



COMPARATIVE ANALYSIS OF INFRASTRUCTURAL FACILITIES IN CHENNAI AND JEBEL ALI PORT

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Abstract:

A port is essentially an economic concept, an economic infrastructure that service coastal and overseas traffic. They are significant from the point of view of foreign trade-export of commodities which earn valuable foreign exchange, import of essentially required inputs for the development of the country and for transportation by developing overseas and coastal shipping and inland water transport. Port is also constructed as the major crossroad of traffic in ideas, peoples and goods over the centuries. As mentioned above Chennai port has to be developed in a drastic manner when its compared to the Jebel Ali port it is way behind in technological as well as traffic too if the port is developed it may obviously lead to the eradication of unemployed in a merger means if the infrastructure is also developed the vessel traffic will also increase and it leads to the development in the export and import of the country as Chennai port is one of the major ports in India the government must take initiative in bringing up the standards of the ports

Key Words: Port, Commodities & Infrastructure

Introduction to the Study:

Centuries back, when sea route was perhaps the only available mode of transport, ports were the transit points of the travelers and conquerors who infused with the passage of time- the cultural, social ethical religious and political transformation of nations. Today ports have become the monoliths that end edify the trade, commerce and economy of the nation.

The globalization of the world economy has brought about tremendous increasing exchange of goods across the world, in pursuit of economic and competitive manufacturing, production centers of most if not all industries have rapidly shifted their base beyond national borders. Consumers have also started to purchase goods from all over the world at competitive prices. As globalization is most likely to further develop, the world trade and in particular sea trade will continue to grow in the foreseeable years.

A port is a maritime commercial facility, which may comprise one or more wharves where ships may dock to load and discharge passengers and cargo. Although usually situated on a sea coast or estuary, some ports, such as Hamburg, Manchester and Duluth, are many miles inland, with access from the sea via river or canal.

Today, by far the greatest growth in port development is in Asia, the continent with some of the world's largest and busiest ports, such as Singapore and the Chinese ports of Shanghai and Ningbo-Zhoushan.

Infrastructure:

Infrastructure refers to the fundamental facilities and systems serving a country, city, or other area, including the services and facilities necessary for its economy to function. Infrastructure is composed of public and private physical improvements such as roads, bridges, tunnels, water supply, sewers, electrical grids and telecommunications (including Internet connectivity and broadband speeds). In general, it has also been defined as "the physical components of interrelated systems providing commodities and services essential to enable, sustain, or enhance societal living conditions".

There are two general types of ways to view infrastructure, hard or soft. Hard infrastructure refers to the physical networks necessary for the functioning of a modern industry. This includes roads, bridges, railways, etc. Soft infrastructure refers to all the institutions that maintain the economic, health, social, and cultural standards of a country. This includes educational programs, parks and recreational facilities, law enforcement agencies, and emergency services.

The word infrastructure has been used in English since 1887 and in French since 1875, originally meaning "The installations that form the basis for any operation or system". The word was imported from French, where it means sub grade, the native material underneath a constructed pavement or railway. The word is a combination of the Latin prefix "infra", meaning "below" and many of these constructions are underground, for example, tunnels, water and gas systems, and railways. The army use of the term achieved currency in the

United States after the formation of NATO in the 1940s, and by 1970 was adopted by urban planners in its modern civilian sense.

Objectives of the Study:

- ✓ To acquire knowledge of the importance of port for international trade.
- ✓ To study about the port application in Chennai and Jebel Ali port.
- ✓ To benchmark the information of Chennai and Jebel Ali port detail.
- ✓ To support flexible modification can be made in Chennai with reference to Jebel Ali.

The Following Table Lists the Number of Vessels Handled in the Past:

Commodity	2008–09	2009–10	2010–11
Liquid Bulk	441	494	502
Dry Bulk	441	446	308
Break Bulk	486	489	559
Containers	710	703	812
Total	2,078	2,132	2,181

As of 2017, about 800 trailers entered the port on a daily basis.

