locomotives					
11	Trailers					
12	Specialised Mechanical Cargo Handling Equipment					
13	Marine Loading Arms for handling liquid cargo					
14	Others					

Note: All equipments at port may be described.

[All equipments on major ports will include equipments of Private Terminal operators.]

Storage Facilities (As on 31st March)

Port: **Year:**

Type	Dry Storage Accommodation			Liquid Storage Tanks				Container			
	Number	Area (Sq. Mtrs.)	Location *[inside Port/Outside Port]*	Number	Location *[inside Port/Outside Port]*	Capacity (KLs / Tonnes)	Type of Cargo	Number	Location *[inside Port/Outside Port]*	Capacity/ Area (TEUs)	Remarks
A) Port Owned											
a)Covered											
i)Transit sheds/Overflow sheds											
ii)Ware Houses											
iii)Container Freight Station											
b)Open											
c)Container Yard											
d)Reefer Points (No.)											
e)Liquid Storage, Tank, Farms etc.											
B) Others (Private/users agencies)											
a)Covered											
i)Transit sheds/Overflow sheds											
ii)Ware Houses											
iii)Container Freight Station											
b)Open											
c)Container Yard											
d)Reefer Points (No.)											
e)Liquid Storage, Tank Farms etc.											

Commoditywise & Categorywise Cargo Traffic Handled

Port: **Year:**

(in '000 tonnes)

S.N.	Commodity	Overseas			Coastal			Grand Total
		Unloaded	Loaded	Total	Unloaded	Loaded	Total	
1	2	3	4	5	6	7	8	9
A	**LIQUID BULK**							
1	POL- Crude							
2	POL-Products							
3	LPG/LNG							
4	Edible Oil							
5	FRM-Liquid							
6	Others							
B	**DRY BULK**							
1	Iron Ore (All)							
	(a) Pellets							
	(b) Fine							
2	Other Ores							
3	Thermal Coal							
4	Coking Coal							
5	Other Coal							
6	Fertilizer							
7	FRM-Dry							
8	Food Grains (excluding pulses)							
9	Pulses							
10	Sugar							
11	Cement							
12	Salt							
13	Iron Scrap							
14	Others							
C	**BREAK BULK**							
1	Iron & Steel							
2	Timber & Logs							
3	Tea & Coffee							
4	Food Grains (excluding pulses)							
5	Pulses							
6	Sugar							
7	Cement							
8	Project Cargo							
9	Fertilizer							
10	Automobiles (Tonnes)							
	(Nos.)							
11	Others							
D	**CONTAINER** (Tonnes)							
	(TEUs)							
E	**TRANSHIPMENT**							
1	Container (Tonnes)							
	(TEUs)							
2	Others (Specify)*							
	TOTAL (A+B+C+D+E)							

Note: (i) Individual Ports may include other important Commodities handled by them while publishing data in Administrative report. Information on the above mentioned Commodities is to be uniformly included. Out of the above commodities which are not handled during the year may be omitted.

(ii) For ships undergoing cargo handling operations at the end of the year but have not completed cargo operations, the cargo handled upto the end of the year be included. Ships continuing operations in the next year, the remaining cargo handled will be counted in next year.

(iii)* : Only those commodities which are included in A to C may be specified. Remaining commodities may be clubbed in others. Transit traffic may be included in transhipment.

Flag Wise Distribution of Traffic

Port: **Year:**

(in '000 tonnes)

S.N.	Nationality	No. of Ships	Volume of Cargo			Total
			Unloaded	Loaded	Transhipment	
1	2	3	4	5	6	7
A	**Overseas**					
1	Name of the countries alphabetically					
2						
3						
4						
5						
Total Overseas (A)						
B	**Coastal**					
1	Name of the countries alphabetically					
2						
3						
4						
5						
Total Coastal (B)						
Grand Total (A+B)						

Note: (i) For ships undergoing cargo handling operations at the end of the year which are yet to complete cargo operations, the cargo handled upto the end of the year be included. For such ships continuing operations in the next year, the remaining cargo handled will be counted in next year.

(ii) Ships handling more than one type of cargo should be counted once.

Origin and Destination-wise Overseas Traffic Handled

Port: **Year:**

(In Tonnes)

S.No.	Commodity	Cargo Unloaded		Cargo Loaded	
		Origin Country	Quantity	Destination Country	Quantity
1	2	3	4	5	6
A	**LIQUID BULK**				
1	POL(Crude)				
		a)		a)	
		b)		b)	
		c)		c)	
2	POL (Product)				
		a)		a)	
		b)		b)	
		c)		c)	
3	LPG/LNG				
		a)		a)	
		b)		b)	
		c)		c)	
4	Edible Oil				
		a)		a)	
		b)		b)	
		c)		c)	
5	FRM-Liquid				
		a)		a)	
		b)		b)	
		c)		c)	
6	Others				
		a)		a)	
		b)		b)	
		c)		c)	
B	**Dry Bulk**				
1	Iron Ore (All)				
		a)		a)	
		b)		b)	
		c)		c)	
	(a) Pellets				
		a)		a)	
		b)		b)	
		c)		c)	
	(b) Fine				
		a)		a)	
		b)		b)	
		c)		c)	
2	Other Ore				
		a)		a)	
		b)		b)	
		c)		c)	
3	Thermal Coal				
		a)		a)	
		b)		b)	
		c)		c)	

