Chapter – III

PROFILE OF VISAKHAPATNAM PORT

The discussions in the earlier chapter envisages that Ports play a key role in the economic development particularly in the liberalization and globalization scenarios in short and long term perspectives. Besides this, the review of evolution of port studies and case studies of ports are indicating origin, growth and development of port plays vital role particularly in the impact of port developments on cities, infrastructure developments in catchment areas of port. The main aim of the study is to determine the origin and growth of Visakhapatnam port as well as to assess its impact on city development in existing and future scenario. Keeping the above aspects under consideration the profile of the Visakhapatnam Port was discussed. This chapter is divided into two sections. The first section presents coverage of the port activities while section – II portrays the future developments of the port and details are as follows.

Coverage of Port Activities:

Background of Visakhapatnam Port

A British survey party in 1858 emphasized a need for a port in this part of the country. Later in 1877 a
report called “Vizag the port of Central provinces\(^{129}\)” further emphasised the need for construction of port at Visakhapatnam. The proposal for construction of a harbour at Visakhapatnam was initiated by the Bengal Nagpur Railway and in 1922 a proposal by Col. H. Cartwright Read of British admiral construction of harbour at the mouth of the river Meghadrigedda. It was also planned to construct a shelter harbour with 52 a long side berths. They had acquired 12 sq. miles (9600) acres of land\(^{130}\). The construction work started in 1927 continued upto 1933 and the first commercial vessel Jala Durga entered the Port on 7th October, 1933 providing initially sea outlet from manganese ore\(^{131}\).

The location of the Port is very ideal it protects from cyclones which strike the East coast regularly by a high promitory into the sea known as Dolphino's Hill which is the south of the entrance channel, the low tidal range of maximum of 1.82 mts is also advantages for the location of the Port.

A channel was dredged between Dolphin’s nose and Rose Hills along the coasts of a small rivulet known as Meghadrigedda connecting the sea and back waters, which is now called inner harbour. Though the

\(^{129}\) British Survey (1858): Vizag The Port of Central Provinces, Govt. of Imperialist, Calcutta, p. 17.
\(^{131}\) Ibid.
inner harbour formed in swampy back waters it has a narrow widening channel through a rocky valley entering the turning basin with a horse shoe bend when the ships are turned and berthed in three arms i.e., Northern Arm, Western Arm and North Western Arm. The main structures constructed for the port are entrance channel, sand trip, inner channel, inner harbor.

The Visakhapatnam Port consists of 3 distinct basins. The initial inner harbour, with three arms covering a water spread of 100 hectares and the later addition, the outer harbour covering a water area of 200 hectares. The third basin extending over an area of 24 hectares in a shallow water basin exclusively designed for use by mechanised fishing boats and trailers. The inner harbour provides access to ships upto 36000 DWT while the outer harbour accommodates ships upto 200000 DWT. The Western Arm is used by the Indian Navy, partly by Coastal Guards, and a part of the North Western Arm is used by Messrs. Hindustan Ship Yard Limited and Indian Navy. The Northern Arm, the main stay of the port and a part of the North Western Arm are areas earmarked for the commercial shipping in the inner harbour consisting of 15 berths with an annual capacity of 12 million tonnes. The Visakhapatnam Port have an area of about 11000 acres acquired by Port for the use of
different purposes. Out of 11000 acres of land 7474 acres land is available for future expansion of the Port. About 1092 acres occupied by hills and geddias. 1934 acres of land under different Port uses. 2688 acres land is allotted to various organizations and 1760 acres land is under vacant\textsuperscript{132}.

The Port administration has passed through different departments and ministries of the Government of India till it transfer to the Port Trust in February, 1964 under Major Port Trust Act\textsuperscript{133}. The major wings of the port are the cargo transfer system are exclusively provided for major bulk cargo.