Port Layout and Infrastructure:

Chennai port is the second smallest in the country measured by surface area, encompassing only 274 hectares. Chennai port area is divided into north, central and south zones and fishing harbours. The port has 26 alongside berths, including 21 deep-drafted berths and 2 oil jetties, in the 3 docks, viz., Dr. Ambedkar Dock, Satabh Jawahar Dock, and Bharathi Dock along with the container terminal, and draft ranging from 12–16.5 m (39–54 ft). Dr. Ambedkar Dock has 12 berths, Jawahar Dock has 6 berths, Bharathi Dock has 3 berths (for oil and iron ore), the container terminal has 3 berths and the moorings has 1 berth. The berths can handle containers as well as liquid and dry bulk and breakbulk cargoes. The approach channel to the port is 6,700 m (22,000 ft) long, and the turning basin is 560 m (1,840 ft) in length. A total of 9 well-lit channels marks buoys for the approach channel.

Region	Water Spread	Land Area	No. of Berths
Total	418 Acres	513 Acres	23
Inner Harbor	218 Acres	413 Acres	16
Outer Harbor	200 Acres	100 Acres	7

The Jawahar Dock has six berths with a total length of 1,310 m (4,300 ft) and maximum permissible draft of 10.4 m (34 ft) and 11 m (36 ft). All berths are 218.3 m (716 ft), and half of them have maximum draft of 10.4 m (34 ft). The dock mainly handles coal, fertiliser, iron ore lumps, pellets, edible oil, and phosphoric acid. The Dr. Ambedkar Dock has 13 berths with a total length of 1,676 m (5,499 ft) and maximum permissible drafts from 8.5–12 m (28–39 ft). The longest berth is 246 m (807 ft) long with maximum draft of 9.5 m (31 ft). Berth No. 7 is 198 m (650 ft) long with maximum draft of 8.5 m (28 ft), whereas Berths 8, through 12 are each 170.6 m (560 ft) and have maximum draft of 11 m (36 ft). Berth 14 is 179 m (587 ft) long with maximum draft of 9.5 m (31 ft). Berths 18 and 19 are naval berths. The dock has car and cruise terminals and chiefly handles general cargo, cars, granite steel, and food grains. The Bharathi Dock contains three berths with total quay length of 917.2 m (3,009 ft), with berths ranging from 274.3 m (900 ft) in length with maximum permissible draft of 16.5 to 338.9 m (54 to 1,112 ft) in length with maximum draft of 14.6 m (48 ft). The dock has three terminals, namely, container terminal, iron ore terminal, and oil terminal. It mainly handles containers, iron ore, and POL (petroleum, oil and lubricants).

Pilotage Charges:

Pilotage Charges are as follows:

Vessel Capacity	Pilotage Charges in AED
Upto 2,500 Tons	320
2,501 to 5,000 Tons	550
5,001 to 10,000 Tons	750
10,001 to 20,000 Tons	1,050
20,001 to 40,000 Tons	1,500
40,001 to 80,000 Tons	2,200
80,001 to 120,000 Tons	2,600
over 120,000 Tons	3,900

If a pilot is kept waiting through any fault of the Vessel or Vessel’s agent, then there will be a charge of AED 900 per hour or part thereof. If a pilot launch is also detained, there will be an additional hire charge of AED 600 per hour or part thereof. Pilotage charges in 306.1 will apply for shifting Vessels within the Port Facility.

Special Pilotage Charges:

Vessels without power, with defective steering, or other damage- double the above rates.

Pilotage Exemption Certificate:

On application, after making 12 calls at the Port Facility during the preceding year, a certificate may be issued at the Harbour Master’s sole discretion to the Master of a specific Vessel after satisfying the relevant Authority of his competence. The charge will be AED 3,700 per annum. The certificate will only be renewed if the holder has made a minimum of twelve calls at the Port Facility, during the period of the certificate’s validity.