Origin and Destination-wise Overseas Traffic Handled

Port: **Year:**

(In Tonnes)

S.No.	Commodity	Cargo Unloaded		Cargo Loaded	
		Origin Country	Quantity	Destination Country	Quantity
1	2	3	4	5	6
4	Coking Coal				
		a)		a)	
		b)		b)	
		c)		c)	
5	Other Coal				
		a)		a)	
		b)		b)	
		c)		c)	
6	Ferlizer				
		a)		a)	
		b)		b)	
		c)		c)	
7	FRM-Dry				
		a)		a)	
		b)		b)	
		c)		c)	
8	Food Grains (excluding pulses)				
		a)		a)	
		b)		b)	
		c)		c)	
9	Pulses				
		a)		a)	
		b)		b)	
		c)		c)	
10	Sugar				
		a)		a)	
		b)		b)	
		c)		c)	
11	Cement				
		a)		a)	
		b)		b)	
		c)		c)	
12	Salt				
		a)		a)	
		b)		b)	
		c)		c)	
13	Iron Scrap etc.				
		a)		a)	
		b)		b)	
		c)		c)	
14	Others				
		a)		a)	
		b)		b)	
		c)		c)	

Origin and Destination-wise Overseas Traffic Handled

Port: **Year:**

(In Tonnes)

S.No.	Commodity	Cargo Unloaded		Cargo Loaded	
		Origin Country	Quantity	Destination Country	Quantity
1	2	3	4	5	6
C	**BREAK BULK**				
1	Iron & Steel				
		a)		a)	
		b)		b)	
		c)		c)	
2	Timber & Logs				
		a)		a)	
		b)		b)	
		c)		c)	
3	Tea & Coffee				
		a)		a)	
		b)		b)	
		c)		c)	
4	Food Grains (excluding pulses)				
		a)		a)	
		b)		b)	
		c)		c)	
5	Pulses				
		a)		a)	
		b)		b)	
		c)		c)	
6	Sugar				
		a)		a)	
		b)		b)	
		c)		c)	
7	Cement				
		a)		a)	
		b)		b)	
		c)		c)	
8	Project Cargo				
		a)		a)	
		b)		b)	
		c)		c)	
9	Fertilizer				
		a)		a)	
		b)		b)	
		c)		c)	
10	Automobiles (Tonnes)				
		a)		a)	
		b)		b)	
		c)		c)	
	(Nos.)				
		a)		a)	
		b)		b)	
		c)		c)	

Origin and Destination-wise Overseas Traffic Handled

Port: **Year:**

(In Tonnes)

S.No.	Commodity	Cargo Unloaded		Cargo Loaded	
		Origin Country	Quantity	Destination Country	Quantity
1	2	3	4	5	6
11	Others				
		a)		a)	
		b)		b)	
		c)		c)	
D	**CONTAINER**				
	(Tonnes)				
		a)		a)	
		b)		b)	
		c)		c)	
	(Nos.)				
		a)		a)	
		b)		b)	
		c)		c)	
E	**TRANSHIPMENT**				
1	Container (Tonnes)	a)		a)	
		b)		b)	
		c)		c)	
	(Nos.)				
		a)		a)	
		b)		b)	
		c)		c)	
2	Others (Specify)*				
		a)		a)	
		b)		b)	
		c)		c)	

Note : 1. a,b,c é indicates names of countries

2. All countries should be listed(a,b,c are indicative) so that for each commodity the total matches with overseas cargo loaded or unloaded.

3.Country of Origin/Destination for Cargo handled as Container cargo should be included iunder Sr. No. 31 &32 only.

* : Only those commodities which are included in A to C may be specified. Remaining commodities may be clubbed in others.

Commodity-wise Traffic Handled

Port:

(in '000 tonnes)

S.N.	Commodity	2009-10	2010-11	2011-12	2012-13	2013-14
1	2	3	4	5	6	7
I	**LOADED (A+B+C+D)**					
A	**LIQUID BULK**					
1	POL- Crude					
2	POL-Products					
3	LPG/LNG					
4	Edible Oil					
5	FRM-Liquid					
6	Others					
B	**DRY BULK**					
1	Iron Ore (All)					
	(a) Pellets					
	(b) Fine					
2	Other Ores					
3	Thermal Coal					
4	Coking Coal					
5	Other Coal					
6	Fertilizer					
7	FRM-Dry					
8	Food Grains (excluding pulses)					
9	Pulses					
10	Sugar					
11	Cement					
12	Salt					
13	Iron Scrap					
14	Others					
C	**BREAK BULK**					
1	Iron & Steel					
2	Timber & Logs					
3	Tea & Coffee					
4	Food Grains (excluding pulses)					
5	Pulses					
6	Sugar					
7	Cement					
8	Project Cargo					
9	Fertilizer					
10	Automobiles (Tonnes)					
	(Nos.)					
11	Others					
D	**CONTAINER** (Tonnes)					
	(TEUs)					
E	**TRANSHIPMENT**					
1	Container (Tonnes)					
	(TEUs)					
2	Others (Specify)*					

