Chapter – II

REVIEW OF LITERATURE

The discussions in the earlier chapter indicate that ports are playing very pivotal role in the process of economic development in any region. Hence, several scholars from various faculties such as History, Public Administration, Economics, Geography, Transport Studies, Commerce and Management Studies, Civil and Environmental Engineering are carried out research in various aspects such as historical perspective of ports, evolution of ports, evaluation of port development, city development, economic development and hinterland developments, etc. The main objective of the study is historical perspective of port development. Keeping the above aspects under consideration, the study reviewed studies pertaining to management, evolution, historical and economic developments of the ports and the details are of the study as follows:

Review of Earlier Studies Pertaining to Historical Development of Ports:

The studies of Gates W.G.\textsuperscript{56} 1931, Soloman R.J.\textsuperscript{57} 1963, Sandford, RA.\textsuperscript{58} 1964, Elliort N.R.\textsuperscript{59} 1966, Rimmer, 1963, Chaspentier, pp. 19 – 25.

\textsuperscript{57} Soloman R J (1963): Four stages in port evolution: The case of Habart, Economic and Social Geography, 54, pp. 159 – 69.
The study of Gates is critically examined Port mouth role played in the developments attain since inception of the port over the period. The study assessed the expansion and growth of the port in, chronological order. Moreover, the study concludes that port economy is formed as base for the development of the Port and also point out that the regional development process is continued for centuries. Similarly, the study of Solman envisages that Port evolution can be categorized into 4

stages such as Prior, before port construction), Present (Construction stage), Post (after establishment) and future (anticipated development) based on the port mouth port development process. Further, the study worked out economic and regional benefits derived due to Port in respect of employment, city development investment, indirect and direct developments, in the above mentioned stages etc. Elliot study discussed that the role of functional approach in determination of Port development in different countries. Moreover, the study suggested chronological frame for various port activities such as evolution, infrastructure development, expansion activities, trade activities, welfare facilities, etc in the Port areas and also in their hinterlands over the period.

Rimmer study portrays that to determined the status of port based on historical developments of the Ports in different regions. Further the study indicates the method of comparison evolution of different ports. Besides this, the study find out deficiencies in the development of various activities such as infrastructure, management, dredging, ware housing, tariffs, etc. Similarly, the study of Hilling assessed the evolution of the major ports of West Africa and also critically examined role played by ports in economic development of the West Africa. Moreover, the study evaluated the networking among major ports of West Africa and also determined the origin and growth pattern of the port
activities in the West Africa. Evans is also assessed the historical change, in respect of technology in the ports in different countries participating in Lentels construction, vessel designs, improvement in storage facilities, changes in the traffic handling facilities over the period. Moreover, the study analysed the social change taken place in respect of income levels, development of service activities, changes in the living conditions etc in and around port regions in the world. The study of Sandford is assessed the port improvements in developing countries such as growth in infrastructural facilities, revenue earned, expansion of the port activities over the period. Besides this, the study analysed the development tanked place in and around port regions also particularly in the developing countries. Moreover, the study suggests measures to effective functioning of the ports. Reeves study portrays that the evaluation of functional activities of the ports in different regions in respect of Cargo handling, berth development, administration, changes in the functional efficiency of the ports over the period. Similarly, the study of Freeman et. al. is critically examined the port developments taken place over the period. Moreover, the study establish relationship in between port development and its city growth over the period for mile port region.

Chapman is critically examined the land use changes taken place in the evolution of the port
particularly in the hinterland regions such as conversion of agriculture lands into port activity regions, socio-economic changes taken place in between port region and their hinterland. Similarly, Nor Cliffee is analysed the industrial development attain due to port development in various port cities over the period. Moreover, the study suggested measures for the stimulate industrial growth in optimum manner. Frawley is analysed the development of Hong Kong port since inception. Moreover, the study analysed evolution of Hongkong port and also determined the factors contribution to turnout the economic hub for the country over the period. The study is also conclude that the importance of the port activities is unmeasurable. In the economies of the countries. Amar Chakravarth is also analysed the historical evolution of the port sector in India in different five year plans. Moreover, the study is also stressed the need for the modernization of ports to meet the existing and future demands. Besides this, the study pointed out to give top priority for the development of major and minor ports exist both in West and East Coast regions of the India.

**Review of Earlier Studies pertaining to Port Developments:**

Holubowitz, R.P.\(^{69}\) 1967, UNCTAD\(^{70}\) 1969, Regul,


and small ports development, modernization of the ports, privatization aspects in varied situations.