Berthing/ Un-Berthing Charges:

Berthing/Un-Berthing Charges are as follows:

All Vessels including exempted Vessels shall be charged for berthing at the Port Facility, as follows:

Vessel Capacity	Charges in AED
Upto 2,500 Tons	330
2,501 to 5,000 Tons	420
5,001 to 10,000 Tons	515
10,001 to 20,000 Tons	750
20,001 to 40,000 Tons	1,050
40,001 to 80,000 Tons	1,450
80,001 to 120,000 Tons	1,850
over 120,000 Tons	2,500

The above includes the availability of the services of the Harbour Master or his representative, mooring launches and mooring gang. The charge will double for Vessels berthing or un-berthing on Friday and public holidays, Vessels without power, with defective steering or other damage.

Warping Charges:

If Warping to an Adjacent Berth at Vessels or Agents request the following rates will apply

Vessel Capacity	Charges in AED
Upto 2,500 Tons	330
2,501 to 5,000 Tons	420
5,001 to 10,000 Tons	515
10,001 to 20,000 Tons	750
20,001 to 40,000 Tons	1,050
40,001 to 80,000 Tons	1,450
80,001 to 120,000 Tons	1,850
over 120,000 Tons	2,500

If a mooring gang is kept waiting through any fault of the Vessel or Vessel’s agent, a stand-by charge of AED 600 per hour or part thereof may be applied. The charge will double for Vessels warping to an adjacent berth on Friday and public holidays.

Port Charges for Tankers, Gas Carriers and Other Vessels Calling To Load and / or Discharge Hydrocarbon or Liquid Products in Bulk:

The Port charge per Vessel per 48 hour period or part thereof is levied for Port services, as hereinafter itemized. The charge will be AED 2.02 per Gross Ton. The services of a pilot and pilot launch for the inward transit of the channel from sea and berthing.

The services of a pilot and pilot launch for un-berthing from the berth for the outward Transit of the channel to sea or to another berth.

Two Port tugs and mooring launches and gangs for the operations described in (a) and (b) above. Where additional tugs are utilized they shall be charged at the rate under Item 303.1.

The availability of all other Port facilities such as navigable channels, tidal, meteorological and navigational data.

The availability of Port Facility emergency and oil pollution equipment.

- ✓ The first 48 hour period will commence at the time of first line on the jetty. The total visit time will end when the last line is let go.
- ✓ The charge for any tanker or gas carrier of less than 2,000 GRT which enters and berths at a jetty or berth will be “Minimum Fixed Charge” of AED 3900.
- ✓ Item 301 - 307 and item 801.1 will not be applied to Vessels covered by item 308.
- ✓ If on completion of 48 hours Cargo operations, the Vessel opts to remain in the Port Facility to continue operation, Tariff charges as per item 308 will apply at a pro-rata rate of 6 hour period and part thereof. After the first 48 hours and before completion of any consecutive next 48 hours, if a tanker is required to shift berth for operation, then cost of such shift will be considered as included in the Port charges. However, the charge for any extra move will be raised as per Tariff.

Charges for Country Crafts / Dhows / Supply Boats:

- ✓ Port dues for Country Crafts & Dhows: AED 172 per day

- ✓ Berthing / Un-berthing Up to 2,500 Tons: AED 260
- ✓ Port dues for free running supply boats: AED 172 per day per boat

For monthly charges, Port dues for free running supply boats will be as follows

LOA (in meters) Charged in AED - per Month per Boat:

Upto 30 m	3,640
31m – 50m	4,680
51m – 60m	5,720
Over 60 m	Tariff item 301.1 and 301.2 will be applicable

Bunker Supply Vessels:

If the port stay is upto 12 hours then port dues shall be charged at AED 300/- per hour. If the port stay exceeds 12 hours then lay by charges shall apply as per item 310

Lay By:

Repair and Lay-up vessels, Port Dues For small Crafts, Tugs and Barges

Length	Charges Per Day or Part Thereof in AED
Length up to 50m	170
Over 51m to 65m	340
Over 66m to 80m	500
Over 81m	Rates shall be based on DWT (please refer to below table)

Dead weight Tonnage thereof AED	Port Dues Per Day or part
1,000 to 29,999	2,530
30,000 to 89,999	4,925
90,000 and above	10,105

Oil rig will be charged at AED 26 /day / meter quay length occupied or LOA - whichever is greater.