Commodity-wise Traffic Handled

Port:

(in '000 tonnes)

S.N.	Commodity	2009-10	2010-11	2011-12	2012-13	2013-14
1	2	3	4	5	6	7
II	**UNLOADED (A+B+C+D)**					
A	**LIQUID BULK**					
1	POL- Crude					
2	POL-Products					
3	LPG/LNG					
4	Edible Oil					
5	FRM-Liquid					
6	Others					
B	**DRY BULK**					
1	Iron Ore (All)					
	(a) Pellets					
	(b) Fine					
2	Other Ores					
3	Thermal Coal					
4	Coking Coal					
5	Other Coal					
6	Fertilizer					
7	FRM-Dry					
8	Food Grains (excluding pulses)					
9	Pulses					
10	Sugar					
11	Cement					
12	Salt					
13	Iron Scrap					
14	Others					
C	**BREAK BULK**					
1	Iron & Steel					
2	Timber & Logs					
3	Tea & Coffee					
4	Food Grains (excluding pulses)					
5	Pulses					
6	Sugar					
7	Cement					
8	Project Cargo					
9	Fertilizer					
10	Automobiles (Tonnes)					
	(Nos.)					
11	Others					
D	**CONTAINER** (Tonnes)					
	(TEUs)					
E	**TRANSHIPMENT**					
1	Container (Tonnes)					
	(TEUs)					
2	Others (Specify)*					
	GRAND TOTAL (I+II)					

Note: Five years time series data may be included i.e. the year of the administrative report and four previous years.

* : Only those commodities which are included in A to C may be specified. Remaining commodities may be clubbed as other transhipments.

Commodity-wise Loaded Cargo Received by Different Modes of Transport

Port: **Year:**

(In Tonnes)

S.No.	Commodity	Received by Rail	Received by Road	Received by IWT	Received through Pipe line *	Total
1	POL (Crude)					
2	POL (Products)					
3	LPG/LNG					
4	Other Liquid Bulk					
5	Iron Ore					
6	Coking Coal					
7	Thermal Coal					
8	Fertilisers Finished					
9	FRM Dry					
10	Other Dry Bulk					
11	Steel Products					
12	Other Break Bulk					
13	Containers					
14	All Commodities					

* : Into the Storage Farm Tanks in Port area

Commodity-wise Unloaded Cargo Dispatched by Different Modes of Transport

Port: **Year:**

(In Tonnes)

S.No.	Commodity	Despatched by Rail	Despatched by Road	Despatched by IWT	Despatched through Pipe line*	Total
1	POL (Crude)					
2	POL (Products)					
3	LPG/LNG					
4	Other Liquid Bulk					
5	Iron Ore					
6	Coking Coal					
7	Thermal Coal					
8	Fertilisers Finished					
9	FRM Dry					
10	Other Dry Bulk					
11	Steel Products					
12	Other Break Bulk					
13	Containers					
14	All Commodities					

* From Storage Farm Tanks in Port area

Commodity-wise & Category-wise Transit Traffic of Other Countries Cargo Handled

Port: **Year:** **(000 tonnes)**

Sr.No.	Commodity	Unloaded	Loaded	Total
1	2	3	4	5
A	**LIQUID BULK**			
1	POL- Crude			
2	POL-Products			
3	LPG/LNG			
4	Edible Oil			
5	FRM-Liquid			
6	Others			
B	**DRY BULK**			
1	Iron Ore (All)			
	(a) Pellets			
	(b) Fine			
2	Other Ores			
3	Thermal Coal			
4	Coking Coal			
5	Other Coal			
6	Fertilizer			
7	FRM-Dry			
8	Food Grains (excluding pulses)			
9	Pulses			
10	Sugar			
11	Cement			
12	Salt			
13	Iron Scrap			
14	Others			
C	**BREAK BULK**			
1	Iron & Steel			
2	Timber & Logs			
3	Tea & Coffee			
4	Food Grains (excluding pulses)			
5	Pulses			
6	Sugar			
7	Cement			
8	Project Cargo			
9	Fertilizer			
10	Automobiles (Tonnes)			
	(Nos.)			
11	Others			
D	**CONTAINER** (Tonnes)			
	(TEUs)			
E	**TRANSHIPMENT**			
1	Container (Tonnes)			
	(TEUs)			
2	Others (Specify)*			
	TOTAL (A+B+C+D+E)			

Number and Types of Container Handled

Port: **Year:**

(in Nos.)