**Major wings of the Visakhapatnam Port:**

The major wings of the Visakhapatnam Port are Outer harbour, ore-handling plant, fishing harbour, ship repair facility and EXIM park. The details of the major wings are a follows:

**Outer Harbour:**

Outer harbour provide anchorage facility for bulk and big sea vessels. The outer harbour constitutes 1 general berth, 2 oil berth, 1 mooring berth, 1 ore berth, container terminal, 2 multi purpose berths. The dimensions of the outer berth are have 280 mts. length,


\textsuperscript{133} Ibid. p. 19
48 mts. beam and 17 mts. Draft.

**Inner Harbour:**

The inner harbour anchorage facilities for medium and small sea vessels. The facilities have in inner harbour are 15 general berths, 2 oil berths, 1 mooring berth, 1 fertilizers berth and 1 ore berth. The dimensions of the inner berth are 185 mts length, 32.2 mts beam and 10.21 mts draft.

**Ore-handling Complex:**

Iron-ore is one of the predominant export item rolled to the Port and accounts for 50 % of the Ports total exports and 20 % of its throughput. Iron ore exports through the port started in 1952 when vessels of 10000 DWT used to be loaded in its jetties and moorings.

Ore handling complex was installed in 1965 enabling the Port to entertain ships of 35000 DWT later on outer harbour was constructed in 1965 to accommodate bulk carriers of upto 1.5 lakhs DWT and the ore handling complex was also modified. The Ore handling complex was originally designed to handle lump ore of 150 mm which is mined by national Mineral Development Corporation in Bailadila mines in Madhya Pradesh. Later the company such as ESSAR, Vikram ISPAT Industries Private Limited using the facilities to handle multiple grades of Port like Lumpy Ore, calibrated
ore, pellets and iron ore fines. The Ore handling complex handled traffic of 7.4 million tones per year and it was the highest since the facility installed.

**Fishing Harbour:**
This harbour provides anchorage facilities for trallers and mechanized boats further, a wide range of storage facilities are also available in this harbour. Apart from this, the repair facilities is also exists for almost all the fishing vessels. More over this harbour is the big platform for fish and marine products and also acting as big market centre for the above mentioned products. Thousands of fishermen utilized the facilities of the fishing harbour since inception\(^\text{134}\).

**Cargo Transfer System:**

**Iron Ore:** The cargo transfer system of iron are consists of

- Allocated berths (2 nos.)
- 3 wagon tipplers
- 2 stackers (2700 TPH)
- 3 bucket wheel reclimers (4000 TPH)
- 1 ship loader
- Plans to upgrade the berth to 200000 DWT (18.1 m draft)
- Replacement of ship-loader, stacker, reclamer

Through out 12.3 MT

**Alumina:** The cargo transfer system of Alumina consists of
- Berth (WQ – 5) with 241 m length and 10.21 m draft
- 3 Sylos of 25000 T capacity each
- Mechanical wagon unloading system (1100 TPH)
- Conveyor system for Alumina loading (2200 TPH)
- Plans to dedicate 2 berths (WQ – 7, WQ – 8) for Alumina

**Fertilizers:** The cargo transfer system of fertilizer consists of
- 7 Nos. multipurpose berths 10.7 mtrs. Draft
- 2 Nos. BOT berths
- Mechanized captive berth 400 TPH and other berths with higher capacity cranes
- Efficient and economic stevedoring
- Maximum handled per day 14000 T
- Priority berthing

**Coal:** The cargo transfer system of coal consists of
- A deep draft berth in the outer harbour with a quay length of 356 m to handle upto 14.5 m draft
- Five multi commodity berths in the inner harbour to accommodate vessels of 45000 DWT and 10.7 draft
- 2 multi purpose berths equipped with mechanical handling facilities
- 2 floating cranes by private operators
- Diamond of Vizag – 4 grabs (7.4 cum to 22.6 cum)

**Liquid Cargo:** The cargo transfer system of liquid cargo consists of

- An off shore tanker terminal in the outer harbour with 3 unloading arms connected to the refinery (5500 TPH)
- One oil mooring for transhipment of POL
- STS operations at the anchorage
- 2 berths in the inner harbour to handle POL products
- Direct discharge facility for caustic soda (600 TPH) and 3 tanks of 10000 T capacity each
- Direct discharge facility for liquid ammonia, phosphoric acid, sulphuric acid, styene monomer, molten sulphur
- An exclusive jetty to discharge LPG with a draft of 13 mtrs.