The study of Holubowitz is analysed the transport integration in between port, road and railways in and around ports and also in their hinterlands in UK. Moreover, the study determined the quantum of cargo movements from various destinations to the port. Further, the study suggested various packages for the reduction of transport costs, travel time, transshipment changes. Similarly, the study of UNCTAD is assessed the status of the operations of the port is related to the accessibility of the facilities in the ports in different regions of the world. Moreover, the study suggested measures for the utilization of the facilities in the optimum manner. Regul study discussed past and future development potentials of the maritime transport of different ports in western Europe. Further, the study also determined the required harbour facilities to meet the future demands in respective regions in short and long term perspectives. Bird study envisages that the services offered by sea port and sea transport terminals since inception particularly in handling of cargo, storage facilities, equipment access, tariffs, managerial systems etc. in different ports in different regions. Moreover, the study conclude that there is a paramount need to modernize the seaports and terminals to meet the future demands and also to improve the efficiency of the services
of the sea ports and terminals. Couper is analysed the conditions to networking of sea ports along with benefits derived from the network of the sea ports. Further, the study is suggested a framework to networking of sea ports to derive optimum benefits in the existing and future scenario. Similarly, the study of Ogundana is analysed the sea development in West Africa over the period with the multination cooperation in west Africa. Further, the study analysed the contribution of multinational cooperation in sea port development over the period. Bertilin is analysed the port development over the period in East African countries since their inceptions. Besides, this, the study analysed the regional development attain due to port developments over the period.

Winkleman is discussed the importance of the smaller sea ports in the existing and future scenario in Benclue region. Further, the study determined the benefits derived from smaller sea ports in short and long term perspectives. Vital study is worked out advantages attain by export processing zones in different ports of Asia. Moreover, the study discussed the approaches to develop export processing zone in appropriate manner. Sabkalatar Bahna is measured the efficiency of Indian ports in respect of occupancy rates of berths, Cargo Handling Operations, revenue earned, levels of the utilization of the infrastructural facilities. Moreover, the
study suggested measures to improve the efficiency of the ports through development of appropriate infrastructure in short and long term perspectives.

Raja Sekhar Murthy study is emphasized the importance to modernization of Indian Ports in short and long term perspectives. Further, the study is given framework to modernize facilities in the ports such as berths, equipment, infrastructural facilities to improve the capacities of the ports. Similarly, the study of Vasudevan is stressed the need for the development of hub ports 'to network of the major and minor ports both in East and West coast region of the India. Further, the study suggested strategies for the acquisition of funds, technical know-how, involvement of privatization in appropriate manner to keep working of the ports along with the development approaches. Ramakrishna is assessed the scope for the involvement of privatization of the ports. Moreover, the study is identified the areas to be involve privatization both foreign and Indian investments of the India in the ports sector. Similarly, the study of Ramakrishnan is assessed the need for the development of minor ports in Indian shipping. Moreover, the study is traced out benefits derived from minor ports in short and long term perspectives. Economic survey is also envisages the need for the development of Indian ports in the wake of Globalisation and Liberalisation. Moreover, the study determined the benefits derived from development of
ports particularly reduction in transport cost, travel time, indirect and direct advantages attain in and around ports at grassroots levels in short and long term perspectives,

**Review of earlier Studies pertaining to Economic Development:**


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89 Vlefgles, R. (1967): The Industrialization of port areas with the vial reference to the port of Antwerp, p. 11-18.
1970, Robinson R\textsuperscript{95} 1970, Daniel J.B.M.C.L. and Pollock N.C.\textsuperscript{96} 1970, Klasser L.H and Vanhove, N.\textsuperscript{97} 1970, Hoyle B.S.\textsuperscript{98} 1970, E.E. Pollock\textsuperscript{99} 1971, Pinder, D.H. and Witherick, N.E,\textsuperscript{100} 1971, P. Hanappe\textsuperscript{101} 1971, Hoyle, B.S.\textsuperscript{102} 1972, Pollock, E.E.\textsuperscript{103} 1973, Takel, R.E.\textsuperscript{104} 1974, Stevenson and Kellogg LTD\textsuperscript{105} 1975, P. Mingret\textsuperscript{106} 1976, Vigarie, A.\textsuperscript{107} 1977, Maritime Administration\textsuperscript{108} 1978,