S.No.	Item	Type	20Ft. Nos.		40Ft. Nos.		Others		Total	
			Normal	Reefer	Normal	Reefer	Normal	Reefer	Normal	Reefer
1	2	3	4	5	6	7	8	9	10	11
A	**Loaded**	LCL FCL Empty Total								
B	**Unloaded**	LCL FCL Empty Total								
C	**Transhipment**	LCL FCL Empty Total								
D	**Grand Total (A+B+C)**									

Co-II

Container Cargo and Tareweight of Containers Handled

Port: **Year:**

(In Tonnes)

Item	Container Cargo	Tare Weight	Total (2+3)
1	2	3	4
1.Loaded			
2.Unloaded			
3.Transhipment			
4. Total (1+2+3)			

Inland (Landward) Container Movement - Outgoing from Port after Unloading from Ship

Port: **Year:**

Mode	20'			40'			Others			Total(TEUs)		
	Loaded	Empty	Total	Loaded	Empty	Total	Loaded	Empty	Total	Loaded	Empty	Total
1	2	3	4	5	6	7	8	9	10	11	12	13
1.By Rail												
(a) ICD												
No.												
Tonnes.												
(b) CFS												
No.												
Tonnes.												
(c) Others												
No.												
Tonnes.												
2. By Road												
(a) ICD												
No.												
Tonnes.												
(b) CFS												
No.												
Tonnes.												
(c) Others												
No.												
Tonnes.												
2. By IWT												
(a) ICD												
No.												
Tonnes.												
(b) CFS												
No.												
Tonnes.												
(c) Others												
No.												
Tonnes.												

Inland(Landward)Container Movement - Incoming to Port for Loading on to Ship

Port: **Port:**

Mode	20'			40'			Others			Total(TEUs)		
	Loaded	Empty	Total	Loaded	Empty	Total	Loaded	Empty	Total	Loaded	Empty	Total
1	2	3	4	5	6	7	8	9	10	11	12	13
1.By Rail												
(a) ICD												
No.												
Tonnes.												
(b) CFS												
No.												
Tonnes.												
(c) Others												
No.												
Tonnes.												
2. By Road												
(a) ICD												
No.												
Tonnes.												
(b) CFS												
No.												
Tonnes.												
(c) Others												
No.												
Tonnes.												
2. By IWT												
(a) ICD												
No.												
Tonnes.												
(b) CFS												
No.												
Tonnes.												
(c) Others												
No.												
Tonnes.												

Performance of Major Port

Port: **Period:**

Item	Dry Bulk		Liquid	Break	Container	All
	Mech.	Conv.	Bulk	Bulk		
1. No. of cargo Vessels Sailed (Total No.)						
a) After Handling at Berth- No.						
(i) Overseas						
(ii) Coastal						
b) At Stream (No.)						
2. Total Caro Traffic Handled (000 Tonnes)						
3. Pre Berthing Detention(Hrs)-Total						
a) Pre Berthing Detention(Hrs)-Port a/c						
b) Pre Berthing Detention(Hrs)-Non Port a/c						
4. Working Time (Hrs)						
5. N.W Time at working berth(Hrs)-Total						
a) N.W Time at working berth(Hrs)-Port a/c						
b) N.W Time at working berth(Hrs)-N.P a/c						
6. Time at Non working berth(Hrs)-Total						
a) Time at Non working berth(Hrs)-Port a/c						
b) Time at Non working berth(Hrs)-N.P a/c						
7. Navigation Time (Hrs)						
a) Inward Movement						
b) Outward Movement						
8. Shifting Time						
9. Turn Round Time (Hrs)-Total=(3+4+5+6+7+8)						
a) Turn Round Time (Hrs)-Port a/c=(3(a)+4+5(a)+6(a)+7+8)						
b) Turn Round Time (Hrs)-N.P a/c=(3(b)+5(b)+6(b))						

Note: N.W- Non-working. N.P a/c- Non-port a/c
Mech. -Mechanically Handled . Conv.- Conventionally handled.

Note: Performance parameters are to be compiled for berthed vessels only. Vessels handled at stream are not to be included.

Distribution of Pre-berthing Waiting Time

Port: **Year:**

(in Hrs.)

S.No	Item	Container		Break Bulk	Dry Bulk		Liquid Bulk	Total
		Cellular	Combination		Mechanical	Conventional		
1	2	3	4	5	6	7	8	9
A	**Port Account**							
1	Non-Availability of							
	(i) Berth							
	(ii) Tug Craft							
	(iii) Pilot							
2	Strike/Stoppage							
3	Night Navigation Restriction							
4	Draft Restriction							
5	Others							
B	**Non-Port Account**							
1	Ships Account							
2	Shippers Account							
3	Agents Option							
4	Want of Ullage							
5	Documents not ready							
6	Tidal Restrictions							
7	Weather Restriction							
8	Want of Cargo							
9	Labour Holidays/Recess							
10	Power Failure							
11	Cargo Lashing							
12	Others							
	Total							

Note: 1. Lash and Ro-Roo be included in Break Bulk

[Ports may published data as per their importance of reasons. However information as per the formate is to be uniformly provided to TRW & IPA.]

Distribution of Non-working Time at Working Berths

Port: **Year:**

(In hrs.)

S.No.	Item	Container		Break Bulk	Dry Bulk		Liquid Bulk	Total
		Cellular	Combination		Mechanical	Combination		
1	2	3	4	6	7	8	9	11
A	**Port Account**							
(a)	Working Berth							
1	Non-Availability of Equipment							
2	Equipment Breakdown							
3	Absence of workers							
4	Strike/Stoppage							
5	Shed Congestion							
6	Power Failure							
7	Hatch opening/ closing							
8	Labour Holidays							
9	Night Navigation Restrictions							
10	Others							
(b)	Time spent at Non-working berth							
B	**Non-Port Account**							
(a)	Working Berth							
1	Ships account							
2	Shippers account							
3	Agents option							
4	Absence of non-port workers							
5	For want of cargo							
6	Departure Formalities							
7	Weather restriction							
8	Holiday							
9	Lack of Storage / silos							
10	User equipment repair							
11	Shore Clearance							
12	Others							
(b)	Time spent at Non-working berth							
	Total							
(a)	Working berth[A(a)+B(a)]							
(b)	Non-working berth [A(b)+B(b)]							

[Ports may publish data as per their importance of reasons. However information as per the format is to be uniformly provided to TRW & IPA.]