**Container handling facilities:** The container handling facilities consists of

- Deep draft container terminal of 449 m quay
length and 15 m depth.
- Paved container yard – 17 hectares, 2 nos. panamax RMQC and 4 nos. reach stackers, 2 nos. RTGCs
- Road rail connectivity
- Concor – ICD within port ara and CFS facilities at CWG warehouses, gateway parks and Sravan shipping.
- IT driven vessel planning and yard management

**Achievements of the Port Trust:**

The historical achievements of the Visakhapatnam Port are as follow:

The Visakhapatnam Port has been reported remarkable growth in the cargo handle of 56.39 million tones and emerged as the premier major ports of the country for 7th year in succession. The exports constituted 42% and imports constituted 50 % of the total traffic.

Total number of vessels called during the year 2006 – 07 was 209. The opening surplus of ₹ 289.96 crores was the highest ever achieved in the history of Port. Further, the operating ration improved to 45.6 % compiled to 46%. More over the opening cost per ton was

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limited to ₹ 43.22. The average turn around time of the ship in the year 2006-07 improved to 3.65 days from 3.80 days in 2005 – 06. The average output per berth per day improved to 10868 tonnes as against 10557 tonnes during 2005-06.

About 7.92 million tones of iron ore works tippled and 12.09 million tones was loaded by ore-handling complex. The port railways handled 29.81 (million tones) per year. Another historic achievement cavemen is the commencement of navigation of panamax vessels of 225 MLOA and 32.26 m draft into inner harbour. The commissioning of one mooring launch Commissioning of additional link road of 12 kms connecting operational area with national highway. Commissioning of 1 storage shed (T8) of 4350 sq. mts (12000 tonnes capacity) Commissioning of 1 high power loco of 3100 HP. The port has been awarded “Green Tech Environment Excellency Award” gold for its environment management plan and green tech safety award silver for the year 2006 for safety

**Facilities available in the Port:**

The total number of berths in the port are 24 having 25 electric ward cranes and 8 shipping tugs. Similarly, the port have wide range of storage facilities such as covered storage facility of 9.34 (lakh tones) capacity and

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136 Ibid. pp. 53 – 54.
16.10 lakh sq. mts of open area available in the port. In respect of railway system, the total length of railway track is about 200 kms having 12 number of sidings and 17 open terminals about 28.81 million tones of cargo moved by port railways.

**Traffic:**

The Port of Visakhapatnam handled 56.39 million tones of traffic of which maximum proportion 49.53 % are imports followed by exports (42.25 %) and transshipment cargo (58.21 %). Similarly, quantum of cargo about 38.53 million tonnes handled to overseas and remaining quantum handled to coastal (17.86 million tonnes). In respect of nature of the cargo, maximum quantum of cargo about 34.89 million tonnes (61.87 %) is dry bulk followed by liquid bulk (33.76 %) and break bulk containers (4.37 %). Regarding commodity wise traffic, out of 558.01 lakh tonnes, maximum quantum of cargo about 168.42 million tonnes handled by Port is POL products (30.36 %) followed by iron-ore and pellets (26.65 %) cocking coal and Lam coke (13.4 %) and others (13.94 %) thermal coal (4.83 %) and fertilizers (4.11 %)\(^\text{137}\).

