

**MARITIME ECONOMIC HISTORY OF
KRISHNAPATNAM AND DUGARAJAPATNAM PORTS**

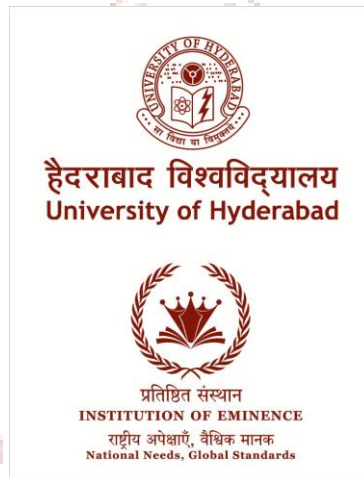
A THESIS SUBMITTED TO THE UNIVERSITY OF HYDERABAD IN
PARTIAL FULFILLMENT OF THE
AWARD OF THE DEGREE OF

**DOCTOR OF PHILOSOPHY
IN
REGIONAL STUDIES**

by

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DECLARATION

I, Poornima Nannam (Regd. No. 11SRPH03) hereby declare that this thesis entitled "MARITIME ECONOMIC HISTORY OF KRISHNAPATNAM AND DUGARAJAPATNAM PORTS" submitted by me under the guidance and supervision of Dr. Arvind S. Susarla and Co-supervision of Prof. Sanjay Subodh is a bonafide research work, which is also free from plagiarism. I also declare that it has not been submitted previously in part or in full to this University or any other University or Institution for the award of any degree or diploma. I hereby agree that my thesis can be deposited in Shodhganga/ INFLIBNET.

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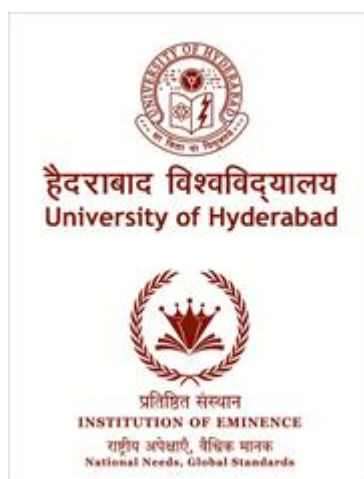
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CERTIFICATE

This is to certify that the thesis entitled MARITIME ECONOMIC HISTORY OF KRISHNAPATNAM AND DUGARAJAPATNAM PORTS submitted by Poornima Nannam bearing Registration number 11SRPH03 in partial fulfilment of the requirements for award of Doctor of Philosophy in the School of Social Sciences (Centre for Regional Studies) is a bonafide work carried out by her under my supervision and guidance.

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1. Article titled “Does Port evolution lead to Urbanization? A study on Krishnapatnam port (Historiography and Maritime History)” presented at the 36th Annual Session of South Indian History Congress, held at Puducherry, 4-6 March. 2016. Published in Proceedings of South Indian History Congress. ISSN 2229-3671. p.no: 1136-1140.
2. Research Article titled “WHAT MAKES A PLACE TO BE APORT? A CASE STUDY OF ARMAGAON PORT” published in Sambodhi :

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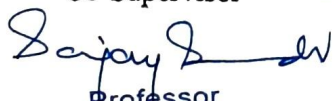
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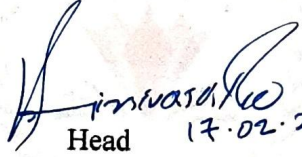
1. A paper presentation on "Revival of Historical Port: A case study of Krishnapatnam port", held at Srisailam, Jan. 31st and Feb.1st & 2nd, 39th Annual session of Andhra Pradesh History Congress, 2015.(State/National)
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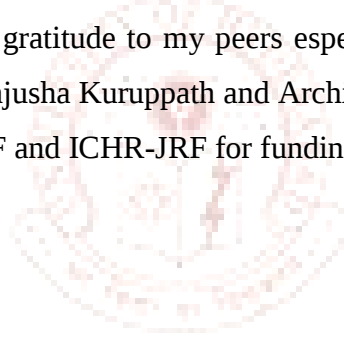
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Contents

Maritime Economic History of Krishnapatnam and Dugarajapatnam Ports	6
Chapter I.....	7
Introduction	7
Chapter 1.....	8
Introduction	8
Review of Literature.....	12
Broad Research Questions.....	13
Hypothesis.....	13
Methods.....	13
Scope of the Study	14
Methodology:.....	15
Field Visits	16
Field Trips to Krishnapatnam Port: 2011-2016	16
Field Trips to Dugarajapatnam Port: 2011-2016.....	18
Excerpts:.....	19
Excerpts from My M.Phil Thesis titled A Study of Krishnapatnam Port from Medieval Times till 2010 in terms of Trade and Commerce	19
Visits to Archives	20
Tamil Nadu State Archives (TNSA), Egmore, Chennai, Tamil Nadu	20
Tamil Nadu State Archives Report:	22
Tamil Valarchi Valagam.....	22
Connemera Public Library	23
Government Oriental Manuscript Library and Research Centre	23
Andhra Pradesh State Archives (APSA), Tarnaka, Hyderabad, Telangana	24
Review of Literature:.....	27
First section: Historiography, Theory and Methods	27
Second section: Background and worldview	31
Third section: Thematic and core research related review of literature	36
Chapterisation:.....	52
Chapter 2.....	54
Approaches	54
Chapter 2.....	55

Approaches	55
Discourses	55
The shape of society is influenced by port:	56
External factors determine the port:	56
Port factors are interdependent on each other:	56
Definitions:	57
Port:	57
Hinterland:	57
Concepts and categorization	58
Categorization of the Ports:	58
Ports and Harbours	60
Harbour:	61
Smart Port vs. Container Port	62
Deep Sea Port vs. Shoal	62
Shoal.....	63
Roadstead, Entrepot, and Outpost	64
Road Stead:	64
Entrepot:	64
Outpost:	64
Port Theories.....	65
Monsoons	67
Monsoon Impact:	67
Coast of the Coromandel	68
Etymology:	68
Climate of the Coromandel Coast:	68
Flora:	68
History of the Coromandel Coast:	69
Light House:	71
Historical Approach:	71
Buckingham Canal.....	71
Chapter 3.....	73
Historical Evidences of Krishnapatnam and Dugarajapatnam Ports	73
Chapter 3.....	74
Historical Evidences of Krishnapatnam and Dugarajapatnam Ports	74

Historical Antecedents.....	75
Krishnapatnam Port	77
Report of the Field Trip to Krishnapatnam Port in 2016.....	81
Dugarajapatnam Port:.....	83
Textual references to Armagaon include:.....	86
Report of the Field Trip to Dugarajapatnam Port in 2016	88
The Decline of Maritime Trade in the 18th Century	89
Assessment	91
Chapter 4.....	101
Evolution of Krishnapatnam and Dugarajapatnam Ports	101
Chapter 4.....	102
Evolution of Krishnapatnam and Dugarajapatnam Ports	102
Course of Evolution and Decline of Krishnapatnam Port	102
Vereenigde Oostindische Compagnie (V.O.C.) or Dutch East India Company.....	111
References to Krishnapatnam Port in Chronological Order	114
Fisheries at the Krishnapatnam Port.....	120
Krishnapatnam Port in Contemporary Times	121
Projects in Progress at Krishnapatnam Port and Its Development for Trade and Commerce	122
World-Class Port Facilities of the Next Generation	124
Road Connectivity	124
Rail Link from Krishnapatnam Port to the Kolkata Main Line.....	125
Public-Private Partnership (PPP): A New Trend in a Democratic Nation State	125
About PPP Cell, DEA, Ministry of Finance	126
BOST Policy.....	126
Look East/Act East Policy	127
Relations with East Asian Nations:.....	128
Assessment:	130
Act East Policy:	131
A Maritime-Oriented Look East Policy:.....	131
Concepts and definitions that are used with regard to Krishnapatnam Port.....	132
Backwaters:.....	132
Hinterland:	132
Temples as Banks:	133
Conclusion.....	134

References and Evolution of Dugarajupatnam Port	136
The Existence, Evolution, Decline, and Re-Emergence of Dugarajapatnam Port.....	139
Summary of Recent studies on Maritime Economic history of Krishnapatnam and Durgarajapatnam Ports.....	141
Chapter 5.....	143
Conclusion.....	143
Chapter 5.....	144
Conclusion.....	144
References	152
Primary Sources:	152
Secondary Sources:	152
Articles:	156
Appendix	157

LIST OF TABLE

Table No.	Name of the Table	Page No
Table No 1	Foreign travellers who visited India: 1024-1695 A.D.	157

LIST OF MAPS

Map No.	Name of the Map	Page No.
Map No 1	Weaving Areas of Textiles for Exports	95
Map No 2	Weaving and Market Towns and Domestic Trading Routes	96
Map No 3	Major Inland Trading Arteries	97
Map No 4	Ports of Coromandel Coast Southern Pennar River	98
Map No 5	Specific Location of Krishnapatnam Port on Upputeru River, Nellore	135
Map No 6	Krishnapatnam port company limited area	170

LIST OF IMAGES

Image No.	Name of the Image	Page No.
Image No 1	Dugarajapatnam Old Light House	99
Image No 2	Dugarajapatnam Present Light House	100
Image No 3	Nellore Map at TNSA, Egmore , T.N	162
Image No 4	Nellore District Inscriptions : Krishnapatnam-1	162
Image No 5	Krishnapatnam Inscriptions -2	163
Image No 6	Armagaon	164
Image No 7	Dugarajapatnam	165
Image No 8	Krishnapatnam port Image taken from BHUVAN :06-02-2023 2D Image	166
Image No 9	Krishnapatnam Port on 06-02-2023 from BHUVAN 3D Image	167
Image No 10	The Travels of Marco Polo	168
Image No 11	Dugarajapatnam port area 2015	168
Image No 12	Dugarajapatnam Port dated: Oct.2015	169
Image No 13	Archaeological Survey of India. New Delhi	171

Maritime Economic History of Krishnapatnam and Dugarajapatnam Ports

Chapter I

Introduction

Chapter 1

Introduction

Maritime history of ports and trade has been gaining importance in recent decades hence maritime economic history of ports, ports history and urban development of the country. The cost-effectiveness of technology and its affordability compared to other modes of transportation, the ability to predict monsoons, bulk cargo trade, less human intervention and artificial intelligence are the main drivers of this significant rise in the maritime trade in the recent past. That was demonstrated by even the eruption of COVID-19. The only significant commerce method used to move commodities and necessities, such as people and medicines, during the Covid-19 pandemic was marine trade. Due to less human interventions, bulk cargo trade, and advanced technology, maritime trade has risen significantly throughout crises.

Post-independence the Government of India has been focusing on developing ports to utilise the longest coast of line of India to multiply the trade relations with other countries and strengthening India's position in the globe. Hence lot of focus on the development of ports and revival of old ports. Revival of old ports proves that the better trading items, long existing trade network and easy path. Study of Ports proves and helps to revive.

Megasthenes's mention of municipal committees in Pataliputra that dealt with foreigners makes it quite clear that numerous Greeks had gone to the capital of the Mauryans, probably for trade. During the reign of Emperor Chandragupta Maurya, the marine trade was organised, taxed, and subject to safety regulations, according to the Arthashastra of Kautilya. This suggests the existence of ports managed by the state. Later, for about a century, the ephemeral maritime empire of the Sailendras was ruled by the imperial Cholas, particularly Rajaraja - I and Rajendra. They would have needed appropriate ports from which to embark, as well as possibly functional shipbuilding and ship repair facilities¹. According to Sangam literature, Tamilagam boasts a large number of ports, some of which were well-known worldwide for welcoming foreign commerce.

The reference of tsunamis and natural calamities were mentioned in ancient literature. And also reveals the endanger nature of island countries for tidal waves and tsunamis. This paragraph gives the direct Indian maritime trade connections with East Asian countries. Tidal waves and tsunamis may have changed the face of India's east coast and many ancient ports might have been swamped by them, but Sumatra and Java and Bali, Thailand and the Nations of Indo-China, and the lands further east, still retain the relics of Indian settlements and culture that could only have been brought there by maritime power. Sculptures of Borobudur (Java) reveal the high water mark which Indian shipbuilders reached in ancient times. The two goods that Bindusara requested from his Seleucid counterpart were sweet wine and figs. By building ports like Berenice and Myos-hormos, the Ptolemaic kings attempted to encourage direct maritime trade between Egypt and India, but the all-sea route had not gained much traction. Strabo claims that very few people would have taken this voyage for trade with the Indies during the Ptolemaic era. India and Egypt first had regular naval interaction after 23 B.C. Indian traders first appeared in Egypt before sailing directly to the ports of Somalia. According to an inscription discovered in Redesiya (Egypt), an Indian merchant named Sophon travelled to Coptos via the caravan route (Egypt). In one season, over 120 ships went towards India from the seaport of Myos-hormos alone, according to Strabo. Some of the traders even made it to the Ganges' mouth.

¹ Muthaiah, S., and Narasaiah, K.R.A., *"Overcoming Challenge (The 125 Year Saga Of A Harbour Men made)"*, Chennai 600001, Port Trust Of Chennai, 2007. P.no: 10-11.

There were ups and downs in every period of time. But sometimes political, social and economic connections give us an account of religious and cultural exchange and expansion across the globe. The expansion of India's trading ties with the nations of South East Asia coincided with the fall of her trade with Rome.

Indians travelled to these nations mainly for trade. Archaeological evidence suggests that Virapattanam served as a hub. During the old Han Dynasty, whose chronicles describe an expedition to Huang-che (Kanchi), direct Indian contact with China may have been established. H.B. Sarkar (1986) says that “the beginning that 250 B.C. was the Asokan era and seems to be India’s contact with the South East Asia”

Numerous literary allusions and imperial coinage from this era show that both domestic and international trade in India reached remarkable heights during the Gupta Empire. The Chinese pilgrims provide evidence of frequent trade between Tamralipti (South Bengal), Indonesia, and Indo-China between the 4th and 7th centuries.

Pliny mentions that their favourable trade balance led to the establishment of a gold standard in India. The gold coins that Wima Khadphises and his successors produced were identical to the Roman solidus and denarius in terms of their size, weight, form, and mineral composition. People living along the Coromandel Coast traded goods with South Asia.

The Satavahana inscriptions from the post-Mauryan era demonstrate the existence of guilds that served as banks in western India at that time. According to one inscription, the oil pressers' guild (Tailakanikaya) got two set deposit payments. The enormous sacrificial fees (dakshina) that Queen Naganika paid upon the fulfilment of several Vedic ceremonies indicate economic success that depended on maritime trade.

The Gupta era's economic structure served as a template for later history. Nevertheless, the temporary decline of the Gupta and Roman empires had an impact on Indian trade and

industry. Few, degraded, and unrefined Post-Gupta coins indicate a severe deterioration in the nation's economy. However, there was a search for new markets. It's possible that Harsha's missions to China were not solely political in nature. South Asia was actively engaged in marine trade with the Pallavas and later the Cholas. According to the proto-Bengali script inscriptions from Kambuja and the Nalanda copper plate from Devapala's year 39, the Palas did not fall behind. The prosperous Pala, Rashtrakuta, and Gurjara-Pratihara kingdoms are extolled by the Arab traders Sulaiman and Masude. The developing trend towards land feudalism was another significant aspect of post-Gupta economic life.

Early literary and archaeological materials support the emergence of Indian mercantile behaviour. With the discovery of the monsoon and the advancement of technology since the Middle Ages, maritime trade reached its zenith. India's geographic location has allowed her to cross centuries-old boundaries between the old and new civilizations. India has now emerged as one of the major suppliers of steel to the developed steel industries in east European nations as well as Japan, China, and Western Europe.

Andhra Pradesh located on the northern part of the Coromandel Coast has about 974 km coastline and a long maritime history. The state with its navigable rivers and suitable anchoring facilities aided merchants for oceanic trade through the ages. During different periods of history, the people of Andhra established their contacts with other parts of India and also across the seas.

The thesis 'Maritime Economic History of Krishnapatnam and Dugarajapatnam Ports' is an attempt to study the evolution of ports of Krishnapatnam and Dugarajapatnam on the Andhra coast during colonial period. In this context, the present chapter discusses about sources, hypothesis, methodology and scope of the study and chapterisation. Historical approach is adopted since the thesis is about ebb and flow of Krishnapatnam and Dugarajapatnam ports of Coromandel Coast with special focus on time and space.

Review of Literature

Few Indian and foreign scholars have done research on maritime economy of Coromandel ports. However, such research works are not abundant and most of the books on the subject are limited in nature either with respect to region or time period.

Sources of maritime trade give glimpses of primary and secondary sources and only relevant works are picked up as sources out of this literature for this thesis.

Secondary sources of Maritime Economic History of Ports involve writings of Sinnappah Arasaratnam, Om Prakash, Sanjay Subrahmanyam, Ashin Das Gupta, Burton Stein, Raychaudhuri T, Irfan Habib, Holden Furber, RadhakumudMookerji, InduBanga and others. They helped in identifying primary sources. British and Dutch records, Inscriptions, vernacular literature have been identified as primary sources for this study. Gazettes, newspaper articles, Government reports and White papers prepared on policies have also been included in this investigation. From the literature one could surmise that the inclusion of both internal and external factors and conditions provides for a better picture of how ports rise, evolve and decline. As the saying goes port's potential has rarely flourished without active interest of rulers and corporate. In other words, good patronage and political interests made some ports to emerge. For example Madras port is a case in point. Similarly, a change in political situation or administration led to decline of ports, such as the case of Masulipatnam and Krishnapatnam.