\textsuperscript{94} Mournt joy (1970): Planning and Industrial Developments in Eastern Sicily, Geography 55(4) pp. 441-44.
\textsuperscript{101} P. Hanappe (1971): Industrial development around port levie, urban No. 182, p. 48-127.
\textsuperscript{102} Hoyle B.s. (1972): The port function in the urban development of Tropical Africa, Lacoissance urbanie, pp. 705-18.
\textsuperscript{105} Stevenson and Kellogg Ltd. (1975): Port of Vancouver economic impact study, vanconver, National Harbour board, pp. 8-15.
Korvitz, W. 109 1978, Bird. J.H. 110 1978, Paul Hanappe and Michael Savy 111 1980, N.D. Sankar 112 1993 and Ajay Chatterjee 113 2002 are assessed the economic aspects of the Port developments such as hinter land development, development of industrial activities in and around ports, investments of the ports, economics of the ports, contribution of ports to the economy, ports influence on the city development, profitability of ports, etc in different ports in different regions.

The study of Weigend is assessed the spread of hinter land of the Port Hamburg based on Launch theory. Moreover, the study identified problems faced in hinter lands particularly linkages of different modes of transport, accessibility of transport modes to cargo movement, changes in the quantum of cargo over the period. Similarly, the study of Svendsen is critically examined the economics of the sea transport such as

price, operational cost of the ports, etc. Further, the study traced out variations in the expenditures and income among ports. Omtvedt is assessed the port investments patterns over the period. Further, the study worked out profitability of the various ports. Moreover, the study traced out relationship between capacity utilization of the ports and profitability over the period. Besides this the study derived optimum relationship between income and expenditure. Price study envisages that several quantitative approaches applied to determine the optimum limit of expenditure and income. Moreover, the study suggested several indicators to determine the break even points in various demerges transshipment of clearance charges of the various ports. Moreover, the study discussed the several applied logistic models to derive optimum transport costs. Maritime administration study is critically examined growth of port sector and its contribution to the U.S. economy. Moreover, the study determined the existing status of the port sector along with measures for the improvement of the status of port in short and long term perspectives.

Vlengels study is discussed economic impact of the ports of Antwerp in and around port region and also their hinterland region. Moreover, the study analyzed to attain industrial development due to ports over the period. Besides, the study determined the direct and indirect
benefits attain from industrial development in their influenced regions over the period. Similarly Vlengens assessed the industrial development generated by individual ports such as port of Antrap on similar lines. He also carried out indepth study to determined the industrial structure and growth of the port of Antwerp. Moreover, the study analysed the categories of the industries developed in the Antwerp region. The study concluded that export and import oriented industries are clustered in and around port region over the period. Forgarty is critically examined the land life patterns of the port over the period. Moreover the study traced out need for special requirements for the allotment of land cargo berths particularly both storage facilities, transport linkages in short and long term perspectives. Similarly, the study of Hoyle is assessed the origin and growth of the port activities of mersilles over the period. Moreover, the study established relationship between growth expansion activities of the port and growth of industrial development over the period. Stevenson is also assessed the impact of port Vancouver on economic development over the period. Further, the study determined the quantum of investments attracted, entrepreneurial development, employment generation over the period. Michael Savy is critically examined the economic transformations taken place due to ports over the period particularly in development of industrial zones, modifications III industrial locations, changes in the
transportation networks, etc.

Kanvitz is critically examined the relationship between port expansions and city growth over the period. Moreover, the study suggest effective land use and city development plans to allocate zones for the ports and its allied activities and also for residential and related services in short and long term perspectives. Bird study envisages that the role played by the ports in short and long term perspective. Further, the study suggested integrated framework to meet the future requirements of the sea ports particularly in European Communities. Vigarie is suggested a spatial model plan for port city particularly to the metropolies of the lower-horie. Moreover, the study suggested several land use control measures for the allocation of lands for different purposes. N.D. Sankar is assessed safety systems executed in and around port regions. Moreover, the study suggested several safety measures, particularly for the storage and handling of hazardous materials. Similarly, the study of Ajay Chatterjee is suggested several safety managerial systems in monitor safety systems particularly to the ports.
Review of Earlier Studies Pertaining to Empirical Aspects:

Bennett W.J. and Cole J.P.\textsuperscript{114} 1958, Morgan, F.W.\textsuperscript{115} 1966, Sibley, M.M.\textsuperscript{116} 1968, National Council of Applied Economic Research\textsuperscript{117} 1963, Hilling D.\textsuperscript{118} 1966, Hedden, W.P.\textsuperscript{119} 1967, Schenker E.\textsuperscript{120} 1967, Forward C.N.\textsuperscript{121} 1969, Hilling D.\textsuperscript{122} 1970, Mondjannagni, A.\textsuperscript{123} 1970, Naylan, J.\textsuperscript{124} 1972, Hilling, D.\textsuperscript{125} 1975, Weide, B.\textsuperscript{126} 1978, Kinsely,  