**Major Players of the Port:**

Maximum quantum of cargo about 6222 thousand tonnes handled to reach the port from Australia (24.87 %) followed by Malaysia (9.45 %), Saudi Arabia (8.69 %),

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\(^\text{137}\) Ibid. pp. 43 – 48.
UAE (8.30 %), Indonesia (6.86 %) and Russia (6.42 %). Similarly, the maximum quantum of cargo about 5362 thousand tonnes reached to the Port from China (46.01 %) followed by Japan (17.38 %) and Singapore (13.12 %).

**Income:**

The total income of the Port is about ₹ 55467.61 lakhs of which maximum income about ₹ 27197.52 lakhs (49.03 %) coming from cargo handling and storage followed by Port and Dock facilities (29.32 %) and railway working (12.69 %).

**Expenditure:**

The total expenditure of the Port is about ₹36685.90 lakhs of which maximum amount of expenditure ₹6934.65 lakhs reported towards cargo handling and storage (18.90 %) followed by management and administrative expenses (17.14 %) Port and Dock facilities (15.85 %) and Railways (9.78 %).

**Human Resource / Labour:**

The total employment of the Port Trust and Dock Labour Board is about 6531 of the total maximum number of employers are Class – III (3201) followed by Class – IV (1857), Class – I (200) and Class – II (148). Further, there are 966 registered workers and 159 are listed workers. The percentage share of cargo workers is about 54.10 %.
Regarding training programmes, about 215 training programmes were conducted by Human Resource Development Center. The number of persons trained was 3152 of which maximum number about 1314 are ministerial staff (41.69 %) followed by workers (33.66 %), supervisors (14.18 %) and officers (9.30 %)\footnote{Ibid. pp. 62 – 64.}.

**Welfare Measures:**

**Health:**

The health organisations of Port are: Golden Jubilee Hospital, Port area dispensary, SS Nagar dispensary, Saligramapuram dispensary, Malkapuram dispensary and China Mushidiwada dispensary are providing medical facilities to the employees. The facilities and the services available in the health institutions are 100 bed hospital is equipped with a complete range of medical instrument and equipment for diagnosis and treatment of Port personnel. Special clinics for medical, surgical, Gaenic, Ortho, ENT, ophthalmic, pediatrics and skin are functioning, the hospitals provide diagnostic services like clinical and bio-chemical laboratory radiology with MA X-ray plant, Ultra sound scanner, Tredmitt and ECG. About 29 doctors and 17 visiting consultant doctors from different disciplines are available to attend on the patients. In addition a well baby clinic for immunization of children against polio, BPT, mearles function on every Wednesday and Saturday. AIDS cells, intensive care unit,
twin air conditioned operation theatres with special equipment are functioning in the hospital.

Medical facilities are also extended to retired employers, CISF personnel and dependents and staff working in Port schools and colleges, super specialty treatment provided to the employees at specialized corporate hospitals. Branch Dispensaries exists at all residential colonies near Dock area to cater to the medical services to the employees and workers and their children. Besides this, first aid centres are also attending and providing spot medical services.

**Education:**

There are about 3 primary schools, 3 high schools and 1 college are operating by Port. In addition 1 primary school and 1 high school is managed by municipal corporation in the buildings provided by the Visakhapatnam Port Trust. The total enrolment of the Port educational institutions are about 3342. About 68 teachers and 23 non teaching staff are working in these organizations.

**Housing:**

The number of quarters allotted to the port persons is about 1559. In addition quarters of different residential localities were also provided to CISF, Police, Audit, Municipal Corporation, Light Houses, Survey,
Dock safety, Postal, Port primary school and telecommunication.

**Sports and Games:**

The Port Trust have number of playgrounds, stadiums, function halls, recreations halls, theatres and auditoriums.