Extensive readings of broader literature added more information to this research. Readings on world maritime history gives the insights to understand the bigger events. For instance the causes for the advent of Europeans into India and their impact on Indian Ocean trade facilitate us to understand the maritime economy of the period. Research papers on Asian ports, World bank funding, readings of world history provides lot of understanding about the models of port development, better utility of natural resources, similarities with other ports and feasible trade links from history to the present neo-liberal era and helps in making India to be more strong in the competitive world maritime trade economy.

Subsequent to reviewing literature and preliminary analyses on ports such as Krishnapatnam and Dugarajapatnam ports the research contour was delineated.

Broad Research Questions

1. What is the place of Krishnapatnam and Dugarajapatnam ports in history?
2. What is the contribution of this study to the knowledge of history?
3. How far one can reliably reconstruct the past with the available sources to infer contemporary developments with interdisciplinary approach?

Hypothesis

The thesis is written with the assumption that the ports of Krishnapatnam and Dugarajapatnam played an important role in shaping the maritime economy of the region over a period of time. Although, there are various studies related to maritime economy, they mostly refer to other prominent ports of the Coromandel Coast like Masulipatnam and others. In this regard, I hope to substantiate my hypothesis that these two ports played a strong role in deciding the fortunes of many ruling dynasties and their economies. As the saying goes, history repeats but the causes and consequences may vary, the hypothesis and research questions try to deal the main crux of the dissertation in a new perspective and result in contributing additional knowledge to the theme.

Methods

The methods adopted for the study includes both quantitative and qualitative. Collection of archival data, large amount of readings of primary and secondary literature was employed for exploring the port studies. Documentation of oral history and narratives from fishermen communities from the two ports, field trips, interactions and face to face interviews with the

locals, journalists, light house officials and common people were included in the research. Sources have taken from different disciplines to give more reliability to the thesis since the research of the study involved from ancient history to contemporary period. Here new tool called “experience” also employed. It varied from “narration” of Ashin Das Gupta. This tool works well for the native researchers who are trained to be unbiased regional historians. With the help of the researcher’s memory, institutional knowledge, fluency in the mother tongue of the locals, the interpretations and implications of the mother tongue in social reality gives fetching than ‘other’ researchers. If a researcher able to cope up with the climatic conditions and difficult situations at the port site the researcher will get more interesting information from the fisher folk because they do deal with such situations daily.

The most challenge task to a historian is to give reliable if possible authentic documentation of information with the available and scanty sources. Some sources may mislead. Some sources seem to be relevant but once the researchers get into the readings those might not be helpful for the research. Study of past history of ports with the help of other disciplines like geography, economics, political science, transport records, census records, port trade records and ocean studies gives better understanding of the external and internal events.

There are certain limitations in the methodology. Time bound but collection of archival data needs lot of time to get into serious research information. I could read only translations of Dutch records, Telugu and Tamil and could not include sources written in Urdu.

Scope of the Study

There is a problem in understanding Indian ‘ports’. Ports studies and investigations needs to be explored from interdisciplinary approach to get finer results to unravel the facts which helps us to find better solution. Case studies of port’s investigations may help employment generation in the present. Researching old ports like Krishnapatnam and Dugarajapatnam ports and revival reveals to us to find eco-friendly methods for sustainable development which is core segment in the contemporary period. Studies on all weather deep sea ports like Krishnapatnam port lead to economic development of the region. Port studies helps to

understand the space and time in a better way because port was there in the past and it is in the present. Continuity of the port and discontinuity of few things helps us to understand the space with the help of time. In order to bring out better understanding of ports more tools needs to be employed.

Forgotten ports need to be documented. Based on the literature, ports history is selective and chosen. Not all facts are documented, not everything was recorded and documented. British East India records highlights particular ports because they have developed those ports. Some ports which were under the control of Indian merchants or rulers were not given proper space in the realm of history of ports. Krishnapatnam and Dugarajapatnam ports are such ports. Thus, there is need to understand the port and ocean in better way. Port studies are part of urban history but not all ports necessarily lead to urbanization.

Methodology:

Different primary and secondary sources have been used to prepare this dissertation. We reviewed texts from the Tamil Sangam, local Telugu literature, historical chronicles from other countries, and inscriptions to learn more about the history of Krishnapatnam and Dugarajapatnam on the Coromandel Coast. The literary works of Islam were also consulted as needed. The primary source materials for information on nautical operations are found in the archives of Tamil Nadu and Andhra Pradesh (now Telangana State Archives). Records from the Board of Revenue, Dutch Records, English Records, including District Records and Consultation Books, Records of Public Consultation, Political Consultation, Marine Consultation, Judicial Consultation, Native American newspaper reports, and Records of Marine and Commercial departments were all used profitably. A small number of records from the London India Office Library were also consulted. The District Gazetteers, notably those for the coastal districts, the Census Records and Reports, books, monographs, and magazines from before 1900 were also reviewed.

The methodology is a case study with elements of both history and sociology. For the historical research, information was gathered through written sources, inscriptions, and archival records. In order to understand the importance and relevance of folklore traditions, rituals, practises, and ceremonies, a thorough field survey was conducted for sociological studies. The thusly gathered materials are quantitatively and qualitatively analysed and synthesised. A few published publications on this subject were also consulted in addition to original sources. The chapter provides a summary of the study's sources and methods.

Field Visits

Field Trips to Krishnapatnam Port: 2011-2016

From Secunderabad Central Railway Station to Nellore in Andhra Pradesh, India its 10-12 hours journey by train. Then Nellore to Muthukur its one hour by bus on road. Since I am native of Muthukur which is a neighbouring Mandal head quarter to Krishnapatnam port and village I chose to stay at home and did field work. From Muthukur to Krishnapatnam port is 30 minutes by private vehicle. I have chosen to visit to port site and village. I interacted with people. I have interacted with fishermen, local head of Krishnapatnam port Fishermen. I tried get in touch with the officials of the port. I have interacted with journalists and elderly people in the Krishnapatnam. My father Mr. N.JejendraNath was assisting me to get in touch with everyone. The moment they had seen me walking down with books and pen in my hands with backpack the fisherfolk got furious thinking that I am Government official. They were very angry on the government that they dint get any compensation from the government. They almost lost their livelihood of fishing. They had to choose either daily wage labour work or they have to migrate to other place from this port because there were lot of restrictions on fishing at the port. Due to dredging work and industrial work at the Krishnapatnam port, many small fishing boats got damaged. It seems that fish and other sea products have migrated to other areas from this port over period of time. Fishermen were complaining about the sea pollution and its adverse affects on the sea in the long run. They have also informed that the yielding at the port area had gone down when compared to prior industrialization and construction of infrastructure facilities at the port. I was scared by seeing their anger and reached my father who was talking with some villagers nearby. Then my father came to

rescue me and told them that it is me his youngest daughter, studying in Hyderabad and I had come there for research work. They dint understand Ph.D but they understood that I am student not Government official. They were curious to know about me. So quickly the mood and situation at the village became lighter. There it was absolutely my father's good image and respect had saved me. I used stay there the whole day to observe things. I stayed with women and children there and mingled with them. My personal liking towards sea and water made them to like me more they accepted me in a very short time.

Currently Krishnapatnam port is in the news because of its greater functional capacity in short span of time for commercial usage. Now this port has been developing by a big corporate company with the Government of India with the PPP(Public Private Partnership) and BOST policy. It is revival of old port than finding new place for the development of new port.

This study is pursued with the use of mixed methods like both quantitative and qualitative approaches. Collection of quantitative data retrieved from Madras State Archives and Connemara Library in Chennai, collection of Basic Port Statistics of India from 1950-1993, collection of books on ports and maritime trade in India as secondary sources. Further, face to face interviews were conducted with the fishermen and women, head of the fishermen community, farmers, interactions with the local journalists and the common people who are the inhabitants of that region. I have chosen the face to face interviews with several people like Chinna Langaria Armugam, a Tamil fisherman aged 68; Kodipattu, a Tamilian aged 40, Pattapu Kanakaiah, Pattapu Naarasaiah, Pattapua Mangamma, Pattapu Molakaiah and group of fisher women, Kataari Veera Raghavulu, the head of the fishermen community at the Krishnapatnam port region of 59years, farmers Mocherla Chinnaswamy, Sunkara Adeyaiah Karipemgari Narsimham, Pavanji Venkateswarlu, and Akkyyagari PeddaNarsinham; journalist S.N. Rayasam and the common people nearer to that port region.

The field work method helped in the collection of much information, which is also a part of documented history. For example, Kataari Veera Raghavulu, gave me a great deal of information about this port from the British period onwards. He stated that he came to know

all these from his grandfather through oral tradition. I am surprised because all his information including the environmental imbalances tallied with the secondary sources and also with the primary sources of the Government reports. He stated that Iron ore used to be exported from Krishnapatnam port to foreign countries in the form of balls. Its tallied with secondary literature.

Krishnapatnam port displays a composite culture between the Tamil fishermen and Telugu fishermen, with Telugu being the common language even for those who originally came from Tamil speaking regions. If we take look at cultural life, surprisingly the study could found Manu's 7 marriages system is still existing among them though Manusmriti is rejected by the Dravidians primarily Tamilians. The Tamilians speak a mixture of Tamil and Telugu or Tamil at their homes. They migrated from Arumbakkam to Krishnapatnam because of the same kind of port development works in Chennai port region in Tamil Nadu state, which affected their occupation as fishermen. The coming of the SEZ, with its daily wage workers who are mainly from North India may result in another cultural interaction, though at present, linguistic differences have prevented such interaction from taking place on a large scale. He also pointed out that there are 25 factories have got the clearances to set up their plants at this region within the 30 km area of land. All these finally led to a lot of pollution at this region.

Field Trips to Dugarajapatnam Port: 2011-2016

I have made few field visits to Dugarajapatnam since 2011, sometimes assisted by my brother Mr. N.Yadav and journalists of Dugarajapatnam. Dugarajapatnam is 2-2 ½ hours journey from Muthukur by Auto. I interacted with the villagers at the port and village. In 2016, Dugarajapatnam village is far away from port and is located 30 km away from Dugarajapatnam port and light house. I had gone inside the old and new light houses². Got opportunity to interact with working staff there and found lot of interesting information which was not found and documented in literature.

² See image. 2.

The field visit in 2016 was very fruitful. My travel began from Whitekuppam which is just adjacent to the shore of Bay of Bengal. Vadapalem is in 100 metres of north-side of the light house. Monapalam is one kilometre away from Vadapalam. New Armagon Lighthouse is between 300-400 metres from the shore and old Armagon light house³ is little more interior but in the same vicinity. As already chartered in evidences that Armagon cannot be a practical port but potential to be a good harbour and shoal. Based on its lengthy submerged sand ridges and the still and shallow waters it can be a potential for naval base too. A narration of localite from this place says that “all the records were burnt when the Britishers left this place. They dint want others to know their technology and strategies”. This curious information leads to investigate that was there any naval base during colonial times? Why did they burn all the documents whereas they had the habit of preserving all the documents? Was this false or true information of this place in records so that Britshers only can have it as their defence base here? In 2016 Dugarajapanam port is 30 km away from the Armagon light house. Possibly this new perspective of investigation may give new information from the archival evidences. Lot of photos were taken for research purpose and was used to construct the evidences and existence of Dugajapatnam port, light houses and marine police Station. Limitations to outside research scholars is that since its remote villages it’s difficult to get the accommodation. But possible chances are that one can get the accommodation with minimum facilities in the village if researcher approaches the villagers.

Excerpts:

Excerpts from My M.Phil Thesis titled A Study of Krishnapatnam Port from Medieval Times till 2010 in terms of Trade and Commerce

Krishnapatnam is a port town in Muthukur Mandal of Nellore District, the southernmost coastal district in the state of Andhra Pradesh, India. Initially this port was called “Kistnapatnam”. History says that The Vijayanagara Emperor Sri Krishnadevaraya operated from this port, hence the port was renamed as krishnapatnam port. In colonial times small boats were operated through Buckingham canal, which runs behind the port and was used as a water way for transportation between Chennai in the south and Krishna river delta in the North. In North Coromandel it has been seen above that Masulipatnam was a major port for a

³ See image.1.

very extensive hinterland up to Hyderabad, and even northwards to Indore and Burhanpur. It was linked by roads with the fertile and populated Krishna –Godavari Delta, and further inland along a well-settled belt into the Deccan and the Royal capital of Golconda-Hyderabad. After the fall of Vijayanagara empire, a number of petty *nayakars* and *polygars* came up in this region. Later in 1960's iron ore was exported by wooden boats from this port. In early 1980's the Government of India declared it as a Minor Port.

Visits to Archives

1. Tamil Nadu State Archives, Egmore, Tamil Nadu
2. Tamil ValarchiVaragham, Egmore, Tamil Nadu
3. Government Oriental Manuscript Library, Egmore, Tamil Nadu
4. Andhra Pradesh State Archives (Telangana State Archives), Tarnaka, Hyderabad
Telangana State
5. Archaeological Survey of India, Hyderabad Branch. Hyderabad, Andhra Pradesh.
6. Geological Survey of India and Training Institute in Hyderabad. Telangana State.
7. Indira Gandhi Memorial Library, Hyderabad Central University, Hyderabad,
Telangana State, India.
8. Archaeological Survey of India, New Delhi.

Tamil Nadu State Archives (TNSA), Egmore, Chennai, Tamil Nadu

From Secunderabad Central railway junction to Chennai Central is 12-14 hours journey by train. Train ticket has to be booked in advance to get confirmed sleeping berth in sleeper class with the amount of 400 Indian rupees. From Chennai central to Egmore where Tamil Nadu State Archives is located 30-40 minutes by auto on road. To get into the Tamil Nadu State Archives a researcher has to carry original student identity card with valid semester registration, official letter from the Head of the Department/Centre for the collection of data, sources and also official letter from the researcher's supervisor with the proper signatures and stamps from the Institution where researcher's is pursuing research for specific time bound

Ph.D. TNSA asks the researcher's to pay 200 rupees in the Bank to access the sources in Tamil Nadu State Archives. Researchers has to carry few passport size photos, few Xerox/photocopies of all the required documents along with him/her all the time. Research students have concessions whenever they get into Archives or libraries when compared to Individual researchers, Academicians. TNSA is open from 8 am to 8pm but library closes by 5pm. There is a research hall for researchers which is open till 8pm. Researchers has to know the timings and holidays of the Archives, libraries and other libraries relevant to research before starting the fieldwork. Otherwise lot of time, money will be wasted. Sometimes it might lead to spend more money for the same services if it was not planned well in advance. In TNSA one can go to library and other reading places but cannot access primary sources until his/hers membership is done by paying money in bank. Money can be paid by the staff (on behalf of the researcher) who works in Research hall. The staff is warm and kind. They help the students since researchers are new to that place. The people in TNSA go by rules and regulations. So researchers have to have all required papers with them and patience too.

TNSA has well maintained and organized system for primary and secondary sources. There is catalogue for all sources in Archives and library. But researchers cannot go inside and find out the sources. Researcher has to see the catalogue and sources thoroughly and has to note down the catalogue numbers of the sources and books. That list has had to be handed over to staff who goes inside the Archives, find out the documents and those things will be given to the students but one day one can access to only five primary sources not more than that. But in Library there are no limitations to access books. Lot of time has to be invested in Archives to get information from archival sources. One can get the photocopy of the old records, monographs but it takes months to get xerox copies. There is process to do that. The cost of the photocopy is higher than the normal price outside the Archives. Those whoever wanted to get the photocopies has to write down the every page and minute details of the sources in a paper and that paper has to be handed over there for photocopy in the concerned section but it takes months to get the photocopies because there is huge demand and long waiting que for primary sources and old documents. Instead some researchers carry tiny cameras in their hand. So that they take pictures of some sources which is very important but there is lot of restrictions on it. TNSA has old classy building with Library, Research hall, gallery room. There is a hall for seminars and workshops in the upstairs. Writers, Researchers and Academicians sometimes launch their new books there. Sources in TNSA has properly

preserved with good care and restored the original documents, monographs. Researchers carry their bags along with them in research hall reading room but in library there is separate place for belongings to keep in a locker. So researchers can't carry things inside the library. Big advantage in research reading hall is that there is experienced academicians sits and does their readings. They have immense knowledge on many original records. Sometimes they help the young researchers with their institutional memory and experience with the primary sources.

Tamil Nadu State Archives Report:

In Tamil Nadu State Archives I could access the sources from Research Hall and Library sections. There I found some sources which will be useful for my research. Especially from Research Hall I got the primary Dutch sources which were already translated into English namely i.e. Records of Dutch Commercial Transactions in India, translated to English, 1569-1688 and Dutch treaties 1643-1711, which were procured from Bengal Consultation. I got to know some Ph.Dtheses which are related to my area of research. Some of them listed below

1. Dutch Settlements on the Coromandel Coast, 1600-1750 A.D.
2. English Trade on the Coromandel Coast 1698-1727 A.D.
3. European Coromandel Trade 1700-1770 A.D.
4. Buckingham Canal: A Historical Study

Out of these I got the information on primary sources like Fort St. George – Diary and Consultation, Dispatches to England, Public Consultations and Dispatches from England.