P-IV

Commodity-wise Performance Indicators

Port: **Year:**

S. No	Commodity	No. of Vessels Sailed*	Cargo handled (Tons)*	Turn Round Time (Days)		Pre-berthing Detention (Days)		Stay at Working Berth (Days)*		
				Total	Time-	Total	Non-port	Total	Working	Non-
1	2	3	4	5	6	7	8	9	10	11
1	POL (Crude)									
2	POL (Products)									
3	LPG/LNG									
4	Other Liquid Bulk									
5	Iron Ore									
6	Coking Coal									
7	Thermal Coal									
8	Fertilisers & FRM									
9	Other Dry Bulk									
10	Steel Products									
11	Other Break Bulk									
12	Containers									
13	All Commodities									

* 1. Cargo handled should correspond to those vessels which have been sailed .
2. Stream handling may be excluded but should be shown separately in brackets in respective cells.

P-V

Berth Occupancy

Port: **Year:**

S. No.	Berth	No. of hours		Percentage of Occupancy
		Available	Occupied	
1	2	3	4	5

P-VI

Availability of Cargo Handling Equipments

Port: **Year:**

S. No.	Description of Equipment	Number of Equipment	Required to meet the Traffic		Short Supply Due to (Percentage)					Number of Unit Overhauled	Number of Unit underwent Major Repair	Remarks
			Average Demand per day (No.)	Average Supply per day (No.)	Absentism of Staff	Shortage of Equipment	Equipment Break Down	Stoppage of work	Others			
1												
2												
3												
4												
5												
6												
7												
8												

Shore Labour Productivity

Port: **Year:**

Datum Line and Cargo	No. of hooks worked	Hooks hrs worked	Effective hooks hrs worked	Man hrs worked	Effective man hrs worked	Tonnage Handled	Average Productivity (Tonnes)				
							Per hook	Per hook hour	Per effective hook hour	Per man hour	Per effective man hour
1	2	3	4	5	6	7	8	9	10	11	12
A. Unloaded											
1											
2											
3											
4											
5											
6											
7											
8											
Total(A)											
B. Loaded											
1											
2											
3											
4											
5											
6											
7											
8											
Total(B)											
Grand Total (A+B)											

Note: Tonnage handled is in respect of ships sailed during a period.

Dock Labour Productivity

Port: **Year:**

Sl. No.	Commodities	No. of hooks worked	Hook Hrs/ Effective hooks hrs worked	Man hrs/ Effective man hrs worked	Tonnage Handled	Average Productivity (Tonnes)		
						Per hook	Per hook hour	Per man hour
A.	Break Bulk							
B.	Dry Bulk							
	Total(A+B)							

Note: Tonnage handled is in respect of ships sailed during a period.

Availability and Utilisation of Equipments (other than Container Handling)

Port: **Year:**

S.No.	Item	Mobile Crane	Wharf Crane	Fork Lift Truck	Pay loaders	Tractor/ Trailer	Locomotive	Others (specify)
1	No. of Equipment							
2	Capacity of Equipment (No. with Unit)							
3	Total No. of Gross Hrs available (No. of Days xNo. of Equipmentx24#)							
4	Not available Hrs due to:							
	(i) Overhaul & maintenance							
	(ii) Break down							
	(iii) Holidays & offtime							
	(iv) Others							
5	Not available working Hrs.(3-4)							
6	% Availability (7/3)x100							
7	Actual working Time							
8	% Utilisation on the basis of:							
	(a) Gross Available Hrs. (7/3)x100							
	(b) Net Available Hrs. (7/5)x100							
9	Utilisation Norms							

Note:- 1. No. of Days : No. of Days the dock is working
2. No. of Equipment : All Equipment available with the Deptt.
3. Overhaul & maintenance : Preventive maintenance and periodical overhauls only.
4. Breakdown : The equipment is not working for more than 15 minutes.
: If the port is working in two shifts, then 16 hours may be considered instead of 24 hours.

Availability and Utilisation of Container Handling Equipments

Port: **Year:**

S.No.	Item	Quay side Gantry Crane	Rubber Tyred Gantry Crane	Rail mounted Gantry Crane	Tata P & H Crane	Top Lift Truck	Fork Lift Truck/Front End Loader	Reach Truck	Tractor Trailer
1	2	3	4	5	6	7	8	9	10
1	Fleet Strength								
	Capacity/Equipment								
2	Total posible equipment Hrs (24@ X No. of Days X No. of Equipments)								
3	Hrs lost due to scheduled maintenance								
4	Hrs lost under break down								
5	Hrs lost due to recess								
6	Actual equipment available Hrs. (2-(3+4+5))								
7	% Availability (6/2)*100								
8	Hrs actually worked during the month								
9	% Utilisation on the basis of								
(a)	Availability Hrs. (8/6)*100								
(b)	Total possible Equipment Hrs. (8/2)*100								
10	Utilisation Norms								

Definitions:

1. No. of Days : No. of Days the dock is working
2. No. of Equipment : All Equipment available with the Deptt.
3. Scheduled maintenance : Preventive maintenance and periodical overhauls only
4. Recess : Meal Breaks notified by the Port
5. Breakdown : The equipment is not working for more than 15 mts.