**Future Plans for Expansion and Development of Visakhapatnam Port Trust**

The future target of the traffic handle by Port will be 80 million tones by 2012 – 13. The estimated cost of all the developmental projects is just will be ₹ 3360 crores. The major expansion and developmental activities to reach the target are as follows: Visakhapatnam Port Trust had signed an agreement with Japan Bank for International Co-operation (JBIC) for expansion of the ore berths in the outer harbour. JBIC would provide ₹ 185 crore for strengthening, expansion and deepening the ore berth to handle 32 lakh DWT vessels having a draught of 18.1 meters. Also, three more berths would be constructed at the inner harbour, i.e. WQ – 8 with internal resources and EQ – 10 and WQ – 6 berths under BOT programme. Visakhapatnam Port Trust also planned to acquire two harbour mobile cranes, he revealed.

**Deepening of Channels:**

Phase – I deepening of the entrance channel and
turning circle of inner harbour to facilitate navigation of 11 meters, draft vessels under progress. Phase – II deepening of inner harbour to handle panamax vessels upto 14 meters daft will be taken (expected date of completion – December 2007). Deepening and strengthening of ore berth to cater to 200000 DWT vessels will be taken up in 2008–09.

**Strengthening of existing berths:**

4 berths viz., EQ – 7, WQ – 1 to WQ – 3 are proposed to be strengthened and deepened to facilitate panama 12.5 meters draft in 2007 – 08. 2 berths WQ – 1 and WQ – 2 are being strengthen to cater 11 meters draft vessels. 2 berths WQ – 4 and WQ – 5 which were built during 1930s are proposed to be upgraded to 14 meters draft. Proposal to construct WQ – 8 berth and install mechanised ship shore loading facilities for export of alumina 2008 – 09. Installation of mechanized facilities at WQ – 7 berth for exports of alumina is planned in 2007 – 09. Installation of integrated mechanized handling facility for ship shore discharge and loading into wagons berth is planned during 2008 – 09. Upgradation of iron – ore handling facilities at outer harbour during 2009 – 10 at a cost of 190 crores is under construction.

**Construction of new berths under PPP:**

One multipurpose berth WQ – 6 to cater to 14 meters draft vessels is planned under BOT (2006 – 07) One berth EQ – 10 for caustic soda on BOT (2007 -08).
**Logistic improvements:**

Additional link road connecting to National Highway with the operational area is under construction as with National Highways Authority of India is expected to be commissioned by September 2006. Improvement to internal road net work in the operational area by constructing road flyovers, 4 lane road of existing roads, provision of additional aces to National Highway – 5 etc at an estimated cost of ₹ 2490 crores planned. 2 transit sheds of 4350 sq meters is under construction (Anticipated date of completion – September, 2008). 4 Nos. open storage sheds of 20730 sq. meters will be provided by June 2008. Development of stacking area at east yard dumps close to the outer harbour area has been taken up. Procurement of additional tugs and replacement of cranes. Replacement of tugs / floating crafts / locos. Revamping and strengthening of rail connectivity. The most prestigious project coming up at Visakhapatnam Port trust is development of LPG cavern facility – fist of its kind is being developed by South Asia LLPG Co Limited a JV between HPCL and total and envisages mined root depth of 162 meters below sea level with a capacity to store 60000 tonnes of LPG. This project is completed by September 2007\(^{139}\).

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**Conclusion:**

The construction of Port commences from 1927 onwards and reached its zenith as top ranking port in India and most preferred port in South Asia from the year 1960. Further the Port has acted backbone of the Port trust brought structural changes in the Visakhapatnam city in respect of city growth, socio-economic conditions, industrialization and infrastructure development over the period. Apart from this the future expansion and developmental activities of the Port are further contributed to intensive changes in the city and its environs. Hence, there is a paramount need to develop comprehensive plan not only to monitor and management of Port activities but also streamline the activities in more eco-friendly and optimum manner in the existing and future scenario. At this juncture, the study of the historical development of Port and its impact studies gain tremendous importance in decision making and preparation of developmental plans in various spheres. Keeping the above aspects under consideration the study analysed the historical developments of the Visakhapatnam Port Trust. The details of the study are historical development of the Port trust was presented in chapter IV succeeding chapter.