Tamil Valarchi Valagam

Tamil Valarchi Valagam, another archival depository is very nearby TNSA. One can go this place to get information about old inscriptions, maps, coins, pottery and the things found in excavations. This place is governed by Art and Culture Department in Tamil Nadu.

Connemera Public Library

Connemera Public Library in Egmore is 10-15 minutes by auto from TNSA. It is the place where one can get very old books and secondary literature for historians. It is easy to get photocopies here. I got old books and their photocopies from here.

Government Oriental Manuscript Library and Research Centre

Government Oriental Manuscript Library (GOML) and Research Centre in Egmore is 30 minutes journey by bus from TNSA. It is maintained by the Department of Archaeology in Chennai. It is the place for primary sources. There is huge collection of Colonel Mackenzie collections, collections of literary sources in vernacular languages like Telugu, Tamil and other languages and are very well preserved. Free of cost to access these resources in GOML. It also has well maintained catalogue for the manuscripts.

At Egmore, I stayed at WUSC (World University Service Centre) which is exclusively for accommodation for academicians and research students only both men and women. Per day for a student it was 75 rupees in a room shared by two people with common washrooms. If one can afford to pay more money they can stay in room with attached bathroom but that is dependent on the availability of the rooms. This place is nice, spacious, secure and peaceful neighbourhood with basic facilities. But food is not provided. There are eatery places nearby. But accommodation available here is only for 15 days consecutively moreover one has to get prior confirmation over phone. And student had to carry original and photocopies of student id card, letter from the head of the Department/ Centre/ Institution regarding field work and data collection at Archives to get the accommodation in WUSC. One can stay in private hostels here with lesser money including food but one has to pay rent for entire month. Those private hostels are too small and noisy. The food was typical Tamil cuisine. Rice is staple

food here. But in Tamil Nadu it is tiffin in the night not dinner. People are aware of better health here hence prefer to eat steamed food than oily food. On an average a researcher has to spend 200 to 300 rupees per day here if he/she stays in WUSC including stay and eats food from near-by good eateries. Sometimes one can reduce this expenditure by taking fruits and milk. This amount varies. If one eats in small places it costs less. If one eats in big place cost will increase.

Researcher needs to know climatic conditions of this place before venturing to Egmore. Summers are bit hotter. Rainy season should be avoided because it's prone to hit by cyclones. The remaining months are fine. Avoid Pongal season too which starts from December 15th to January 16th every year, because most of the places will be closed since its Pongal, big harvesting and cultural festival in Tamil Nadu.

Andhra Pradesh State Archives (APSA), Tarnaka, Hyderabad, Telangana

Since I am from University of Hyderabad(HCU) I travelled to Tarnaka by MMTS in the morning and returned by night. It is 10 minutes walk from ladies hostel to reach small gate. From HCU small gate it takes 20 minutes to reach Lingampally MMTS railway station by share auto. It's again will take 5-7 minutes walk to reach railway station. Its takes one hour journey from Lingampalli railway station to Sitafalmandi, nearby railway station to AP State Archives if one plans well according to train timings. From Sitaphalmandi to APSA its 20 minutes walk. It's quite expensive to hire an auto from Sitaphalmandi to APSA and auto drivers charges 60-80 rupees for less than 2km. Many auto drivers are not aware of APSA. I tried to know the easiest and less tiring route through seniors. It's high traffic zone by road. Its take 1-1 ½hourjourney to reach Tarnaka by Road by bus or by any private vehicle if one starts early and if they able to avoid most of the traffic jams in Hyderabad. APSA opens from 10.30 a.m. to 5p.m. Food is available in Tarnaka junction but one has to be cautious since it is not good quality food. Fruits are available.

APSA has huge building. It has many blocks. It has RR room, old books room, micro films room, library and many. But not well organized like TNSA. I have been to APSA from 2011

to 2016. Books were in the state of sorting and segregating situation. From 2011 to 2014 there was a big turmoil in Hyderabad for separate Telangana movement and finally AP got bifurcated in 2014 so archives also on the verge of bifurcation. Here in APSA (now Telangana State Archives, TSA) we can see the good initiative by the AP Government to restore the old documents through Digitalization. But during my venture to APSA I could not access the Micro films and digitalized old documents due to technical issues. I had been to RR room, library and room for old books in APSA. Here there are few staff would come and ask u to tell your broader research area, catalogue numbers and they will bring sources to your table in RR room. There are catalogues here too. Here Researcher/Student has to take one year membership with the payment of 500 rupees for students and 2 photos, Id Xerox copy, photocopy of field work letter by Head of the Centre/Department. Here it's easy to get photocopies but little expensive. Here tiny cameras are allowed and students can take photographs of Archival data but that has to be mentioned in the membership form.

Rainy season is bit difficult to handle in Hyderabad due to lot of traffic jams. Other than rainy season it's fine in Hyderabad for collection of archival data. There are many libraries, museums in Hyderabad and many private hostels to stay nearby APSA. I have restarted my field work in June, 2014. Few days I went and collected some data from Andhra Pradesh State Archives located in Tarnaka in Hyderabad of Andhra Pradesh.

My findings at Andhra Pradesh State Archives are:

1. Dr. P.KrishnaMoorthy. 1991. A Descriptive catalogue of the Archives preserved in Repository - II of Andhra Pradesh State Archives. Hyderabad, Andhra Pradesh. M/s Padmavathi art printers. From this book I got to know that there were records of Deccan Sultans, Single Farmans and Sanads issued by Bahamani, AdilShahi and QutbShahi kings(1406-1686), District Collectorate records of Andhra records(1766-1860), Survey records of the Andhra districts(1876-1956), Family and Private Collections (1412-1984) and Records of Fort St.George, selections from records of Madras Government, Bengal Government, Government of India etc.(1600-1850). And some sources found in Telugu, Urdu, Persian, and English. Newspaper collections also found. But Telugu, English and News Paper collections are dated from 19th century except Urdu and Persian sources. Urdu and

Persians records are in Urdu and Persian languages. Since I am illiterate in those languages I cant make use of them. There were micro films in related to my research area but the film reader has not been working from long.

There was a section of Series and Categories of Archives Preserved in Repository II. Here there was a list of Ancient records in the Fort St. George (Press List)(1793-1800), Board of Revenue records(1856-1858), District Collectorate Records(Pre Mutiny Records), Gazetteers and maps.

Pre mutiny records are dated from early 17th century(1766) upto 1870. These were transferred from Tamil Nadu to Andhra Pradesh and they are in hand written form. The main reference media of these records are guides in the ancient records in the press list of Fort St. George. These have prepared upto 1835. Preparation of guides from 1836 onwards has been taken up and the work is under process.

2. John A.C. Bosewell.(ed&comp). 1873..This manual gives the details of the origin and the evolution of various departments. Scholars are advised to read and refer this book to know about the origin of the then prevailing departments right from 1670. There were references of Krishnapatnam and Durgarajapatnam ports in this manual geographically and little description on these ports were in the past.

There was a bunch of list of Dutch and British records, despatches, letters from Fort St. George to subordinate factories, letters to Fort St. George, list of proceedings, minutes of the proceedings in mayors, and diary of Captain Hacket are seemed to be in the archives as per the index in the AP state Archives.

I got to access the Records of Fort St George and Masulipatnam Consultations Revenue. 1785. Volume 2784-B. M.R.O. These records are in the form of minutes and I found there

was so much description on everything. It's useful for every detail but lot of time consuming to read and understand the cursive writing and the content in letters.

Review of Literature:

Based on the available literary sources, the review of the literature for this thesis is divided into three areas. The methodological aspect and pitfalls in locating better techniques for deftly doing research on maritime economic history are covered in the first section. The background research and the overall perspective of the world with regard to the research field are covered in the second section. The third section discusses the writings of well-known figures in marine economic study on Indian ports and how they were used to form the current thesis.

First section: Historiography, Theory and Methods

E.H.Carr.1961. What is History. This is well acclaimed and very popular book in history. In the first chapter the author mentioned the different approaches by Lord Acton and Sir George Clark as pointed out by Carr. According to the author there is difference between the fact and historical fact. At one point Carr said that the dead hand of the historian and the chroniclers has determined the pattern of the past. Carr also said that the modern historian must cultivate a necessary ignorance. Carr found there is a problem with a document in terms of the information it can provide to the historian. In this chapter at one point Collingwood said that all history is the history of the thought. In this chapter Carr summarized the Collingwood theory of History with three insights and criticism too regarding the theory. In this chapter Carr quoted that all history is contemporary history.

In addition Carr says history is to a large extent a matter of numbers. He talked about Whig's interpretation of history. He also talked about the role of great man in history, Carr said history is moving procession. Carr stated that the cult of the individual is one of the most

pervasive of modern historical myths. Here Carr also mentioned that the historian before he begins to write history he is a product of history. In this chapter Carr put the Burckhardt meaning on the history that history is the record of what one age finds worthy note of another. Carr also mentioned the development of the ideas of the historian Meinecke. In this chapter Carr discussed about the shifts in the philosophy of history according to his perception.

In the third chapter Carr argued that the idea that science is about establishing both precise and all covering laws. Carr put forward the concept to replace the idea of laws, he gave example too in this chapter. In this chapter Carr discussed about history, science and morality. Carr opined that to some extent history offers lessons to future guidance. And science said to be capable of prediction. Carr also mentioned that the process of observation affects and modifies what is being observed. Carr opined on the relation of history to religion and the belief in the existence of God. Carr was very keen to say about whether should historian pass judgments on individuals participating the historical events or not and quoted the moral precepts which we apply in history are in everyday life are cheques in bank.

In the fourth chapter Carr discussed about causation in history. He mentioned two characteristics of the historians approach to the problems of causes. Carr discussed about 'historicism' and 'determinism'. Carr stated that everything is possible in human affairs, Cause and moral responsibility are different categories. Carr also stated that the view that occurrences in history can be regarded as being inevitable. Carr already mentioned that a belief in chance tell us about the state of a society. In this chapter Carr also mentioned that how importance one should give to the role of accident in history and its relation to the idea of causation. In this chapter broadly the author discussed the distinction between rational and accidental cause.

In the fifth chapter more discussion on history as progress. Carr said that the classical civilization of Greece and Rome were unhistorical. Carr mentioned that the contribution of the enlightenment is the idea of history. In this chapter there was discussion on Darwinian revolution and evolution with progress and its equation with each other. But Carr said this

opened the way for a grave misunderstanding. Carr expressed his objections to the idea that progress has a definite beginning or end. Carr mentioned that the historian should be very keen and careful to put forward the above idea. Carr mentioned that but if we are to retain the hypothesis of progress, we must think, accept the condition of the broken line. Carr has his own idea on belief in progress. He defined the idea of absolute in history. Carr had two ways put forward for judging a historian as objective. Carr mentioned the distinction between fact and value and its help to us to understand and the role of the historian and the truth in history.

In the sixth chapter the widening horizon Carr discussed the development of revolutionary change. He discussed the 400 years of history, revolutions, ages and the thoughts. At the end Carr mentioned that I shall look out on a world in tumult and a world in travail, shall answer in the well worn words of a great scientists: And Yet, it moves.

There was an addition to this book at the end called “From E.H.Carr’s files: Notes towards a Second Edition of What is History” by R.W.Davies and end noted too. This is very useful book for a research scholar whose parent subject is history. It gave answers to many enquiries regarding research. It becomes pretty difficult to me to make it precise.

Woodall Christopher (Tr). (1991).’s book is theory book which gives the details about the Economic History and its formulation. It also talks about the methodology. It gives more important to the formulation of a logically structured theory, the collection of data the reliability of which it is measured by the statistical estimate of their margin of error and the verification of the theory by means of data the reliability of which has been ascertained.

This book contains two parts. First part has 6 and second part has 8 chapters respectively. This book also has list of Figures, list of plates and Preface at the beginning. Bibliography and index are placed at the end.

The first part deals with the nature and methods of the Economic History. In this part the author dealt with this by asking what Economic history is and how it is constructed. Later he tried to tell us the identifying issues in economic History. Then he gave the details about the different types of sources like collecting sources, primary and secondary sources. He gave many examples in this chapter to understand this very easily. Then he dealt with the source of criticism. In this chapter he also gave the examples of “True” and “False” sources, errors of transcription, doubtful statistics and interpreting content. Then the author dealt with the reconstructing the past with the subdivisions of the importance of Theory, Traps for the unwary, model based Economic History and something more in communication and a conclusion about the first part.

In the second part the author dealt with the sources of European Economic History. In this part he also dealt with the principal sources of European Economic History from Mycenaean times to the present day, with in framework of cultural, political, and economic development that gave rise to the documents described and on which the documents themselves throws light. This part he began with the chapter called “In the beginning” with the sub chapters include Ancient Greece, The Roman Empire, The values of classical antiquity and the early middle Ages. Later he dealt with the Fiscal and Legislative Sources. In this chapter the author talks about the details of these sources with the chronology. Then he turned to the Statistics and their Forerunners. In this chapter the Author gave the details about Government curiosity, political arithmetics and proto-statistics and also about modern statistics. The he talked about foreign intelligence reports, semi public and church sources, various kinds of private sources like family sources, company sources, travel accounts, Gazettes and newspapers and data furnished by international organisations. Then at the end of this second part he gave a conclusion. At the end of this part he said he has not touched on the huge reserve of trifling and minor documents. He also said that ‘there are yet other things that I shall not relate’.

The discipline known as “Economic History” is the history of facts and of economic events, as they relate to individuals, firms or communities. As such it differs from the history of theories. That means Economic History must take account of the psychological characteristics specific to humans, of their rationality and irrationality, and of their mental, social and cultural characteristics as these appear in both individuals and communities. In this

book the author said that the Term Economic History not only refers the chronicling of economic events but also the analysis of their close and inextricable relations and interactions with social, political and cultural events and institutions. The Author said Economic History is relatively young discipline. Having emerged in the second half of the 19th century, the new discipline underwent extraordinary development during the period from 1930-1970. Economic history has grown up, however the result of an artificial partitioning of human activity, a pure abstraction. Reality consists of people in all their biological, psychological and social complexity. In reality there is no such economic history, political history, social history. Instead there is just history. All these for the sake of descriptive and analytical clarity one is obliged to make use of these categories. But one must never lose sight of the fact that such categories are the product of heroic efforts at simplification, at times of absurdity. In the first he tried to analyse and describe the nature and method of economic history at the end he said economic history is not simply economics or not simply the history. This is unique. He said until more complex 'revolution' is accomplished, economic history will continue uncomfortably to straddle two cultures.

Indu Banga, (ed.) (1992). gives lot of details on ports and their hinterlands throughout centuries. It also gives details about concepts related to ports and port cities/towns in India and the dimensions and dynamics from the political, economic and social perspectives. My work is a study on port and comparative study. I feel this book is useful for me as base work to understand the changes in the evolution of ports. From this book I picked up Rimmer's port evolution model to explain the evolution of Krishnapatnam port.

Second section: Background and worldview

H.B.Sarkar(1986) dealing with the period of 1761 years i.e., B.C. 250-1511A.D. According to author this is a well define epoch with evolutionary process. He said in the beginning that 250 B.C. was the Asokan era and seems to be India's contact with the South East Asia and the latter was the capture of Malacca by the Portuguese. According to the Author the story of the trade and commercial connections among these people has not yet been treated systematically. This was his beginning point to do research on this topic he believed. The southern India discussed in this text refers to the entire land mass lying to the south of the

Vindhyas and pinned up with two seas, namely, the Bay of Bengal and the Arabian Sea and Sri Lanka and Malayo-Indonesian world refers to specially Malaya, Java and Sumatra.

In this book the division of chapters are well defined and the crafting was apt. He begins the book with the survey of source materials and ends with the protective measure in the seas by Indian sailors and their use of cartography, magnetic needle and sextants. He gave many details about the 1761 years. He talked about his arguments with the proper evidences like books, documents and archival records. He discussed about so many things like the emergence of Indianised states in Malayo-Indonesian world, sea routes to the Far East, the trading zones of Peninsular India, their hinterlands and their international trade links, growth and decline of ports, the monsoons and protective measures. He specially mentioned about the ports based on the coast wise and their trade links. He also discussed about the travails of Indian mariners on the East-West trade route.

This book was so huge and massive. Language was good but there were some difficult words to make the readers to verify the meanings in dictionary. This book can be used to have an understanding on international maritime trade till 1511 A.D. And it gave valuable information and found more useful information from South East Asian countries.

Jeremy Black (1986) is the author of *British Foreign Policy in the Age of Walpole* and *The British on the Grand Tour* and editor of *Britain in the Age of Walpole*. The period between 1713 – 93 was the major focused period of this book. Wide range of archival sources, personal papers and pamphlet material used as the sources in this book. This book is about broader questions of cultural differences (commercial, religious, artistic and intellectual) that formed the background of foreign policy of the Anglo- French nations. Author said that this is not duplicate the work of other scholars like Hamish Scott, who is currently working on *British Foreign Policy 1763-83.*, and Linda Colley on the development of British Xenophobia in the last quarter of the century. Author also said that the period between 1713-44 has been less well served and then this book seeks to redress the balance.