@: If the port is operating in two shifts, then 16 hours may be considered.

P-XI

Performance of Container Handling Equipment

Port: **Year:**

S.No.	Item	Quayside Gantry Crane	Rail mounted Gantry Crane	RTG Crane
1	2	3	4	5
1	Total No. of Equipment			
2	Total No. of Shifts worked			
3	Total No. of Equipment working hrs. (Completion time-commencement time)			
4	Total No. of Containers Handled			
5	No. of Containers Handled per working hour (4/3)			
6	Total Idle time			
7	Total No. of hrs. actually worked (3-6)			
8	Total No. of Containers Handled per actual worked hour (4/7)			

P-XII

Performance of Dredgers

Port: **Year:**

S. No.	Particulars	Unit	Name of Dredger(s)		Remarks
			i)é é é é é	ii)é é é é é	
1	2	3	4	5	6
1	Quantity dredged	Lakh m^3			
2	Working days	Days			
3	Non-Working days				
	a) Sunday & Holidays	Days			
	b) Dry-docking	Days			
	c) Over-haul	Days			
	d) Repairs, Maintenance & Bunkering	Days			
	e) Bad Weather	Days			
	f) Crew shortage	Days			
	g) Others	Days			
4	Total Days (2+3)	Days			
5	Quantity dredged per working day				
6	Rate per Cu.m. of dredging	m^3			
	a) Including depreciation & Interest	Rs.			
	b) Excluding depreciation & Interest	Rs.			

F-I

Financial Indicators

Port: **Year:**

(Rs. In crores)

S.No.	Description	Current yr	Previous yr
1	2	3	4
1	**Return on Capital**		
a	Capital Employed (Excl Work-in-progress)		
b	Net surplus before Tax		
c	RoCE including Royalty income (1b/1a)		
d	Net surplus before Tax (excl Royalty income)		
e	RoCE excluding Royalty income (1d/1a)		
f	Profit Ratio (Net surplus/Total income)		
g	Turnover Ratio (Net Surplus/Operating income)		
2	**Operating Ratio**		
a	Operating Expenditure		
b	Operating Income		
c	Operating Ratio (2a/2b) %		
3	**Ratio of Cost of Earnings (activity-wise)**		
	(percentage of Cost to Earnings		
A	**Direct Cost (excl Depn & Over heads)**		
a	Cargo Handling and Storage		
b	Port and Dock Facilities for Shipping		
c	Railway Workings		
d	Rentable Lands and Buildings		
B	**Total Cost (incl Depn & Over heads)**		
a	Cargo Handling and Storage		
b	Port and Dock Facilities for Shipping		
c	Railway Workings		
d	Rentable Lands and Buildings		

F-II

Capital Expenditure on Plan and Non-Plan Schemes

Port: **Year:**

(Rs. In crores)

S. No.	Description	Approved Outlay during Xth Plan	Current Year…….*(Year)*					Actual Expenditure in Xth Plan upto ….(year)	Cumulative for the Plan Period					Remarks
			Approved outlay (annual) é *(year)*	Internal Resources	Budgetary Support	Others (specify)	Total		Approved outlay	Internal Resources	Budgetary Support	Others (specify)	Total	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A	**Plan Works**													
a	Continuing Schemes													
b	New Schemes													
	Total													
B	**Non-Plan Works**													
a	Continuing Schemes													
b	New Schemes													
	Total													
C	**Grand Total (A+B)**													

O-I

Number, Type and Size of Ships Sailed

Port: **Year:**

S.No.	Category of Ships	No. of ships saild	NRT	GRT	DWT
A	**Cargo Operation**				
1	Container				
	(a) Cellular				
	(b) Combination				
2	Break Bulk				
3	Dry Bulk				
	(a) Mechancial				
	(b) Conventional				
4	Liquid Bulk				
5	Lash				
6	Ro-Ro				
	Total				
B	**Passenger Carriers**				
C	**Others**				
D	**Grand Total**				

Passenger Traffic at Major Port

Port: **Year:**

(in Numbers)

Overseas			Coastal			Total		
Embarked	**Dis embarked**	**Total**	**Embarked**	**Dis embarked**	**Total**	**Embarked**	**Dis embarked**	**Total**
1	2	3	4	5	6	7	8	9

O-III

Accidents at Major Port

Port: **Year:**

(in Number)

S. No.	Causation	Fatal		Non-Fatal		Total	
		Port area	Non-Port area	Port area	Non-Port area	Port area	Non-Port area
1	2	3	4	5	6	7	8
1	Persons falling						
2	Falling of objects						
3	Stepping on, striking against or struck by objects						
4	Caught in between objects						
5	Over-exertion or wrong movements						
6	Exposer to or contact with extreme temperature						
7	Explosions						
8	Exposure to or contact with harmful substances including radiation						
9	Other cases						
	Total						