Miscellaneous Marine Charges:

S.No	Category	Charges in AED
1	Fender Charges (Yokohama)	550 per fender per day or part thereof
2	Divers	660 per diver per hour or part thereof
3	Gang way charge	990 per day or part thereof
4	Oil pollution control equipment	1,340 per day or part thereof (Oil boom)
5	Skimmer charge	660 per hour or part thereof
6	Harbour Master/or his deputy	350 per hour or part thereof
7	Mooring Supervisor	70 per hour or part thereof
8	Mooring Labour	40 per hour or part thereof
9	Bollard Pull Test	3,000 per test or part thereof

Shifting of Vessels within Jebel Ali Terminals:

- ✓ Vessels from 2,501 to 12,000 Tons: AED 6,620
- ✓ Vessels from 12,001 to 25,000 Tons AED 9,935

Port Handling:

Charges are per Freight Ton unless otherwise specified. The above charges Do Not include stevedoring charges

- ✓ A minimum Port handling charge of AED 70 per Bill of Entry will be charged.
- ✓ For hazardous Cargo handled in General Cargo, Cold and Cool Stores 50% extra will be charged as surcharge in addition to Port handling charges.
- ✓ Auctioned Cargo handling charge do not include Heavy Lift and RO-RO. Heavy Lifts and RO-RO will be charged as per Tariff 401.7 and Tariff 601 respectively.
- ✓ Total Passengers handled per call: total of passengers disembarked, embarked, shore excursions at Mina Rashid Cruise Terminal, Dubai.
- ✓ Passengers handled in a season for each Cruise Line: total passenger count from September to June.
- ✓ Billing for Passenger handling charge for Home porting Cruise ships will be as per 401.18 (a). If the Cruise Liner qualifies as per the subsequent slabs mentioned, the rebate will be payable at the end of the season.
- ✓ Billing for Passenger handling charge for non-Home porting Cruise ships will be as per 401.19 (a). If the Cruise Liner qualifies as per the subsequent slabs mentioned, the rebate will be payable at the end of the season.

- ✓ Passenger handling charge for maiden Call is waived.

Transshipment Handling Charges:

- ✓ Transshipment Cargo that complies with the definition under Item 119 shall be charged at the appropriate single “Received to Port Facility Rate” under Item 401.
- ✓ Where the on-carrying Vessel is berthed at a berth other than that at which the transshipment Cargo was landed, then any additional costs involved in moving the Cargo will be paid in addition to those under 401.

Comparison with Chennai and Jebel Ali port:

S.No	Point of Comparison	Chennai	Jebel Ali
1	Port Traffic Control	Traffic touched the volume of 100 million tonnes	Traffic touched the volume of 1800 million tones
2	Cargo Handling	Handles volume about 60 million tonnes cargos	Handles about volume 1.48 million tones cargos
3	Warehouse	Total area used only for warehouse is 65,686 sq.m.	Total area used only for warehouse is 960 Thousand sq.m.
4	Volume of Business	Total income in export and import is 65,755 crores	Total income in export and import is 12,16,467 crores
5	Administration & Milestone	port currently has the capacity to handle 30,00,000TEUS & vessel MT New Diamond, with 160,079 grt	Goldwn award for best seaport from the Higher Committee for UAE Civil Seaports
6	Transportation	2 container terminals	4 container terminals

Conclusion:

As mentioned above Chennai port has to be developed in a drastic manner when its compared to the Jebel Ali port it is way behind in technological as well as traffic too if the port is developed it may obviously lead to the eradication of unemployed in a merger means if the infrastructure is also developed the vessel traffic will also increase and it leads to the development in the export and import of the country as Chennai port is one of the major ports in India the government must take initiative in bringing up the standards of the ports

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