The division of the chapters were very apt. The author clearly mentioned about many details. Chapters are based on themes like Years of Peace 1713-39, Years of War 1739- 63, Years of Confrontation 1763-93, Debate over Policy, Trade and Colonies, God, the Art and Intellectuals and the Challenge of Autocracy. There is apt connection and continuation of the chapterization in this book. Because Trade, colonies, belief in God, Art and Intellectuals played vital role in their society at that time. Domestic pressure had larger role in formulation of the foreign policy as well as public policies. Majorly rivalry and xenophobia of both the nations had their impact on both the nations and on a wider world too.

According to the author the central question of this book has been the connection between Anglo- French diplomatic relations and attitudes widely diffused within the political nations of both states. This question refers to two problems, first the nature of eighteenth century international relations and secondly the manner in which Britain and France operated as political communities. But it is very difficult to discuss. The relatively unsystematic nature of the administrative systems of both states, and the lack of distinction between administration and the political system help to explain the impact of domestic pressure on foreign policy. Anglo-French relations suffered from the weakness of personal links at senior levels. French ministries tended to lack good relations with their British counterparts. National prejudice owed much to ignorance. This xenophobia caused too many severe problems sometimes at that time. Lastly Britain and France were competing states, rival cultures and antagonistic peoples.

Ram Sharan Sharma (1990) says Ports considered to be the trading networks and connecting points and also places for cultural exchange historically. But with the implementation of the economic reforms in 1990s (Liberalisation, Privatization and Globalisation) ports considered to be the economic nodal points and global trade points.

Meenakshi Jain (2002). gives the factual information about medieval India between 1100 - 1800A.D. In this book the author designed separate chapters for economy during Sultante period and Mughal period. These periods were responsible for major changes in Indian History. This is the period where we can see the infusion of Islam and Christianity into the

Indian society. This was the period we had again experienced the tastes of urbanisation. There were lot of developments in technology. The author stated that the abundance of land in medieval India ensured that the struggle was not over land ownership, but over the harvest. The peasant was assured an inalienable right to land as long as he tilled it and paid his share of the state revenue demand. Indian metallurgy in fact, was highly rated, with the Deccan leading in the export of iron and steel to the Middle East. Gold and Diamonds were excavated in small scale from the Deccan and Gondwana. At that the largest indigenous industry was that of Textiles. The building industry was major source of urban employment. The peasants entered the money market as they were obliged to pay the land revenue in cash. A substantial portion of the produce of the countryside made its way to the urban centres in order to sustain the towns. Horses were major item of import while slaves were exported in large numbers. The inland trade was handled by merchants. This shows the evidence of how urbanisation was existing at that time with their limited sources and technology. In 16th and 17th centuries witnessed abundance of written records. In 17th century exotic crops like tobacco and maize were introduced into India from the New World (the Europeans). In this book the author stated that According to scholars, agricultural production in Mughal India suffered repeated setbacks owing to recurring famines and the exploitation of the peasantry by the *jagirdars*. Population, too, scholars say, grew at a low average annual rate of 0.14 percent during the years 1600-1800. European Factory records of the 17th century and 18th century testify that India and China dominated the international market in silk and cotton. This book gives lot of details about the exact picture of that time like society, social conditions and economy. It also gives us how an Indian society was changing and the growth of urban centres and towns due to the advent of Europeans and their mode of trade in Indian system.

The following are some major points listed out which are useful for the current thesis research:

1. The advent of Europeans into Coromandel coast and their bitter rivalry over the monopoly of maritime trade
2. Adverse winds, famine in North Coromandel region, seasonal drought, excessive rains and cyclones during 1630-33 affected the decline of Indian ports and monsoonal maritime Indian trade. After the great famine of 1658-59, The phenomenon of families selling themselves to slavery in the coastal ports to avoid death by starvation is seen in

Coromandel coast. Famine coincided with the succession of Agricultural crisis in the south. This led to the maritime hinterland relations began a slow process of transformation as a result.

3. Fluctuations of political power in the hinterland caused the decline of the performance of ports. The rapid disintegration of Vijayanagara empire in the south India and the extension of two Islamic states i.e. Golconda and Bijapur affected the maritime trade in Coromandel coast. This led to the rise of Masulipatnam. The other side the invasion of Mughal's into the Southern India disturbed the regional administration at local levels and also the advent of Europeans and their bitter religious and commercial conflicts with the Indian rulers led to the destruction of native ports. This century witnesses the emergence of new ports in the Indian maritime history.

4. The introduction of railways and road connectivity led to the development of Madras port. At other end the curbing British laws destroyed the Indian shipping and the existing Indian ports become minor ports or open road-steads.

5. Armagaon port was under Madras presidency during colonial period.

This book relatively useful for the current thesis to understand the Anglo- French relations in the 18th century since these two nations were dominant in Indian soil too at that time and British become the ruler of the India till 1947. Those contemporary international relations had more impact on international trade activities and trade routes too. This made me to study this book. This gave me understanding of their society, differences between the two nations. Language was bit difficult. It is too complicated to understand with lot of details. But it was more from the Britain perspective rather than the rational perspective.

G.Yazdani (ed). (1982) talks about the political history of Andhra. The author mentioned many inscriptions in this book. For example the Chebrolu inscription of 1213 A.D. alludes to an expedition against the kings of the southern region which Ganapati had undertaken on an earlier occasions. He gave very detailed picture of Nellore under the rule of various kings and the political wars with the chronological order.

The following inscriptions got to know from G. Yazdani and M.KrishnaKumari books. These gave the political history of the Andhra, Telugus land during medieval period.

1. Chebrolu Inscription of Jaya Senapathi (1213 A.D.)
2. Ganapeswaram Epigraph of Jaya Senapathis(1231A.D.)
3. Talla-Prodduturu Inscription of Jagapati Gangadeva(1322-23 A.D.)
4. Inscription at Draksharamam(1217 A.D.)
5. Undated Epigraph at Nayanipalli in Guntur district.

Third section: Thematic and core research related review of literature

Tapan Raychaudhuri (1983) gave me knowledge about the Medieval South India, foreign trade, economy, standard of living in 17th and 18th centuries, forgotten history of Vijayanagara empire and towns and cities in medieval south India. This reading also gave factual information on the medieval south Indian history. Written a detailed description about those articles. Extracts are as follows:

The Geographical Background by Irfan Habib. In this article the authors talked about the geographical details about the three independent states i.e. Pakistan, India and Bangladesh. He felt it's not apt word to use "India" for these three states together. He discussed about the rivers, river channels and how those will affect the fortunes of the respective areas through changing its courses. Changes in course of river channels has led to the emergence of new prominent areas. For example Indus and its tributaries and sub tributaries. "the great shifts in river courses greatly affected the economies of the regions they abandoned, especially when this happened in more arid western zone. Thus the desiccation in Haryana seems to have come in cycles depending upon the ability of the Yamuna to feed the Chitang. It apparently fed that river in the seventh and eighth centuries, when a 'stream of Hansi' is mentioned. But by the mid-fourteenth century, the centre tracts was arid and waterless, and revived only when Firuz Tughlaq (1351-86) cut a canal from the Jamuna and carried it to Hansi and Hisar.

A large tract in southern Sind was said to have become utterly desolate owing to a change of course by the Indus river". These changes sometimes subject to ecological environment.

Report on Burton Stein "South India". Precisely the author talked about the historical details of southern India as macro region, its ups and downs and international trade relations. He also explained how this maritime trade lost its international trade contacts in the global context, the reasons behind that and the conflicts between European countries for supremacy on trade and also their rigid policies to monopolise the Indian maritime trade. He also explained social organisation of south India from 1200 to 1350 AD.

In this article the author stated that there were three major reasons which generally makes a place urban. Those are temple structure, military maintenance and markets. He said these features considered one particular place to be a town and he explained how trade relations connected with that. Here he described the transformation of a place from a traditional village rural settlement to a segmentary urban state. He also has explained the social organisations led to dominance of certain class or community due to private ownership on land. Here he also mentioned the varna and caste system of south Indian society. Here some references are there about sanskritization.

Burton Stein Vijayanagara c, 1350- 1564. The author gave very detailed picture about the social, political, military changes in administration and the consequences led to the changes in agrarian relations and mobile mercantile system of Vijayanagara empire. "In social and economic terms, the gap which had once separated rural magnates based on agricultural communities and the mobile economic concerns of many merchant and artisan groups was substantially closed".

In this article the author has talked about the 'nayaka', 'ayagar' systems, social settings (to administer the villages and cities). Here he mentioned about the mercantile guilds, conflicts between Telugu warriors and Tamil peasants, Vijayanagar empire's centralised administration, administrative settings, land system and policies and architecture. "the Vijayanagara state boasted of being the protector of Hindu varnasrama dharma against Islam,

yet its primary enemies were Hindu chiefs and kings, and the city accommodated within itself a 'Turushka' quarter, a mosque, and Muslim tombs. It was, in many ways, more like a Muslim capital than a Hindu one on its monumental architecture and in its Muslim soldiery, and also in its very urbanity".

H.Fukazawa note on "The State and the Economy: Maharashtra and the Deccan". This article's goal is to identify and analyse how the political, governmental, and administrative practises of the states affect the Deccan economy. Due to a lack of knowledge, the debate is bound to be rudimentary. In this article the author has talked about peace and security, Muslim states and their impact on land revenue, land revenue systems under Shivaji, decentralization after Shivaji, other agrarian policies and state and commerce. "In the countryside, a sub-hereditary district's chief (deshmukh or desai) and a village's hereditary headman (patil or mokadam) were responsible for the peace and security of the region under their control."

Report on Burton Stein's *The South*. The beginning of this article stated that three centuries separated the advent of uncontested British administration in south India and the height of Vijayanagara authority.

The author has talked about the historical events of the south India. For example Warfare become common during these centuries. At some point of time civil wars between Telugu heirs and Tamilians led to the destruction of the Vijayanagara empire more ruthlessly. *Nayak* and *ayagara* systems led new political order in the society at that time "the rise of the new centres of power in the macro region under *nayakas* and their subordinates – palaikkars in Tamil, palegatus in Telugu, and palegars in Kannada, 'poligars' to British- while weakening the Vijayanagara state, did stimulate economic activity and development. All encouraged internal and external trade. Each of the new cities became the centres of segmentary state. Subordinate warriors –palaiyakkars were linked to nayaka rulers by bonds of ritual sovereignty in the manner of segmentary statehood. Best example is Madurai". "Throughout the turbulent period from 1550 to about 1700, there are repeated references to the plunder of

accumulated treasure. Sometimes this stated by chronicles and historians quite badly as ‘plunder’ at other times euphemy ‘tribute’ is used”.

Certain societal segments had a heavier burden than others due to the constant wars. Older inhabited agriculturally productive areas likely had to bear a greater financial burden to sustain masters. Furthermore, in such regions, the cost likely landed unevenly on rural groups, most cruelly on middle peasants who lacked political clout and were exposed to rising financial demands.

“Despite how disruptive war is and the pain it causes, cash transactions in agricultural and handicraft output clearly increased.”

According to traditional sources wars led to the decline of Vijayanagara empire. But according to the British records and Mackenzie manuscripts it’s not the main cause. There were several elements. Those were civil wars, plunders and natural calamities. Temple culture actually one major element to promote the trade and commerce during Vijayanagara period. But things changed drastically after the defeat of Tallikota in 1565.

“Traders such as the Marvars and Telugu Komatis and some Brahmans emerged as the most active of the great merchant trading with and under the European companies on the Coromandel coast in the seventeenth century”.

Report on K.N.Chaudhuri’s Foreign Trade: European Trade with India. In this article the author discussed about the structure of trade and the methods and impact of European trade. In the first segment he talked about the advent of European trading companies into India, their rigid policies like cartazena to monopolise the international maritime trade, conflicts among them to gain the supremacy over trade, their consolidation on the Indian soil. They fortified all their settlements. Here we come to know how they become masters on Indians. This is Indian perspective. In the commodity structure of trade he talks about the major

commodities, availability of those at certain places and commercialising the Indian agriculture with their commercial crops like indigo. In the third segment i.e. the methods and their impact on European trade, he gave details about that trade system and its impact on Indian agriculture, textile industry, handicrafts and domestic economy. Here he gave reference to 'Velagar' system or 'putting out' method in Europe. It's in short the system of commercial advances. "a review of European trade in India gives the impression that it was only in the first half of eighteenth century that its full impact was felt on domestic economy".

Review of Burton Stein's *Towns and Cities: The Far South*. In this article the author stated that "Urbanism is a distinct feature of later mediaeval south India's economic history". "The makeup of urban locations was governed to some extent by the reasons driving urbanisation in the macro region during this period. There were temples in most towns, as well as some administrative activities, including military functions, markets, and handicraft manufacture." "In most cases, temples appear to be in towns whose roots can be traced back to the period of the temple's major building." The architectural styles of Pandyan and Vijayanagara are distinguished by their towering gateways (gopurams), which dominate the urban landscapes.

"Texts of the medieval period state that the nagara, or city, was incomplete without a major shrine; certainty, a major temple could scarcely exist without an urban context. The two institutes complete each other". "A Tamil inscription of 1487 found at a village in Cuddalore taluk of modern South Arcot records that a charter drawn in distant Kanchi had been granted in favour of Kaikkola weavers permitting them the use of palanquins and conch-shell bugles as they went about streets". "An independent stimulus to urban development was military. The south Indian macro- region adds several excellent examples of fortified cities to number of impressive cities in the sub-continent".

"To the modern observer, there are only slight differences between temple cities and fortified cities in south India. Many urban places were of course both, and all urban places were trade and handicraft production centres".

Qeyamuddin Ahmad (ed). (1983) gives me the writings of Al-Beruni.

M. Krishna Kumari.(1985) gives many details about the political history of Andhra Desha. There were references about the merchants and guilds and trade activities. She mentioned that agriculture was the main occupation of the people and great importance was attached to the land and almost all the people of the country aimed at having a small plot of land. Importance of private property was greatly realised and the state did respect the existence of private property in land. She also mentioned that “the fact that the merchant community proposed during this period is evident from the inscription of their charities and from the literature of the time. Majority of the people that joined in the trade guilds were artisans and traders as it was difficult for them to compete as individual against the guilds, which provides a social status and a degree of general security”.

Arasaratnam, Sinnappah. (1986.)’s book is the result of the author’s familiarity and experience with many years of the Companies and on contemporary literature, as well as an extension of the work of a number of maritime historians who have written on the Indian Ocean. His initial proposition was to the connection between politics and commerce.

In the preface author said that the Dravidians must be counted among the maritime peoples of old for whom seas were important as the land in their search for economic security. The old Tamil adage *Tiraikadalōḍiyumtiraviyumtēdu* (seek treasure even by traversing the deep seas) remains as true today as it was the first millennium AD. The period of history sketched here is thus seen as part of a continuing past and a living present in his own family has participated. He said to the members of his family who were fellow – travellers with him across the deep waters, this book is dedicated.

The Author extensively discussed each and every detail of which had happened between 1650 to 1740. He said the breakdowns in hinterland administration, the difficulties in the states and how all these combined to produce the problems in the eighteenth century in Coromandel Coast. His major argument was the real situation of the Coromandel merchants in the maritime trade and the commerce they did with the foreign countries and Europeans impact on this trade and the consequent changes.

Sinnappah Arasaratnam(1986) said that the Coromandel trade was mainly based on monsoons. He said though this area was susceptible by the cyclones but the people habituated to deal with it. He said dynamism, change and adaptability were essential elements of the development of the Coromandel Coast's maritime trade. Then he was discussing about the Vijayanagara empire, the powerful kingdom of that time and the intrusion of the Islam into the southern India first time with Bahamani kingdoms. He said that in the 17th century, Qutb Shahi Kingdom of Golconda became an important coastal power of the Bay of Bengal seaboard. He said for them trade become family business. The Golconda kingdom had a huge land under their control till Orissa in the north and the 10 miles away from Madras port in the south. Krishnapatnam port was in between these boundaries and it had historically hinterland connection with the Golconda kingdom. In this, the author mentioned the Krishnapatnam port in the maps which is very rare. The author mentioned that a populated, productive and well administered hinterland land was necessary ingredient to the continuation of the process of the commerce and exchange. He also mentioned that the Dutch, the British and the Danish had acquired and consolidated their settlements along the Coromandel coast. He mentioned that the Asian maritime enterprise weakened by the violent assault of superior Portuguese power, collapsed under the stress of superior chartered companies. Historians of earlier generation who sought to look at the maritime trade of Asia were very conditioned by this view and it was accepted axiomatic. W.H.Moreland in particular, based many of his assumptions on this foundation and went to argue that large areas of traditional Indian trade had succumbed to the Portuguese. A superficial reading of the Portuguese records served to give this impression, and what did not exist. It was the Dutch historian J.C.VanLeur who first challenged many of these assumptions, working more by instinct and by a process of reading backwards from the early Dutch and the English evidence. Van Leur categorised the Portuguese as tribute gatherers of Asian trade rather than traders themselves and asserted "the Portuguese colonial regime did not introduce a single new element into the commerce of Southern Asia". A doyen of Portuguese colonial historians, C.R.Boxer gave a well rounded view of the Portuguese colonial empire, and V.MagalhasGodinho, N.Steensgaard, M.N.Pearson and A.R.Disney followed up with microscopic studies of the operation of the Estado da India and its impact on the Asian world.

Gupta Ashin Das and M.N. Pearson (ed.). 1987 .Basically this volume is an attempt to present the Indian Ocean as a historical unit.