A. Employment at Major Port (As on 31st March)

Port: **Year:**

Officers		Non-Cargo Handling Workers			Cargo Handling Workers Other than		Shore Worker	Casual Worker	Total
Class I	Class II	Class IIII	Class IV	Others	Class III	Class IV			
1	2	3	4	5	6	7	8	9	10

B. Employment at Dock Labour Boards of Major Port (As on 31st March)

Year:

DLB Employment					Dock Workers				Grand Total
Class I	Class II	Class IIII	Class IV	Total	Registered	Listed	Others	Total	
1	2	3	4	5	6	7	8	9	10

C. Mandays Lost at Major Port

Year:

Mandays Employed			Mandays Lost				Mandays Lost per 1000 Mandays Employed		
PE	DE	Total	Reason	PE	DE	Total	PE	DE	Total
1	2	3	4	5	6	7	8	9	10

PE: Port Employee/Worker DE: DLB Employee/Worker

Formats For Non-Major Ports

NMH-I

TRAFFIC HANDLED AT NON-MAJOR PORTS

(ó000ô Tonnes)

S.No.	Commodity	April – September /March	
		2013-14	2014-15
1.	POL & other Petroleum products		
2.	Iron Ore		
3.	Coal		
4.	Fertilizer & Raw Material		
5.	Building Material		
6.	Container Tonnes		
	TEU		
7.	Others		
	Total		

NMH--II

CARGO TRAFFIC HANDLED AT NON- MAJOR PORTS (April-September/March)

(ó000ô Tons)

NAME OF PORT: Year Ending

S.No.	Commodity	Overseas					Coastal					Grand Total
		Unloaded		Loaded		Total	Unloaded		Loaded		Total	
1	2	3	4	5	6	7	8	9	10	11	12	13
A	**LIQUID BULK**											
1	POL -Crude											
2	POL-Products											
3	LPG/LNG											
4	Edible Oil											
5	FRM-Liquid											
6	Others(Specify)											
B	**DRY BULK**											
7	Iron Ore(All)											
8	Thermal Coal											
9	Coking Coal											
10	Other Coal											
11	Fertilizer											
12	FRM-Dry											
13	Food-Grains											
14	Salt											
15	Scrap											
16	Others(Specify)											
C	**BREAK BULK**											
17	Cement											
18	Building Material											
19	Iron & Steel											
20	Timber & Loga											
21	Food Grains											
22	Others(Specify)											
D	**CONTAINER**											
23(a)	Tons(000)											
23(b)	TEUs											
E	**TRANSHIPPMENT**											
24	POL-Crude											
25	POL-Products											
26(a)	Container(000 Tons)											
26(b)	TEUs											
27	Others(Specify)											
F	**ALL**											

NM-I

CARGO TRAFFIC HANDLED AT NON-MAJOR PORT

Name of Non-major port : (All Ports) **State :** **Year 2014-15**

('000 Tonnes)

S.No.	Commodity	Overseas					Coastal					Grand Total
		Unloaded		Loaded		Total	Unloaded		Loaded		Total	
		IF	FF	IF	FF		IF	FF	IF	FF		
1	2	3	4	5	6	7	8	9	10	11	12	13
A	**LIQUID BULK**											
1	POL -Crude											
2	POL-Products											
3	LPG/LNG											
4	Edible Oil											
5	FRM-Liquid											
6	Others(Specify)											
B	**DRY BULK**											
7	Iron Ore(All)											
8	Thermal Coal											
9	Coking Coal											
10	Other Coal											
11	Fertilizer											
12	FRM-Dry											
13	Food-Grains											
14	Salt											
15	Scrap											
16	Others(Specify)											
C	**BREAK BULK**											
17	Cement											
18	Building Material											
19	Iron & Steel											
20	Timber & Loga											
21	Food Grains											
22	Others(Specify)											
D	**CONTAINER**											
23(a)	Tons(000)											
23(b)	TEUs											
E	**TRANSHIPPMENT**											
24	POL-Crude											
25	POL-Products											
26(a)	Container(000 Tons)											
26(b)	TEUs											
27	Others(Specify)											
F	**ALL**											

IF: Indian Flag FF: Foreign Flag

NM- II

Other Data for the Publication

Name of Non-major port :
State /UT :

Table A : ---- Annual Passenger Traffic by Ships at Non -major port

(In No)

Year	Overseas		Coastal		Total	
	Embarked	Dis-embarked	Embarked	Dis-embarked	Embarked	Dis-embarked
1	2	3	4	5	6	7
2014-15						

Table B : --- Number of Steamer/Sailing vessels which left during the year from Non -major port

(In No)

Year	Steamer	Selling Vessel	Others	Total
1	2	3	4	5
2014-15				

Table C : ---- Employment at Non-major port (As on 31st March)

(In No)

Year	Officers		Regular Workers		Casual Workers
	Sanctioned	Actual	Sanctioned	Actual	
1	2	3	4	5	6
2014-15					

Table D: ---- Number of Berths and Draft at Non-major Port

	Max.Depth available at anchorage(mts)	Berth Type	No. of Berths by existing Draft				
			Below 2 meters	2-4 meters	4-6 meters	6 meters above	Total
1	2	3	4	5	6	7	8
As on 31.3.15							

Table E : ---- Equipment available at Non-major Port

(Nos.)