\textsuperscript{114} Bennett W.J. and Cole J.P. (1958): Three English Naval Dock Yards towns, Economics and Social Geography 49, pp. 29-34.  
\textsuperscript{115} Morgan, F.W. (1960): Port hinterlands : The case of New Orleans, University of Maryland, pp. 11-19.  
\textsuperscript{120} Schenker. E. (1967): The port of Milwaukee, University of Wiscansin Press, pp. 6-11.  
\textsuperscript{124} Naylan. J. (1972): A challenge to the rock - the campode Gibrattrar development plan, Geography j. 57(1) pp. 1-9.  
J, 1979 and Jawaharlal Nehru Port Authority 1995 are assessed development of dockyard towns and hinterlands; historical development of ports, expansion and growth activities of the ports, development and modernization aspects based on empirical situation.

The study of Bennett W.J. and Cole is assessed the development of three naval dockyard towns in England over the period. Moreover, the study traced out unique characteristics in respect of city and hinterland developments particularly in land use changes, development of specialized vertles, transport linkages. Similarly, the study of Morgan is critically examined the changes in the areal extent of hinterlands in relation to port expansion activities over the period. Besides this, the study assessed changes in the quantum of cargo movements from the various origin and destinations in the hinterland region of New Orleans. Sibley study envisages the historical development of port of Houston in respect of origin and growth of the port, provision of infrastructural facilities, cargo handling aspects, managerial systems, investments, aspects. National Council of Applied Economic Research is analysed the development of Paradeep port since inception in respect

of evolution of the port establishments and their impact on city growth, land uses, service and industrial activities over the period. Hilling study portrays that geographical spread and evolution of the New Port over the period. Moreover, the study analysed the land use changes over the period, increase in number of berths, development of new railway lines, increase in cargo movements, impact of the port on city developments over the period.

Hedden is analysed the developmental activities created in different ports. Moreover, the study concludes that the direct and indirect developments generated by port are significantly contribute to city growth spatially and physically and it become continuous phenomena. Similarly, the Schenker is also analysed the similar manner in respect of party Milwauke forward study highlighted the land uses particularly in water front in fair Canadian ports. Moreover, the rapid changes are taken place in respect of platforms, berths, break waters, Jettis construction, while the transportation related developments such as roads, railway lines, terminal centres and ware houses open yards, special economic zone etc are found in and around ports under land different. Hilling is assessed port development and its associated economic growth in Ghana over the period. Moreover, the study conclude that the port cities are growing rapidly and generate higher level employment and also attract huge investments. Further, the study
developed a model plan for healthy growth of the port cities. Mandajannagni study identified several problems arised in various sphere particularly in environmental side (air water sound and dust pollution) in Sahancy region. Moreover, the study suggested measures for the mitigation of various categories of pollution at grassroots levels.

The study of Nylan is also worked in similar lines in Gibraltar region. Hilling is examined levels of the utilization of specialized facilities such as berths, warehouses, cargo handling equipment in the port of Ghana. Moreover, the study measured the efficiency of the specialized facilities of the port. Weide is critically examined the development of port gotten burg over the period.

Further, the study analysed the growth pattern of the port based industrial and service activities in and around port over the period. Based on the past and present trends of the port developments, the study prepared a city and port development plan to meet the future demands of the port in short and long term perspective. Kinsey is critically assessed the contribution of liver pool port particularly in the city development since inception. Moreover, the study conclude that port cities are originate from small village to megapoles regions. Jawaharlal Nehru Port authority is analysed the
port evolution of the port over the period. Besides this, the study pointed out the need for the modernization of Indian ports to meet the growing demands in the wake of globalization and liberalization economies. Moreover, the study identified areas such as creation of additional berths, enhancement of cargo handling capacities; development of additional terminals, modernization of road and railway transport, and other related infrastructural facilities.

The above mentioned review envisages the importance of the historical development of the ports became vital area not only useful to assess the growth of activities in and around port cities over the period but also this kind of studies provide strong based to achieve healthy growth in short and long term perspectives. Further, this kind of studies particularly, in India is very scanty. Hence an attempt is made in this study to assess the historical development of the port of Visakhapatnam and its impact on city growth in short and long term perspective. The details are presented in the succeeding chapters.