S.A.A. Rizvi. (1987)'s a general book to understand the medieval Indian history from the Indian point of view.

B.M. Pande & B.D. Chattopadhyaya. (1987). in this book roughly referred the aspects of history from Vol.2, Part 1. Emergence of Urban centres in Early Historical Andhra Desa.

Holden Furber. (1990) mainly focuses on the European Expansion in India during 1600-1800. Furber tries to figure out the problems about the advent of Europeans and their inhumanity, the expansion of colonies in Asia and drain of wealth from Asia to Europe and the societal changes in that society with the access of foreigners what we have already in our history. But the author said he looks all these problems from the Asian point of view at the beginning but he is more for to the British texts.

G.R. Subramiah Pantulu. (1991)'s a collection of forty two poems of Telugu folklore and translated into English. This gives the knowledge of that period, culture and the tradition.

Velcheru Narayana Rao, (ed). 1992. gives knowledge on Nayakas, samantha rulers. According to this work, Nayaks witnesses profound shift in the conceptual and institutional bases of South Indian Civilization. In this book the authors tried to give a critical and analytical view on nayaka system and their role in that society.

Sanjay Subrahmanyam (1993) gives an account on the nature and evolution of the Portuguese empire in Asia between 1500 and 1700. According to the author it is a long lasting paradox of early modern history that Portugal, a tiny nation with around a million inhabitants, built up a world empire between the 15th and 17th centuries which left vestiges in Africa and Asia as

late as the 1970s. To explain his core argument he began with the introduction saying that the mythical faces of the Portuguese in Asia. Then he started off from 1200 till 1700, the Portuguese society, their creation of empire in Asia, mid sixteenth century crisis, reorientations between land based and sea borne trade, maritime challenges and concluded it with the study of banditry and capitalism. There is constant comparison of the Portuguese with the other Europeans like the Dutch, French and English.

Precisely According to the author, the essential connections between the economies of the Indian Ocean in 1700 and those of both Europe and the New World had already been made by 1600. The commercial networks intensified during this time, and the importance of production for the markets in many regions of Asia increased. The author also said that the crisis and uncertainty that had resulted from the market for commercial information's relative fragility had significantly subsided. With increased commercialization came a shift from the increased distribution of guns to the increased distribution of precious metals and less valuable money medium. He added that the history of the Portuguese in Asia would have been very different without Japanese silver and that the Jesuits and Japanese silver eventually had a complicated historical relationship. This book doesn't discuss Portugal in relation to either Europe or Asia, but it is equally true to say that they belong to both even though they don't.

This is very detailed book with comparative study. Lots of statements quoted. Language was moderate not very tough. It can be used to understand nature of Portuguese. Many traditional views were challenged with regard to the Portuguese and its empire in Asia. There were many details on Europeans, New World, Networks, Nexus, Control on long- distance Maritime Trade, Expansion, Wars, Supremacy, Weak Empire, Nobility, Plunder, Capitalism and Societies. Well argued and defined book. Extensive bibliography was used. Sanjay Subrahmanyam's extensive study on this broad area of research contributed to the latest version on the content of the book. This might be the latest version on the Portuguese, their role and expansion of empire in Asia and maritime trade.

Sinnappah Arasaratnam (1994) begins his book with giving the background details and historical legacy of the immediate past of the ports. Then he divides the entire coastal belt of India of Seventeenth Century into mainly four maritime zones. They are Gujarat, Malabar-Kanara, Coromandel and Bengal coasts. Then the consequent chapters he gave very tremendous details not only geographical but also historical details about the ports which are located in the respective coasts. So that the reader can able to understand the sequential issues like the conflicts between Muslims and Portuguese. From 3rd chapter to the 6th chapter the author gave the international, interstate and intrastate trade links of the entire coastal ports with the definite and reliable information. From 7th to 9th chapters the author gave the socio economic and political situations of that period for example trading communities like Gujarati banyas, Malabar mophillas, komatis and chettis at Coromandel coast and Bengali Muslims. Through this we can able to understand specific phenomena like Muslims strong hold in maritime trade across the globe and their settlements at vicinity of ports. The expansion and penetration of the 10th chapter is conclusion.

The primary sources I found from this book are

1. The records of the Vereenigde Oost-IndischeCompanie (VOC)
2. W.Ph. Coolhass(ed). The Generale Missiven der VOC Series. The Hague. Rijks Gechiedkundige Publicatien. Vol. I to V.
3. J.A.Van der Chijs (ed). Dag-Registers van Batavia.
4. P.Van Dam.1927-54. Beschrijvinge van de OostindischeCompanieedited by F.W.Stapel. book II, Parts 2 and 3.
5. W.Foster, C.Fawcett (ed).1921-55.English Factories of India. Oxford.
6. Imperia Gazetteer of India (Oxford 1907-09)
7. Imperial Gazetteer of India ,Provincial Series (Calcutta 1908-9)
8. District Gazetteers

This book is specially written to fill the gaps of 17th century Indian Maritime History. There is debate on Indian capitalist markets. Why the hinterland rulers invited European powers to settle there and develop the trade? Through this book we come to know the each and every detail about the port of 17th century. Wide hinterland connectivity generally led to the development of the port. Eg. Masulipatnam port on Coromandel coast. Conversely when the port hinterland shrunk by conquest or by political unrest, the port lost its importance for eg. Surat and Masulipatnam. Port's place on major trade routes and type of functions of the port also led to the development of a port. According to Arasaratnam "ports in India did not develop centralizing, centripetal tendencies drawing towards themselves the activities of other smaller ports up and down the coast line. The remarkable feature of the Indian scene is the existence of a number of ports of reasonable activity with in close proximity to each other. It was not still the period that some kind of consolidation was achieved through deliberate state policy." In this book the author also gave the reasons behind a growth in population in the European settlements along the coast in 17th century. Those are

1. The ports and the coast relied on food supplies from their hinterland. This was a constraint on their unrestricted growth.
2. After the great famine of 1658-59, the phenomenon of families selling themselves to slavery in the coastal ports to avoid death by starvation is seen in Coromandel coast.

In this book the author talked about an important development in maritime India was a north and south integration in 17th century. The quick adaptability of networks of trade during 17th century. The integration of Islamic element into the state system and especially at prominent coastal urban centres, pluralism(i.e. Islamic element, Persians, Jews, Armenians and Christianity) and import and export system.

The Author himself is historian and his most interested area is maritime history especially Coromandel Coast in medieval times. His works on this region are tremendous. He was born in Ceylon and trained in history, works as academician in the department of history. The author style is very clear and he uses simple English language. Medieval Indian maritime history of 17th century on one hand showed the Penetration of Golconda sultans to the coasts. The migration of musalmans to coastal port towns led to the development of long distance

trade. The other side the invasion of Mughal's into the Southern India disturbed the regional administration at local levels and also the advent of Europeans and their bitter religious and commercial conflicts with the Indian rulers led to the destruction of native ports. This century witnesses the emergence of new ports in the Indian maritime history. This book considered to be one of the most valuable works for the medieval Indian maritime history.

With respect to my point of research I could able to use the factors for the development of a port and the reasons for the emergence of European ports, penetration of Europeans into India and the integration of the Islamic element into Indian state system and the destruction of native ports at that period. Especially in the case of Krishnapatnam port the decline begins with the disintegration of Vijayanagara empire and political instability of the regional powers in the 17th century.

Book Review of Uma Das Gupta (comp). (2004). compiled book is an entry point into many of Ashin Das Gupta's lasting preoccupations. This book contains 29 articles with 511 pages. This volume is organised in two parts, one containing Das Gupta's general essays, the other his more pointed and specific ones, usually linked to his major projects, on Malabar and Surat.

Initially Ashin Das Gupta was more focused on a certain type of merchant located in port city as the central object of his attention. His work in the initial articles shows that the transformation in the relationship between maritime trade and politics. Ashin Das Gupta employed two unique ideas, those were that "the history had to have a human face, and needed to be peopled with characters rather than numbers and figures. He therefore often gravitated to using biography, much before biography came back into fashion after its eclipse under the onslaught of the Philistine 'disciples' of E.H.Carr. the second idea, which went together with the first, was that history had to be constructed as a clear narrative, and once more Das Gupta was oblivious to the fashions that so exercised the likes of Lawrence stone, who first invented and then solved the problem of the 'return of the narrative'. The question nevertheless remained of what sort of narrative to use". Ashin Das Gupta never talked about loving the India Ocean, or even the Arabian Sea. Instead, he more or less chose the ironic

mode of employment, in white's reparative vocabulary, and raised it to a fine art. Ashin was more dealing with the growth oriented impact of European trading. Most of the Das Gupta's research work is based on the Dutch and the English Archives. "the Indian merchant for him of the nineteenth century was thus, for him, fragile and thoroughly dependent as the coast came to exert an undue influence over the hinterland". His work somewhat closely related to sociological nature. "If quantification was never a methodological passion with him, Das Gupta at the same time remained largely aloof to the vagaries of psychohistory. His 'individuals' were historical actors reacting in a complex fashion to their shifting circumstances, rather than Viennese or Parisian marionettes, whose fates were determined after one had read Freud or Lacan".

In the first part of this book all the articles are general essays by Ashin Das Gupta. In these articles "he commented quite extensively on writers such as Richard Cobb, Theodore Aeldin or Emmanuel Le Roy Ladurie, but when he turned to his own specialised research, he shied away from explicitly taking on the issues posed by these writers". In these essays he was sociologically crafting the medieval Indian maritime merchant history. He started with his definition on the Indian merchant and how it was changing in course of time, how those were affected by the advent of Europeans chronologically. In an article called "trade and politics in the Eighteenth century India" he gave very detailed picture of the scenario of 1500-1800. He has different idea of dealing the history.

In the second part of this compiled book are specifically related to his two major projects on Malabar and Surat. Together they chronicle the rise and fall of Indian port cities associated mercantile communities. In the articles related with the Surat he narrated the reasons behind the decline of the Surat port. "the fact of the matter was that Surat did not decline because Bombay grew; Bombay grew because Surat declined". At macro historical level, the reasons for the decline of Surat were given by him. Here is how the argument of the Surat work is summarised by the late Sinnappah Arasaratnam, a close friend associate of Das Gupta, who attempted to apply the same thesis to the southern India.

By focusing exclusively on political and commercial relations, it may be maintained that he neglected the cultural dimension of the problem to a certain extent. Also it should be noted that by preferring to look at Europeans and Indians as separate 'blocs' (whether partners or rivals), he tended to underestimate the fluidity of the contacts, and the penumbral space defined by interactions.

All in all, he represented a position according to which historical method and the practise of history went together, and the former did not precede the latter. His thought-going scepticism paired with openness to new materials and formulations, his eschewing of the facile and politically correct, all make him one of the rare distinguished specimens of liberal Indian historiography in the second half of the century. This is a point of anchorage that has not outlived its utility, even if it remains unfashionable in intellectual circles even today.

At the end these articles and books are specifically related to the medieval maritime economic history broadly. Those gave different ways of understanding the history, model of writing the history, approach to enquire the historical facts and this reading gave me clear picture of specific period from the different perspectives of the Indian and non- Indian writers. This exercise helps me to find out primary sources for my research.

Satish Chandra. (2006). gives lot of factual information of the medieval south India. Specially the reasons behind the search of new trade routes in medieval times to the East. Lot more details he gave about the establishment of Portuguese control in India and this impact. First volume covers the period from 1206 to 1526. The second volume covers the period from 1526 to 1748.

Pius Malekandathil (2010) book on Maritime India deals with the Sassanids in early medieval period to the 17th century, the Portuguese influence and their impact on western coast of Southern India and especially on Kerala. Author's major work on Portuguese.

Rila Mukherjee (ed.). (2013), book is edited by Prof.Rila Mukherjee and Dr.Radhika Seshan as series editors on Issues in History. This has mainly fourteen articles with four subdivisions namely marine worlds, maritime worlds, maritime worlds as space and formal and informal networks in maritime worlds. The main aim of this compiled book is to study the oceanic history with the renewed interest to understand the oceans. “Oceans seen as nuanced canvas of seascapes. Oceans are not just fringed by land or an empty space but as autonomous bodies”.

In this first section of marine worlds there were three articles written. First article was written by Paul D Arcy titled ‘Pacific and South-East Asian History Centered on the Philippines’. The title was apt to the article. Author’s description of the Indian Ocean based on the Philippines centered and its related narrative. The next article by Professor Rila Mukherjee, titled ‘Chasing the Many faces of a Marine Across the Eastern Indian Ocean’. In this article she argued how littorals connected through the marine gods especially feminine goddesses like serpents. Last article in this section by Dr.ArvindS.Susarla namely ‘Bypassed Oceans’. In this article the author raised many questions like how we have arrived to this? How to understand the Oceanic space or place? And the need to revision oceanic space. The author expressed that there is lack of public debate and insufficient attention on Oceans but it was quite thought provoking and interesting article.

Second sub section was about maritime worlds. There is difference between marine world and maritime worlds. In this chapter broadly the authors were talking about the Atlantic Ocean, Pacific currents and the Portuguese. Here they portrayed the Portuguese as the first global power to expand its colonies and stories regarding this expansion. And also major emphasis on the cooperation and knowledge transfer as indisputable factors in the sustenance and viability of mercantile empires. In this section Ana Crespo Solana examines the many ways by which the Spanish maritime empire left its mark on Atlantic communities and vice versa. She looks at the Spanish expansion as part of global history. Amelia Polonia and Amandio Borros’ studied the diverse ways and the manifold mechanisms by which the Portuguese connected three quite different worlds of the Atlantic, the Indian Ocean and the Mediterranean Sea. “Amelia Polonia sees the Portuguese experience between 1400 and 1800 as one of ‘Jumping Frontiers, Crossing Barriers’ and writes ‘ maritime dynamics present

themselves as a main agent for exchange on global scale, since they foster, historically, connections between local, the regional and global levels. These dynamics provided the means of technological and knowledge transfers, global trade networks, human migrations and cultural flow”. Barros writes of Portuguese technology and knowledge transfer between three seas. Polonia and Barros too dedicated particular attention to the issue of shipbuilding. For example the emergence of ‘galleon’. J.B. Owens’s Narrating Little Stories about the Portuguese in the making of World History is an interesting article. Owens mentioned that the “narrative constitutes an unique form of knowledge and communication which can better contribute (than other types of argument) to reader’s understanding of the emergence of new forms of entrepreneurship, gender and political interactions and cultural expression across a vast geographic landscape. Moreover, these proposed narratives are fundamental for a grasp of American, African, Asian and European history as well”. It is found to be robust definition for a narrative. Owens discussed the inter-dependable nature of humans and the system and its impacts in the shaping the behaviour of both.

Third section was on maritime world as space from the two perspectives i.e., European and the Indian Ocean. Also focuses on the Indian Ocean explores the geographical construction of the space from the perspective of Europe. In this section there was lot discussion on maps and evolution in cartography and changes took place in medieval times. There was a friction at that time between the classical notions and lived experiences. As Picazo Muntaner emphasizes, from the sixteenth century a whole new kind of space entered European consciousness. The notions of space, place and time, as depicted by the medieval map, indeed its ambition to be a veritable encyclopaedia of human knowledge and belief about the world, slipped out of use and yielded instead to a plain representation of physical space. Rila Mukherjee’s discussion on the new space i.e. Indian Ocean was so impressive with apt details.

Fourth section was on ‘formal and informal networks in maritime worlds with the reference of Indian ocean. In this section there was an article by Lipighosh which gave many ancient names of the ports and their connections. There was an article by Dr.RadhiksSeshan talking about how human networks works especially as gossips, rumours and reports and its vital role in the pre modern world with the reference of Surat port. Ruby Maloni asks us to consider the

myriad networks spawned by European private traders, another example of history from below like Dr. Radhika Seshan. Ruby Maloni points out that cooperation, an indispensable feature of networking, could also be forced, paving the way to collaboration rather than cooperation. Finally Om Prakash shows us how the Dutch East India Company connected oceans and seas in a specie-for-Indian textiles network in the seventeenth century.

This book is an attempt to study Oceans differently but it's like any other history books except one article. All the articles are land centric. There is no new attempt to study the oceans but great edited book. Most of the authors are very popular in world maritime history and very good articles. The new interests in oceanic history from social sciences perspective were addressed. Most of the authors part of Dyncoopnet project members and it's based on archival sources of history discipline. They divided the sections based on the theme and coherence. From introduction, types, space, place and time and network connection.

Usually water is the main source for human being survival. Civilization flourish along the river beds then it also took place at the oceans. There was lot migration took place between 1580-1640 to us from Europe especially maritime related.

Chapterisation:

This thesis is divided into 5 chapters. 1st chapter is Introduction. 2nd chapter is about concepts and theories. 3rd and 4th chapters are thematic and 5th chapter is conclusion.

1st chapter deal with review of literature and methodology, broader research questions, methodology, scope of study.

2nd chapter deals with the approaches, discourses, definitions, concepts and categorisation, port theories, monsoons and impact, definition of coast of Coromandel coast, etymology, geography and flora of Coromandel coast, historical approaches and definition of Buckingham Canal.

3rd chapter deals with Historical evidences of Krishnapatnam and Dugarajapatnam ports. Historical anecdotes of Krishnapatnam port, report of the field trip to Krishnapatnam port in 2016 A.D, Dugarajapatnam port, references of Armagaon in texts, report of the field trip to Dugarapatnam port in 2016 A.D, decline in maritime trade in 18th century and assessment.