	Dredgers	Cranes			Barges			Launches	Tugs
		Upto 5 tons	6-10 tons	Above 10 tons	Dumb	Self-Propelled	Water Barges		
1	2	3	4	5	6	7	8	9	10
As on 31.3.15									

Table F : ---- Physical Performance of vessels at Non-major port

Year	No of vessels left	Average Turn Round Time
1	2	3
2014-15		

Table G : ---- Investment Infrastructure in Non-major port

(In Million Tonnes)

Investment	2014-15 (Actual)	2015-16 (Estimated)
1	2	3
Public		
Private		
Total		

Table H : ---- Port Capacity of Non-major port As on

i) 31.3.2014 _____ (In Million Tonnes)

ii) 31.3.2015 _____ (In Million Tonnes)

Glossary

1	**Berth Occupancy**	The time for which a berth is occupied (by ships).
2	**Berth-Day**	A day of occupation of a berth (quay or mooring) by a ship.
3	**Capital Employed**	Is the net value of fixed assets plus current assets minus current liabilities. Work in progress and provisions are to be excluded.
4	**Cranage**	The hire charges for providing a port crane for cargo handling.
5	**Dead Weight Tonnage(DWT)**	It is the number of tons of (2240 pounds) stores, fuel and cargo that a ship can transport. This presents the actual carrying capacity of a ship.
6	**Direct Cost**	Is the cost incurred on a particular activity, attributable directly to that activity.
7	**Draft**	The depth necessary to submerge a ship to their load line.
8	**Gang**	Gang is a group of workers formed as one unit for the purpose of handling cargo in the act of discharging from or loading on to the ship inside the ship inside the hatch-hold of the vessel or in the deck as per necessity.
9	**Gang hours**	Number of hours per shift multiplied by number of gang shift.
10	**Gang shift**	Refers to a gang (irrespective of number of persons in the gang) working in one shift.
11	**Gross Registered Tonnage (GRT)**	It applies to the vessels and not to cargo. It is the weight of the volume occupied by the closed-in-spaces of a ship taking 100 cubic feet of such closed-in-spaces as equivalent to one vessels ton. It thus refers to the cubic capacity of the vessels.
12	**Idle Time**	Non-working time of a ship (without loading or unloading of cargo) at berth.
13	**Load Line**	Outer line on the body of a ship upto which she submerges in water with safety. It varies according to the seasons and waters in which she plies.

14	**Net Registered Tonnage (NRT)**	It refers to the earning space capacity of a ship available for the storage of cargo and accommodation of passengers. It is obtained by deducting from GRT the cubic capacity space (taking 100 cubic feet = 1 ton) occupied by stores, fuel, machinery, crew etc. which does not represent the earning capacity of the ship.
15	**Net Surplus before Tax**	Net surplus before tax as per the profit and loss account. Net surplus before tax excluding royalty income ï Net surplus before tax as per P & L A/c ï Less royalty income received from PPP or BOT operators
16	**Operating Ratio**	Is the ratio of operating expenditure to operating income as per the profit & loss A/c
17	**Ore/Oil and Bulk Carrier**	A bulk cargo ship designed to carry ore and oil enabling there by to be loaded in both directions.
18	**Output per Berth Day**	Total tonnage handled distributed over the total number of berth days.
19	**Pilotage**	A port charge for guiding a ship in or out of a harbour through channels, passages or other waters by an authorised pilot.
20	**Port Dues**	A levy of port authority on a ship.
21	**Ratio of Cost of Earnings**	Is the ratio of cost incurred on a particular activity to the income reaslised from that activity
22	**Roll-on/Roll-off Vessel**	It is frequently called a vehicle ferry. It is designed for the conveyance of road vehicles and private cars. At each terminal port, a tramp of link span is provided enabling the vehicles to drive on or off the vessels, thereby eliminating cranage and cargo handling (and also pilferage) and permitting a quick turn round of the ships.
23	**Sailing Vessel**	Any description of vessel provided with sufficient sail area for navigation under sails along whether or not fitted with mechanical means of propulsion and includes a rowing boat or crane but does not include a pleasure craft.
24	**Ship-Day**	A day spent in harbour by a ship.

25	**Tankers**	Cargo ships constructed or adopted for the carriage in bulk of liquid cargoes of an inflammable nature.
26	**Total Cost**	Is the direct cost of a particular activity and apportioned management & administrative overheads. Management & administrative overheads to be allocated to the principal activities in the ratio of direct cost.
27	**Traffic**	A scalar with only magnitude but no direction such as the total of exports and imports or loaded and unloaded cargo.
28	**Traffic flows**	A vector with magnitude and direction such as passengers embarked/disembarked or cargo loaded overseas/unloaded overseas.
29	**Turnover Ratio**	Is the ratio of net surplus before tax divided by the total operating income as per the profit & loss A/c
30	**Turn-Round Time**	Total time spent by a ship since its entry till its departure.
31	**Wharfage**	A port charge on the ships for all cargo conveyed on over or through a wharf/berth.