4th Chapter deals with Evolution of Krishnapatanam and Dugarajapatnam ports. Course of evolution of Krishnapatnam port, V.O.C, reference of Krishnapatnam port in chronological order, fisheries of the Krishnapatnam port, K.P port in contemporary times, projects in progress at K.P. port and development, new generation facilities, road connectivity, rail connectivity, PPP, DEA, Ministry of Finance, BOST policy, relations with East Asian Nations, assessment, Act East policy, maritime oriented look east policy, concepts and definitions which are used with regard to K.P port and conclusion. Also References and evolution of D.P port, the existence, evolution, decline and re-emergence of D. P. port.

5th chapter deals with concluding remarks.

Why should one look at the port as part of Urban history only? Why can't we look at it as part of agrarian economy? Because there are many medium and small ports in a country like India still remained as part of productive agrarian economy. Every port will not lead to the development of city. Major thrust is to explore what are the decisive factors of place which turns it to be a port? geographical? economical? or political? or combination of these along with the any other factors? How does one can reconstruct the history with the available sources? What is the need now?

One utilised case study and company records to understand the past. Another brought narratives and human face to study the history. Another picked literary sources, and another discussed many symbols to study the past. Some picked shipping activities to the study the maritime history. Some used vernacular literature to explore the history. These are the different ways to explore the history with the maximum effort. But I would like to add geography, economy and polity to understand the past better and consecutively I will use socio and cultural factors too to understand the Past. Hence approaches and concepts discussed in second chapter.

Chapter 2

Approaches

Chapter 2

Approaches

A positivist approach is basically employed in the present research. But in this study, some tools are employed to interpret and critically analyse social reality. The thesis's main goal is to discover the social reality of a specific point in history and to try to bring its connections and links to broader historical events. From macro-economic history to regional history to local history and its huge literature, the effort is to narrow down and understand the events. Social reality is stable in its pre-existing form. That order can be discovered through investigation using an interdisciplinary approach. Human agency here is largely shaped by powerful external factors and social pressure. And free will in research is largely an illusion. The role of common sense and instinct for the researcher is clearly distinct but less valid than science, even with the help of science. The theory looks like a logical, deductive system of interconnected definitions and laws. Explanations were logically connected and based on facts. Evidence is dependent on comprehensive observations that others can also recapitulate.

Discourses

The origin of a port, its evolution, development, decline, and re-emergence, or, in other words, the ebb and flow of ports, are determined by many factors like socio-political and economic traditionally. But there is a need to understand the situation deeper. Factors like the necessity for particular products at a particular period of time, the advances of technology,

the demand for certain goods, the discovery of new things, and international global situations matter in the case of ports. The emergence of Madras port and the decline of Dugarajapatnam are two such ports to be examined.

The shape of society is influenced by port:

In some cases, *port* shapes society at the local level based on the nature of the port. Madras Port reshaped the society, settlements, and nature of the neighbouring villages. Its history before the Madras port and after the port substantiates this point. For instance, if a port is specialised in shipbuilding, then it will create more space for craftsmanship. If port activity is centred on export and import items, it will definitely lead to more space for the production and transport of such products.

External factors determine the port:

In some cases, external factors like the location of the port on a busy trading route, the necessity of specific goods for a particular period, the port's proximity to the export items, its road, rail, and marine links to other ports, and political patronage by rulers all contribute to the development of the port. At one point in time, Dugarajapatnam was such a port.

Port factors are interdependent on each other:

In some cases, both situations occur with periodic recurrence. Krishnapatnam is such a port if one looks into its history and evolution over time.

There are few perspectives on port studies. Those are perspectives from the hinterland-port-ocean-port-trade network, which are subjective but land-based. In some cases, the connection

between the ocean and littoral societies is subjective. Ocean and littoral societies as subjective, which is a new phenomenon in the contemporary world of Save the Environment.

Definitions:

Definitions of different concepts discussed here which are used for the current research.

Port:

As per the DK Illustrated Oxford Dictionary (2011), *port*⁴ means a town or a city with a harbour or a harbour with the Latin origin of Portus. Many use port and harbour synonymously, but port and harbour are different in nature.

As per the popularly accepted definition, “a *port* is a physical spot or situation on a coast or shore containing one or more harbours where ships can dock and transfer people or cargo to or from land⁵”. Krishnapatnam considered to be a port.

Few academicians argue that Port⁶ is the place where trade takes place. It is not only about exchanging goods, but also about exchanging people, culture, ideas, and many other things.

Hinterland:

Hinter-land is a phrase that means “the land behind”⁷. In his Handbook of Commercial Geography, geographer George Chisholm first documented the term’s use in English (1888). The term *hinterland*⁸ has a variety of connotations⁹.

⁴ Kidwai, Atiya H. "Port cities in a national system of ports and cities: A geographical analysis of India in the 20th century." *Brides of the sea: Port cities of Asia from the 16th-20th centuries* (1989): 207-222.

⁵ Shah, Jayraj. "Performance Evaluation of Kandla Port."

⁶ Broeze, Frank. "Ports and their Hinterland, 1700–1950." (1990): 181-182.

⁷ Van Cleef, Eugene. "Hinterland and umland." *Geographical review* 31, no. 2 (1941): 308-311.

⁸ Weyand, Kara Marie. "Toward the hinterland." PhD diss., Iowa State University, 2013.

Concepts and categorization

A thorough understanding of the ideas embedded in the terms ports, ports and harbours, port-hinterland relations, network connections, types of ports, theories on port evolution, and strategy are needed since this work is on “*port*” maritime trade.

Categorization of the Ports:

Ports are divided into many categories based on the nature of the port, activities at the port, and size of the port. The port’s history plays an important role here. Based on their evolution with reference to other ports, ports are divided into small, sub, feeder, minor, and major ports. Based on their location, ports are categorised into sea ports, riverine ports, and landlocked ports. Similarly, the depth of the port determined whether it was a major, medium, or minor port as per the Government of India’s definition. It may be divided into container, cargo, or consumer ports based on previous activities. Some ports are solely dedicated to shipbuilding, ship repair, and harboring. Krishnapatnam was once used for ship repair¹⁰. Some ports, based on their strategic location, were used only for safety and protection of the coast and were defence points. Dugarajaptnam considered to be outpost in records.

There are different types of ports. The terms *port* and *seaport* refer to various types of port facilities that handle ocean-going boats, while *river port* refers to river traffic such as barges and other shallow-draft vessels. Some inland ports, such as those on a lake, river, or canal, have access to the sea or ocean.

Ports are also defined according to their functions, so we have terms like *cargo ports*¹¹ and *cruise ports*¹². Cargo ports differ from cruise ports in that they handle quite diverse cargo that

⁹ It could be referring to “Geographic region”, “Countryside,” “backcountry,” “boondocks,” “the Bush” (in Alaskan usage), and “the outback” are all synonyms (in Australian usage).

¹⁰ Ramakrishna Rao K.V. “The Shipping Technology of Cholas”, *Proceedings of 27th Annual Session of South Indian History Congress*. Rajapalayam : Tamil Nadu. 2007. P.no: 1-7.

¹¹ Hall, Peter V., and Anthony Clark. “Maritime ports and the politics of reconnection.” In *Transforming urban waterfronts*, pp. 33-50. Routledge, 2010.

requires very different mechanical means to load and unload. The port may handle a single cargo type or a variety of cargoes, such as grains, liquid fuels, liquid chemicals, timber, autos, and so on. These ports are referred to as *bulk*¹³ or *break bulk*¹⁴ ports¹⁵. Container ports are those that handle containerized cargo. Most cargo ports handle a wide range of cargo; however, certain ports specialise in certain types of cargo. Furthermore, each *cargo port* is divided into different operating terminals that handle various cargoes and are run by different corporations, also known as terminal operators or stevedores. Krishnapatnam Port is considered to be a *cargo port*¹⁶. Located in the trench of the Bay of Bengal where it meets the small water body known as Upputeru, located in the south eastern part of Nellore district in eastern Andhra Pradesh of south India. Krishnapatnam port is a port that has a very favourable¹⁷ site¹⁸.

¹² Gui, Lorenzo, and Antonio Paolo Russo. "Cruise ports: a strategic nexus between regions and global lines—evidence from the Mediterranean." *Maritime Policy & Management* 38, no. 2 (2011): 129-150.

¹³ Barros, Victor Hugo, Tarcísio Souza Costa, Alexandre CM Oliveira, and Luiz AN Lorena. "Model and heuristic for berth allocation in tidal bulk ports with stock level constraints." *Computers & Industrial Engineering* 60, no. 4 (2011): 606-613.

¹⁴ Umang, Nitish, Michel Bierlaire, and Ilaria Vacca. "Exact and heuristic methods to solve the berth allocation problem in bulk ports." *Transportation Research Part E: Logistics and Transportation Review* 54 (2013): 14-31.

¹⁵ Talley, Wayne K. *Port economics*. Routledge, 2017.

¹⁶ Krishnapatnam port is considered to be a Cargo port. Post-independence The Government of India decided to appoint committees on the subject of development of minor ports so as to meet probable demands of coastal shipping traffic. Eventually there were many committees appointed on the subject of development of minor ports (technical), intermediate ports, the problems and prospects of the minor ports and potential ports which can handle iron ore especially. These committees recommended categorisation of ports into major, minor/intermediate, sub-port/petty ports based on tons of cargo handling per year. Along with these the Indian governments wanted potential iron ore handling and all weather ports due to growing demand for iron ore export to Asian countries. The geographical position of India enabled her to become a large source of supply to the steel industry in Japan, China, Western Europe as well as to the developing steel industry in the east European countries. The Traffic in iron ore could be handled both by the major and intermediate ports. Port which handled one lakh tons or more cargo per year or were otherwise important were regarded as intermediate ports. Other ports with annual cargo tonnage below one lakh but not less than 1500 tons or which had importance for any other reason such as passenger amenity, customs or naval requirement, could be classified as minor ports. All the remaining ports should be classified as sub-ports or petty ports. Cargo tonnage of 5 lakh per annum should be the minimum requisite trade consideration of development of an intermediate port as major port. It would be helpful to the transport economy of the country as a whole to have a few well equipped intermediate ports suitably placed geographically and well maintained. Fifteen to eighteen intermediate ports would provide the country with a very good system of second line of ports.

¹⁷ Notteboom, Theo E. "Concentration and load centre development in the European container port system." *Journal of transport geography* 5, no. 2 (1997): 99-115.

¹⁸ Hoyle, Brian. "Lamu: Waterfront revitalization in an East African port-city." *Cities* 18, no. 5 (2001): 297-313.

There are other terms like seaports, inland waterways, riverine ports, port enclaves, and entrepôts¹⁹. Because Krishnapatnam is referred to in literature as an entrepôt²⁰ and Durgarajapatnam is referred to as an *outpost*, concepts such as port site and situations, littoral societies, port complexes, port concentration and diffusion, port cities, gateway cities, colonial ports, and native ports must be investigated. Inland waterways were used to transport goods by wooden boats from one port to another or from a port to consumption areas. Locks were constructed to control traffic on these waterways. Eventually, Buckingham Canal (which connects Marakkanam in Tamil Nadu to Pedda Ganjam in Guntur District of Andhra Pradesh) was dug, and currently it is acting as a buffer zone for the Coromandel Coast to mitigate the damage from tsunamis. Besides clarifying and identifying suitable concepts of ports to apply for this research, a review of the literature was undertaken to understand the current theory of port development.

Ports are becoming more economically significant, both locally and nationally.

Ports and Harbours

It is necessary to distinguish between ports and harbors. It has been pointed out that “a port is essentially an economic concept; a harbor, a physical one.” The locations of ports and harbours do not always coincide. As Murphey has rightly observed, “most ports have poor harbors, and many fine harbours see few ships²¹.” “A port is the point of interaction between land and ocean space, where commodities, people, and cultures are exchanged. It’s a tangle formed by the intersection of maritime and interior transportation lines²². A harbour is a deep, sheltered place. Port growth requires some form of shelter, whether natural or manufactured. Ports will not be attracted to good harbours if the coasts on which they are located are not

¹⁹ Feenstra, Robert C., and Gordon H. Hanson. "Intermediaries in entrepot trade: Hong Kong re-exports of Chinese goods." *Journal of Economics & Management Strategy* 13, no. 1 (2004): 3-35.

²⁰ DeVoretz, Don J., and John Ma. "Triangular human capital flows between sending, entrepot and the rest of the world regions." *Canadian Studies in Population [ARCHIVES]* (2002): 53-69.

²¹ Rhoads Murphey, *On the Evolution of Port City, in Brides of the Sea* (ed, Frank Broeze), 230. Frank Broeze (ed). *Brides of the Sea : Port Cities of Asia from 16th to 20th Centuries* (Australia: University of New South Wales, 1989).

²² Weigned G.G, “Some Elements in the study of Port Geography,” *Geographical Review* Vol.48, No.2. (April 1958) p.no 185-200

essential in terms of the region's land-and-sea exchanges²³. Economic analyses of ports have highlighted the distinction between seaports and seaport terminals. The former are transportation nodes, and the latter are locations for industry-based bulk imports²⁴.

Ports are therefore entry and exit points where trans-shipment of goods or passengers or both can take place, from ship to ship or ship to shore. The location and growth of a port are dictated by both the geographical layout of long-distance shipping routes and the technology of ocean-going vessels²⁵. The origin, evolution, and growth of a port depend on many physical and cultural factors. Among the physical factors, site is the most important. The site is the area of land and associated waters on which the ports and the port town are actually developed²⁶.

Harbour:

A harbour, often known as a port, is a body of water where ships, boats, and barges seek shelter from storms or are kept for later use. The terms “harbour” and “port” are frequently interchanged. A port is a man-made structure used to load and unload ships as well as drop off and pick up passengers. Ports are frequently found in harbours. Natural or man-made harbours²⁷ exist. An artificial harbour can be built with purpose-built breakwaters, sea walls, or jettys, or it can be built by dredging, which requires periodic dredging for upkeep. A natural harbour, on the other hand, is surrounded on all sides by land features. A natural harbour is a landform that protects a section of a body of water and is deep enough to provide mooring. Natural harbours have long been important for naval and commercial purposes, and many of the world's biggest towns are built on them. A sheltered harbour lowers or

²³ B.S. Hoyle, *The Seaports of East Africa* (Nairobi: East African Publishing House, 1967), p.no.7.

²⁴ J.H.Bird, *Seaports and Seaport terminals* (London: Hutchinson & Co. 1971).

²⁵ K.Dharmasena. “Colombo, Gateway and Oceanic Hub of Shipping”, 152.
Frank Broeze (ed). *Brides of the Sea : Port Cities of Asia from 16th to 20th Centuries* (Australia: University of New South Wales, 1989).

²⁶ B.S. Hoyle, *The Seaports of East Africa* (Nairobi: East African Publishing House, 1967), p.no 13.

²⁷ Ilves, Kristin. "Discovering harbours? Reflection on the state and development of landing site studies in the Baltic Sea region." *Journal of Maritime Archaeology* 4 (2009): 149-163.

eliminates the need for breakwaters because the waves inside the harbour are calmer. Dugarajapatnam is chartered as harbour.

Smart Port vs. Container Port

A container port, also known as a container terminal, is a facility where cargo containers are transhipped between various transport vehicles for further transport. If the transshipment is between container ships and land vehicles, such as trains or trucks, the terminal is referred to as a maritime container port. Alternatively, the transshipment could take place between land vehicles, such as a railroad and a truck, in which case the terminal would be referred to as an “inland container port.”

Maritime container ports are usually part of a bigger port, and the most important maritime container ports are located near major ports. Inland container ports are usually found in or near big cities and often have good rail links to ocean container ports. It is usual for goods arriving at a container port on a single ship to be split up and delivered to inland clients by several means of transportation. Both inland and ocean container terminals often have storage facilities for both loaded and empty containers. Unloaded containers may be stored for prolonged periods of time awaiting their next use, but laden containers are stored for relatively short periods of time while waiting for onward shipment. When containers are stacked for storage, the resulting stores are referred to as *container stacks*.

Smart ports use technology and streamline business procedures to make the best use possible of available resources, including space, time and energy. This increases operational and energy efficiency, security as well as environmental sustainability. Krishnapatnam and Dugarajapatnam intended to be new world class smart port cities with the use of artificial intelligence and technological breakthroughs declared by the Government.

Deep Sea Port vs. Shoal

According to modern definitions and classifications for understanding the nature of ports, a deep-water port is distinguished from conventional ports by the depth of the water.

A deep-sea port²⁸ available can be used for good trade, but based on the evidence, it was not used properly in the case of Krishnapatnam. Despite having deep-sea port facilities, back waters, and even a dockyard and local shipbuilding, Krishnapatnam Port does not thrive. However, in recent years, Krishnapatnam has gained recognition and acquired world-class major port facilities.

Shoal

Shoal²⁹ is well-known for its abundance of rich marine produce. From Dugarajapatnam, there were allusions to catching and curing fish. Dugarajapatnam is referred to as “Shoal” in literature. It’s possible that the submerged sand shoal is part of a shoal complex. Its proximity to additional brackish lakes and other rich wildlife was also highlighted. It is possible that Dugarajapatnam will be used as a naval base. However, Dugarajapatnam is frequently referred to as an outpost or a roadstead.

Shoals usually cause navigational hazards. Sandbanks, sandbars, and gravel bars are all terms used to describe shoals. A shoal complex is made up of two or more shoals that are related by past and current geological and hydrographic processes or are separated by shared troughs.

²⁸ By definition deep sea port is where the sea going vessels with draught of atleast 13.72 metres and above may harbour with in a port limit.

²⁹ Shoal usually refers to submerged ridges, banks, or bars that rise close enough to the surface of a body of water to cause navigational hazards.

The term shoal is also used in a variety of ways in the geologic, geomorphic, and oceanographic literature, which can be comparable or extremely different. This term can be used to describe: (1) any relatively shallow area in a stream, lake, sea, or other body of water; (2) a rocky area on the sea floor within an area mapped for navigational purposes; (3) a growth of vegetation on the bottom of a deep lake that occurs at any depth; and (4) the process of moving from a greater to a lesser depth of water.

Roadstead, Entrepot, and Outpost

Road Stead:

Roadstead³⁰ is a harbour where ships dock for dumping and commodities are unloaded and offloaded. it is a “recognised general station for ships, notoriously used as such, and distinguished by the name.” Sinnappah Arasarastnam (1986) mentioned Krishnapatnam as roadstead in his works.

Entrepot:

Entrepot³¹ is the gateway port for larger trade. Entrepôt, also known as a transshipment port, is a port, city, or trading post where goods are imported, kept, or traded before being exported again. The expansion of long-distance trade generated these commercial cities. During the days of wind-powered transport, such centres were vital to trade. Described a substantial “entrepôt³²,” which refers to a warehouse.

Outpost:

The term *outpost* refers to a military cantonment. It could be a civilian area or a military cantonment in a remote location. It can be used as a naval base or for defence. A place is known as an outpost³³ (military). Outpost (civilian) is a civilian phrase that refers to a remote or sparsely populated frontier settlement or colony.

³⁰ Prescott, Victor, and Clive Schofield. "Bays, Mouths of Rivers, Ports and Roadsteads." In *The Maritime Political Boundaries of the World*, pp. 111-138. Brill Nijhoff, 2004.

Kuznetsov, Alexander L., Alexander V. Kirichenko, and Anton D. Semenov. "Evaluation of ships turnaround time in port with approach channel." *Scientific Journal of Gdynia Maritime University* (2020).

³¹ Margariti, Roxani Eleni. "Mercantile networks, port cities, and “pirate” states: conflict and competition in the Indian Ocean world of trade before the sixteenth century." *Journal of the Economic and Social History of the Orient* 51, no. 4 (2008): 543-577.

³² Whitehouse, David, and Andrew Williamson. "Sasanian maritime trade." *Iran* 11, no. 1 (1973): 29-49.

³³ Henning, Joseph M. *Outposts of Civilization: Race, Religion, and the Formative Years of American-Japanese Relations*. NYU Press, 2000.

A sovereign state maintains a border outpost on its border, usually one of a chain of outposts. *outposts*³⁴ are artificially produced homes that are positioned in harsh environments for humans.

The British out-post was in Dugarajapatnam. What made the British choose Dugarajapatnam as their base? What goods were most likely exported and imported from this port and its surroundings? What caused the port's sudden decline? Abandoned?

Port Theories

Ports are generally related to the phases of urban growth and cosmopolitan culture, but studies on ports have been drastically neglected for decades. A few major projects on ports and their connections to urbanisation have recently been completed. In the 1990s, a seminar on "Ports and Their Hinterlands" was organised to draw scholarly attention towards this presumably neglected aspect of urban studies³⁵.

It is generally accepted that any port model and the port generation model are valuable models for analysing how a port develops into a port city³⁶. Among social scientists, the main writings on ports, port cities, and their hinterlands have come from voyagers, geographers, and historians. The available literature, however, is scanty. A remark made by Daysh in 1951 that "port geography" has received sporadic attention by geographers still holds true³⁷. The main model and substantive issues in port-hinterland studies still stem from the classic works of Sargent, Bird, Morgan, and Weigend³⁸. Historians writing about ports, on

³⁴ George, Anns. "Chabahar Port and India's New Strategic Outpost in Middle East'." India and Iran in Contemporary Relations 1 (2014): 87.

³⁵ Indu Banga, (ed.) *Ports and their Hinterland in India 1700-1950*. (New Delhi: Manohar publication.,1992) Preface.

³⁶ Shuk Man Sherman Cheung and Tsz Leung Yip. 2011. "Port City Factors and Port Production: Analysis of Chinese Ports, *Transportation Journal*. Vol. 50. No. 2 (Spring 2011), pp. 162-175.
<http://www.jstor.org/stable/10.5325/transportationj.50.2.0162>.

³⁷ Weigend G.G, "Some Elements in the study of Port Geography," *Geographical Review* Vol.48, No.2. (April 1958) p.no 185-200.

³⁸ In addition to Weigend's work cited above (pp 185-200), respectively, A.J. Sargent. *Seaports and Hinterlands*, London: Adam and Charles Black, 1938; J.H. Bird, *The Geography of the Port London*, London: Hutchinson & Co.,1947; and F.W. Morgan, *Ports and Harbours*, London: Hutchinson university Library, 1952.

the other hand, derived that initial inspiration from the works of Rhoads Murphey³⁹. Though a geographer, Murphey infused a vital sense of history into his theory and writings on the port cities of Asia. The work was received well and carried forward most effectively by Lewandowski⁴⁰, and later in 1979, yet another conference was organised in Santa Cruz, Asia⁴¹. Another multi-disciplinary conference was held in Perth in 1989, in which the concept of “port cities” was reviewed and given a very new perspective⁴².

Other theories about port development have been proposed. One of these was that of Bird, who argued that four stages may be identified in the evolution of a port. By acknowledging the usefulness of any port model, Vigarie also proposed a four-phased model of port evolution. Bird’s model had underlined two general causes that were instrumental in the evolution of ports in Britain, i.e., the contribution of the world merchant fleet and the influence of British history. In Vigarie’s test case, the four phases were coterminous with economic periods and were linked to the phases of the Industrial Revolution. Taaffe, Morrill, and Goud outlined a well-developed model of transport development in underdeveloped countries in which they highlighted the evolution of spatial patterns of port locations and the emergence of a port hierarchy⁴³. The works of Rimmer have been more useful in studying the Asian ports. Rimmer also mentions that ports are developed in different stages. His model speaks about the main and feeder ports and puts forward a diagrammatic representation of his idea. Later in 1973, Rimmer attempted to incorporate both changes in maritime and landward transportation networks into his model of port evolution. His basic assumption was that a general process of high ranking takes place through the improvement of international accessibility. The model is intended to serve as a yardstick for comparing changes in the evolution of seaports. Rimmer delineated five important stages in the idealised type of port

³⁹ Rhoads Murphey, *Shanghai-Key to modern China* (Cambridge: Massachusetts. 1953).

⁴⁰ S.J. Lewandowski, “Urban Growth and Municipal Development in the Colonial city of Madras, 1860-1900”, *Journal of Asian Studies* .Vol. 34. Issue. 2. (Feb 1975) p.no. 341-60.

⁴¹ This conference was convened by Dilip K.Basu at the Centre of South Pacific Studies, University of California, Santa Cruz.

⁴² The major outcome of this conference is *Brides of the Sea: Port Cities of Asia from 16th-20th centuries* (ed, Frank Broeze), University of New south Wales, Australia, 1989.

⁴³ E.J. Taaffe, R.L. Morrill and P.R. Goud, *Transport Expansion in Underdeveloped countries: A Comparative Analysis. Geographical Review*. Vol. 53, No. 4. (Oct.1963) p.no. 503-29.

development sequence⁴⁴. Later, Ashin Das Gupta, an historian, took up the case of Asian countries.

Monsoons

The term “monsoon” is now used to describe seasonal changes in atmospheric circulation and precipitation associated with the asymmetric heating of land and sea. The monsoon⁴⁵ is traditionally defined as a seasonal reversing wind accompanied by corresponding changes in precipitation, but it is now used to describe seasonal changes in atmospheric circulation and precipitation associated with the asymmetric heating of land and sea. Typically, the term “monsoon” refers to the rainy phase of a periodically changing pattern, although there is a dry phase as well. Although these rains fulfil the lexical definition of “monsoon,” the phrase is occasionally misused to refer to locally torrential but short-term precipitation. The West African and Asia-Australian monsoons are the world’s two major monsoon systems.

The phrase was initially used in English in British India (now India, Bangladesh, and Pakistan) and neighbouring countries to describe the strong seasonal winds that blow from the Bay of Bengal and Arabian Sea in the southwest, bringing heavy rain to the region⁴⁶.

Monsoon Impact:

The impact of monsoons on local weather varies depending on location. There is only a slight chance of a little more or less rain in some regions. In other places, semi-deserts are transformed into lush green grasslands that support a diverse range of plants and crops. The Indian Monsoon⁴⁷ transforms enormous swaths of India from semi-desert to lush greenery.

⁴⁴ P.S. Rimmer. 1973. *Spatial Regularities in the development of Australian Seaports*. p.no. 30.in B.S. Hoyle.(ed) Transport and Development (London: Palgrave Macmilan, 1973).

⁴⁵ Krishnamurti, T. N., Lydia Stefanova, Vasubandhu Misra, T. N. Krishnamurti, Lydia Stefanova, and Vasubandhu Misra. "Monsoons." *Tropical Meteorology: An Introduction* (2013): 75-119.

⁴⁶ Clift, Peter D., and R. Alan Plumb. *The Asian monsoon: causes, history and effects*. Vol. 288. Cambridge: Cambridge University Press, 2008.

⁴⁷ Kripalani, R. H., and Ashwini Kulkarni. "Climatic impact of El Nino/La Nina on the Indian monsoon: A new perspective." *Weather* 52, no. 2 (1997): 39-46.

Coast of the Coromandel

The Coromandel Coast is the Indian Subcontinent's south-eastern coast, located between the Eastern Ghats and the Indian Ocean's Bay of Bengal. From False Divi Point in the north to Kanyakumari in the south, the coastline stretches. The north-western coast of Sri Lanka can also be included in its definition.

Etymology:

The Chola dynasty's homeland was known in Tamil as Chola-mandalam⁴⁸, literally "the kingdom of the Cholas"⁴⁹.

Climate of the Coromandel Coast:

The region receives an average of 800 mm of rain each year. The majority geology as well as the season's favour northeast monsoons, which are more likely to produce constantly between October and January, the coast gets battered by bad weather virtually every year. Water scarcity and famine are also caused by the significant variability of rainfall patterns in most locations not served by the big rivers.

Flora:

⁴⁸ Seshan, Radhika. *Trade and Politics on the Coromandel Coast: Seventeenth and Early Eighteenth Centuries*. Primus Books, 2012. P.no 7-9

⁴⁹ Devare, Hema. "Cultural implications of the Chola maritime fabric trade with Southeast Asia." *Nagapattinam to Suvarnadwipa: Reflections on the Chola naval expeditions to Southeast Asia 1* (2009): 178.
Mahalakshmi, Rakesh. "Chola (Cola) Empire." *The Encyclopedia of Empire* (2016): 1-7.

The Coromandel Coast is home to the East Deccan dry evergreen forests eco-region, which runs in a narrow strip along the coast. Unlike most of India's other tropical dry forest biomes, where trees shed their leaves during the dry season, the East Deccan dry evergreen forests keep their leathery leaves all year.

The Coromandel Shore also has vast mangrove forests along the low-lying coast and river deltas, as well as numerous significant wetlands.

History of the Coromandel Coast:

The Coromandel Coast is the south-eastern coast of the Indian Subcontinent, stretching from Kanyakumari in Tamil Nadu to the Krishna River's delta in Andhra Pradesh. The term "Cholamandalam" comes from the Tamil Cholamandalam, which means "country of the Cholas," referring to the Chola kingdom that dominated the region from the mid-ninth to the mid-twelfth centuries. The term "Charamandel" was first used in this location by the Portuguese. In contrast to the original printing of the term "Charamandel," Barbosa wrote it as "Choromandel." Intriguingly, the name appears in Emperor Ashoka's rock inscriptions, Tanjore's big temple inscription, and on the walls of Tamil Nadu's temple cities. The British were the ones who went on to convert Cholamandalam into Coromandel and use it to refer to the coast. The term "Coromandel" was adopted by European writers and trading corporations in their official records, and it continued to be used in following periods.

Pulicat, Madras, Pondicherry, Cuddalore, Tranquebar, Karaikal, Nagore, Nagapattinam and Dugarajapatnam are just a few of the many appropriate harbours in the Coromandel. Historically, the region's importance was established through the export of textiles.

The Thai monarchy and court of Siam (modern Thailand) received Indian Muslim eunuchs from the Coromandel Coast. Because the Thai held eunuchs in such high regard, they occasionally invited them to Thai ceremonies.

The British eventually prevailed; however, France kept the enclaves of Pondicherry and Karaikal until 1954. Chinese lacquer items, such as boxes, screens, and chests, became known as “Coromandel” commodities in the eighteenth century.

The Indian Ocean earthquake, one of the deadliest natural disasters in modern history, struck off the western coast of Sumatra (Indonesia) on December 26, 2004. Over 220,000 people are said to have died as a result of the earthquake and tsunami that hit the Indian Ocean’s rim. The Coromandel Coast was ravaged by the tsunami, which killed many people and swept away numerous coastal settlements but Buckingham canal acted as buffer-zone on the coast.

South India and its coast are part of the Indian Ocean. The west coast is surrounded by the Arabian Sea, and the east coast of India is part of the Bay of Bengal, and there were numerous ports on the Coromandel Coast. According to Sinnappah Arasaratnam, there were 50 ports⁵⁰ on the Coromandel Coast. There was huge benefit to having a port on the Indian coast because it was a bridge between Europe, Asia, and South East Asia. The Indian subcontinent has a huge land mass at this juncture of world maritime trade and subtropical weather.

India had land and sea routes across the globe for trade throughout its history. But changes in maritime trade routes over time, changes in political networks, and, among the Indian merchants, religious rivalry, xenophobia, and the discovery of a thorough understanding of ocean currents, marine winds, and monsoons had a greater impact on Indian maritime trade. Many ports lost their significance. Some ports emerged. Technical advancements, the production of cotton textiles in other places, and the introduction of roadways and railways

⁵⁰ See map. 4.

indirectly had an adverse effect on Indian maritime trade. But construction of the light house⁵¹ was never a disaster.

Light House:

Towers with blazing lights and fog horns are used as lighthouses and beacons to mark significant or hazardous sites. They can be found on rocky cliffs or sandy shoals on land, on wave-washed reefs in the sea, and near harbour and bay entrances. They assist in guiding ships securely into and out of harbours and serve to alert seamen to treacherous rocky shores and dangerous shallows. The messages of these time-tested navigational aids are straightforward: either keep away, danger or come this way. Dugarajapatnam light house has specifically mentioned in all the British despatches and records.

Historical Approach:

Many historians have traditionally used literary and archaeological sources to study the maritime history of the Coromandel Coast. K.N. Chaudhury, Irfan Habib, Sinnapah Arasaratnam, Sanjay Subrahmanyam, Om Prakash, and many others used the traditional method of investigation through British India records, despatches, cowl books, and archival evidence along with the archaeological inscriptions. But there was a lack of understanding of society from the perspective of history from below. Ashin Das Gupta propounded, "History should have narratives with human faces." It provides an intriguing tool for investigating historical facts (E.H. Carr). This concept highlights the idea of an interdisciplinary approach to dealing with the past. With regard to case studies of exploring ports, the presence of folklore tales and narratives of the local comes into play.

Buckingham Canal

⁵¹ Hunter, John R. "'Maritime Culture': notes from the land." *International Journal of Nautical Archaeology* 23, no. 4 (1994): 261-264.

The Buckingham Canal is a 796-kilometer (494.6-mile) long freshwater navigation canal in South India that runs parallel to the Coromandel Coast from Kakinada in Andhra Pradesh's East Godavari district to Villupuram in Tamil Nadu.

It was briefly known as Lord Clive's Canal after being renamed Cochrane Canal in 1806. It was named Buckingham Canal in 1878 because the Duke of Buckingham. The Governor of Madras, ordered the canal to be extended to assist residents suffering from the famine. The British named it the North River, and it was credited with helping to protect much of the Chennai and southern Andhra coastlines from cyclone damage.

The first leg of the canal, originally known as Cochrane's canal, was a saltwater navigation canal that lasted for 18 kilometres from Chennai North to Ennore (11 miles). Basil Cochrane was the one who put the money into it. In 1837, the Madras Presidency government took over the canal and expanded it. Lord Clive's Canal, and later Buckingham Canal⁵², were the names given to the canal when it was opened.

The Buckingham Canal, railway lines, and road systems all contributed to the decline of many Indian ports in the long run. Krishnapatnam was one of the ports.

The third and fourth chapters discuss the history and evolution of the ports of Krishnapatnam and Dugarajapatnam over time and space.

⁵² Jayaprakash, M., R. Nagarajan, P. M. Velmurugan, J. Sathiyamoorthy, R. R. Krishnamurthy, and B. Urban. "Assessment of trace metal contamination in a historical freshwater canal (Buckingham Canal), Chennai, India." *Environmental monitoring and assessment* 184 (2012): 7407-7424.

Chapter 3

Historical Evidences of Krishnapatnam and Dugarajapatnam Ports

Chapter 3

Historical Evidences of Krishnapatnam and Dugarajapatnam Ports

The presence of natural harbours and naturally existing structures beneficial to shipping was a notable feature of the Coromandel Coast and the western coast of India in general. This is one of the reasons why trading along India's western coast was relatively straightforward, despite the continental shelf's depth. The absence of deep harbours and the low continental shelf along the eastern coast hampered the passage of large vessels from the reverse to the ocean. There were just a few sites along the entire Coromandel coast that were particularly conducive to shipping, and it is only natural that these points have evolved into significant ports. A quick overview of the Krishnapatnam and Dugarajapatnam ports against this backdrop would aid us in comprehending the nature of the movement of vessels and, as a result, the trade patterns from these ports. Foreigner narratives, Indian literary sources, inscriptions, archive documents, field study, and personal observation all contribute to the story of these ports. The description has been given in chronological order in order to give a fairly complete account of the dynamics behind the emergence of these ports and their historicity.

Historical Antecedents

The Krishnapatnam village contains remnants of Jainism, Saivism, and Vaishnavism. Inscriptional evidence indicates that it had the Dutch factory because this port was once known as Calitore, which translates to “red sandalwood” in Dutch. It saw the presence of the Portuguese and, later, the British, but it was mostly under the patronage of local rulers. It even had a Muslim governor contemporaneous with the Golconda Sultans. Religious affiliation and religious rivalry had a greater impact on Indian history. Because there was mention of a Muslim governor in Krishnapatnam, there is a possibility that this port had good relations with Golconda rulers. There is evidence that this port had a road connection with Honéwar in Kasergod on Karnataka’s southwestern coast⁵³. It is obvious that this port might have been used for Arab trade in India. It was even mentioned in old maps by Susan Gole (1976) as Caletore.

Dugarajapatnam Port tells the story of hasty abandonment. It serves as a secret military base, and it also reveals the richness of the marine produce since it has close ties to the Suvarnamukhi River and Pulicat Lake. The port is close to the Satish Dhawan Space Center, a research and launch facility for space explorations. Hence, the port can be used for smart purposes other than container trade. Dugarajapatnam mentioned in Susan Gole (1976)’s Early maps of India as *Armagaon*.

The landing of the Portuguese under Vasco da Gama in Calicut on May 21, 1498, near the end of the fifteenth century, represents a watershed moment in the history of India’s maritime trade. The arrival of the Portuguese in India was followed by the entry of other European populations, and the Europeans rapidly monopolised India’s coastline and maritime trade. Other foreign merchants who had settled in India and conducted brisk trade and the Europeans were vastly different. Foreign businessmen in the past had only commercial motivations and little or no backing from their home governments. European merchants who travelled to India in the sixteenth and seventeenth centuries, on the other hand, had the political and military assistance of their governments. Furthermore, they were not individual

⁵³ See map.3.

merchants but rather ambassadors for their different countries, attempting to create and protect their maritime trade through the use of their greater naval force. Their commercial enterprise was built on military superiority. European trading firms began to create fortified trading outposts, known as “factories,” on the coasts of India from the beginning, free from the administrative jurisdiction of local governments. Commercial considerations eventually gave way to territorial ambitions, bringing India into the clutches of the colonial dragon.

India’s international trade increased spectacularly in the sixteenth and seventeenth centuries because of the tripartite cooperation of the Portuguese, Dutch, and English, yet it was the dying lamp’s last ember. By the end of the eighteenth century, India had transformed itself from a bulk exporter to one of the world’s largest buyers of industrially manufactured commodities. As a result, the commencement of European commerce served as a link between India’s mediaeval economic opulence and the colonial deprivations and poverty that resulted throughout nearly two centuries of British administration. Here is a detailed account of the many stages of European business in India, as seen through the eyes of the Portuguese, Dutch, English, and French, respectively.

India’s seaborne trade with western countries fell into the hands of the Arabs in the seventeenth century, who sold Indian goods to merchants in Venice and Genoa, Italy, to suit the needs of the European market. The geographical discoveries of the Spaniards and Portuguese in the last decade of the fifteenth century upended this order. The Portuguese encroachment on the Arabs’ seaborne trade in the Indian Ocean and the Red Sea gradually paralysed it. Vasco da Gama was dispatched from Lisbon in 1497 to locate a straight sea passage to India. Petty Hindu lords were given control of the Malabar coast. The ruler of Calicut, whose hereditary title was Zamorin, was one of them, and he welcomed the immigrants with open arms. The arrival of a commercial rival angered Arab merchants in Calicut, but the Portuguese were protected by the Zamorin’s military guards.

The landing of the Portuguese in India “was fortunate in terms of both location and timing.” The arrival of Europeans in Indian waters and on Indian land brought with them not only

goods, ideas, and people, but also technological advancements, diseases, and cultural diversity. One of them was the Malaria outbreak.

Krishnapatnam Port

In the inscriptions, Krishnapatnam was mentioned as one of the biggest towns with a huge trade with other foreign countries. They refer to the grants made by the then kings, the traders and merchants of Kollitturai⁵⁴ /Gandagopalapattana⁵⁵, agents of rulers⁵⁶ and by Kapus⁵⁷ to temples at this place between 13th and 16th century A.D⁵⁸. There was also proof of charity edict issued by Samantha king to a barber⁵⁹ at this place. These inscriptions are found in Tamil and Telugu languages. All these reveal the longevity of the port from ancient times, power-play of dominant people and flourishing trade and guilds at Krishnapatnam. The inscriptional evidence supports the reign of Chola-Chalukya and Kakatiya chieftains. (i.e. Telugu Chodas/Cholas of Nellore⁶⁰), Kakatiyas⁶¹ and Vijayanagara rulers of medieval period from secondary sources. Even today, salt cottars can still be observed in the Krishnapatnam port region.

In E.H. Warmington's book "The Commerce between the Roman Empire and India," Krishnapatnam is referred to as a Melange⁶². It also refers to the trade links between India and

⁵⁴ Nellore District Inscriptions, Gudur – 39.

⁵⁵ Nellore District Inscriptions, Gudur -45.

⁵⁶ Nellore District Inscriptions, Gudur -48.

⁵⁷ A powerful peasant class of the region.

⁵⁸ Rangacharya V, *A Topographical list of the Inscriptions of Madras Presidency. (Collected till 1915). With notes and references. Volume I.* (Madras: The Superintendent, Government Press, 1919), p.no.1072 &1073; Alan Butterworth and V.Venugopaul Chetty. *A Collection of the Inscriptions on Copper Plates and Stones in the Nellore District. Part II.* (New Delhi: Asian Educational Services, 1990), p.no. 410-421.

⁵⁹ Nellore District Inscriptions, Gudur -48.

⁶⁰ *Epigraphica Indica* VI.XIII. 1915-16. NO.16. p.no. 194-196.

⁶¹ *Epigraphica Indica* VI.XII 1913-14. NO. 22. P.no.188.

⁶² E.H. Warmington. *The Commerce between the Roman Empire and India* (New Delhi: Vikas Publishing House Pvt. Limited, India, 1928), p.no.114.

the Roman Empire throughout the ancient period, from Augustus' triumph to Marcus' death. Ptolemy reveals the Roman Greeks' extensive, though erratic, travels and the decline of the Chola kingdom, whose name (Soras, Choras, Cholas) is hidden in his Soreitae, Soringo, and Sorea, with capital apparently at Arcot, and in his king Sornas (the name is obviously the racial title), whose place was at Orthura. This location appears to have been the inland capital of Uraiyr, whose name (Argaru) was given to a shore town and included in the Pandya kingdom by Ptolemy. Schoff has noted the power of the Pandyas and the decline of the Cholas (perhaps already harassed by the Pallavas) during the Roman imperial period, which the author believed was reflected in Ptolemy. According to him, the Cholas were partly nomadic, and it was clear that the Pandyas completed the expansion by capturing the coast land originally controlled by Uraiyr and the Argaric gulf (Palk Strait). Other Chola marts mentioned by Ptolemy include Nicam (Negapatam), places seized by the Pandyas, such as Salur (the Tamil mart Saliyur), Chaberis (Camara in the Periplus), Subura or Suburus (Cuddalore), Poduce (Pondicherry, not Pulicat), Melange (Kistnapatam), and Manaliapha (near the mouth of a river Malanga (allur)). He also mentions Malanga (Allur?), Barsaronax's royal seat near the mouth of the Tyna (Pennar river), and a slew of other cities, including Pitura or Pityndra, the Maesoloi's capital, most likely near Bezawada⁶³. The river Maeosolos isn't sure if it's the Krishna or the Godavari, so the Greeks left one of these rivers unexplored. Identification with the Krishna appears to be supported by the evidence.

Ptolemy in his books identified some locations on the Indian sub continent especially on Chola coast, and he goes into great depth about Andhra ports. The principal town and tribes of the Tamils, in particular, are recorded with exceptional detail, and there is no reason to believe that trade declined after Nero's reign.

The geographical names Kollatturai, Gandagopalapattana, and the temple of Manumasiddesvara are mentioned in two inscriptions from Krishnapatnam. It's probable that this village was renamed after Nellore's Telugu Choda chief, Vijayagandagopala alias Manumasiddhi II. According to historical texts and data, the name of the Krishnapatnam port has changed. It was known as melange in ancient times, then as Kollatturai,

⁶³ Ibid. 115-116.

Gandagopalapattanam, and Calitore⁶⁴, and Kistnapatnam, and finally as Krishnapatnam in current times. This harbour was also referred to as Caletaer by Thomas Bowrey. “The shore trenches run north easterly, 5 ½ leagues from Caletaer to Pondy,” he explained. There are 10 or 12 rocks close to the shore, before the river of Pondy, and some steep, rugged mountains on the other side of the river that hinder the river⁶⁵.

Between 1650 and 1740 A.D., there were more than 48 ports on the Coromandel Coast, according to the Sinnappah Arasaratnam. He emphasised that each port was significant in its own right. For example, Bhimilipatnam port was well-known as one of the most important rice-exporting ports on the Coromandel Coast, serving as a vital sea-based supplier to the South Coromandel, Ceylon, and Malabar coasts. The port of Narsapore was a well-known shipbuilding centre. “Krishnapatnam port was one of the principal ports of the inland district government and market town of Nellore, which was situated on the left bank of the Vupatheru river,” according to the same source. Although shallow, the Vupatheru river could be navigated in small boats for a distance of twenty-five miles in the seventeenth century, allowing piece-goods to be transported to Krishnapatnam for shipment from the port. This demonstrates the significant textile trade activity and trade route from Nellore to the port, as well as the port’s existence between 1650 and 1740 A.D.

Krishnapatnam is described in British sources as “a seaport of the 13th century A.D., whose geographical latitude is 14° 17’ north and longitude is 80° 10’ east.” It has a settlement on the Coromandel Coast, about 3 kilometres east of Muthukur village and 25 kilometres south of Nellore. The Krishnapatnam port has a road connection to Muthukur. Sri Krishnadevaraya, the Vijayanagara monarch, previously ruled over this settlement. He was the inspiration for the renaming of Krishnapatnam. Much data about Krishnapatnam port, including its type, width, and length, as well as its benefits, was documented in British administrative manuals and district gazetteers, and similar information was also discovered on stone inscriptions

⁶⁴ James Horseburgh, *“Indian Directory : Directions for Sailing To and From East Indies, China, Australia, Cape of Good hope, Brazil and Interjacent Ports”* Vol.1. Fourth edition. (London : W.H.Allen and Co. Book Sellers, 1836), p.no: 457.

⁶⁵ Sir Richard Canac Temple, (ed). Thomas Bowrey. *A Geographical account of Countries Round the Bay of Bengal 1669-1679*. (New Delhi: Munshiram Manoharlal Publishers Pvt.ltd, 1905), p.no.124.

excavated from the site. The Manual of the Nellore District in the Madras Presidency by John A.C. Bosewell is regarded as the first manual to mention Krishnapatnam⁶⁶.

Within the bar, there is a fine backwater with great depth of water, which forms an excellent harbour and place of refuge for ships of modern tonnage. Anchorage outside the bar is deemed unsafe, not being a good holding ground, but within the bar, there is a fine backwater with great depth of water, which forms an excellent harbour and place of refuge for ships of modern tonnage, according to these sources. The backwater's entrance is constantly open, and the passage through which ships enter is said to be 40 yards wide and 9 feet deep on the bar at mean tide; at high tide, the depth is 11 feet. The mouth is five or six hundred yards wide, but the depth is less on either side of the channel, which moves its location depending on the season of the year but is always open. During the monsoons and the stormy months of April and May, it now serves as a shelter for "Dhonies" and native crafts. Dhonies are occasionally docked and repaired at this port, which may be greatly enhanced and made available for ships in distress. When large English vessels came to this port, there was a substantial traffic in salt, but it has since disappeared with the abolition of the salt export depot, and the main trade has been in grain, which is particularly handy for export from its location. A fine metal road connects Krishnapatnam Port to Nellore, 17 miles away, and it was recommended that the current irrigation canal from Nellore to Krishnapatnam be made navigable. Boats drawing nine feet of water can go up to the stream, which is navigable for 18 miles to a distance of ten miles, and those drawing six feet of water can go eight miles further inland, and it was proposed to extend this navigation eight or ten miles more or up to near Guduru on Trunk Road Number 6. The East Coast Canal, which runs from Madras to Dugarajapatnam, is now being expanded to this port.

According to the data presented above, the Krishnapatnam port was previously known as Kollitturai, Kollatturai, Gandagopalapattana, Gandagopalapuram, and Kistnapatnam⁶⁷ /

⁶⁶ John A.C. Bosewell (ed. & comp). *Manual of the Nellore District in the Madras Presidency*. (Madras :H. Morgan at the Government Press, 1873).

⁶⁷ Rangacharya, V, *A Topographical list of the Inscriptions of Madras Presidency. (Collected till 1915). With notes and references. Volume I* (Madras: The Superintendent, Government Press, 1919), p.no.1072-1073. Alan Butterworth and Venugopaul Chetty V, *A Collection of the Inscriptions on Copper Plates and Stones in the Nellore District. Part II* (New Delhi: Asian Educational Services, 1990), p.no. 410-421; Rajagopal M.V, *Andhra*

Ćalitore (in Dutch)⁶⁸ and Melange in Greek, as well as in Stone inscriptions and British documents.

Report of the Field Trip to Krishnapatnam Port in 2016

It takes 10 to 12 hours to travel by train from Secunderabad Central Railway Station to Nellore. Then it's an hour by bus from Nellore to Muthukur. I chose to stay at home and do field work because I am a native of Muthukur, which is the mandal headquarters of Krishnapatnam port and hamlet. By private vehicle, it takes 30 minutes to get from Muthukur to the Krishnapatnam port. I chose to go to the harbour and the village. I interacted with a variety of people. I've spoken with fishermen and Krishnapatnam's local chief. I attempted to reach out to the port's officials. In Krishnapatnam, I have interacted with journalists and some seniors. Mr. N. Jejendra Nath, my father, was assisting me in making contact with everyone. The fishermen became enraged when they saw me walking down the street with books and a pen in my hands and a backpack, assuming I was a government official. They were furious with the government because they had not received any compensation. They were on the verge of losing their fishing livelihood. Because there were many limits on fishing at the port, they had to choose between daily wage labour or migrating to another location. Many small fishing boats were damaged due to dredging and industrial activities at the Krishnapatnam port. Fish and other sea products have migrated to other areas from this port over a long period of time. Fishermen were also expressing their dissatisfaction with the contamination in the sea and its adverse effects in the long run. They have also informed us that the yielding at the port area has gone down when compared to prior industrialization and the construction of infrastructure facilities at the port.

Pradesh District Gazetteers. Nellore (Revised edition) (Hyderabad: Andhra Pradesh. The Government of Andhra Pradesh, Government Central Press, 1977), p.no 216.

⁶⁸ Maclean C.D,(ed), *Manual of the administration of the Madras Presidency Vol.III.* (New Delhi: Asian Educational Services, 1990). p.no.423.

I was terrified by their rage and ran over to my father, who was conversing with other locals nearby. Then my father came to my rescue, explaining that I was his daughter, a student in Hyderabad who had travelled here for research. They didn't comprehend Ph.D., but they got the idea that I was studying rather than working for the government. They were interested in learning more about me. As a result, the morale and circumstances in the community have improved. My father's good name and respect saved me in this situation. I used to stay there the whole day to observe things. I have interacted with women and children. My personal liking for the sea and water made them like me more, and they have accepted me in a very short time.

Krishnapatnam was originally known as *Kistnapatam*. History says that the Vijayanagara emperor Sri Krishnadevaraya operated from this port, and hence the port was renamed *Krishnapatnam* port. In colonial times, small boats were operated through the Buckingham canal, which runs behind the port and was used as a waterway for transportation between Chennai in the south and the Krishna river delta in the north. In North Coromandel, it has been seen that Masulipatnam was a major port for a very extensive hinterland up to Hyderabad and even northwards to Indore and Burhanpur. It was linked by roads with the fertile and densely populated Krishna-Godavari Delta and further inland along a well-settled belt into the Deccan and the royal capital of Golconda-Hyderabad. After the fall of the Vijayanagara Empire, a number of petty *nayakars* and *polygars* came up in this region. During the colonial period, different European powers like the Dutch and the English operated from this port. Post-independence, the port played a significant role in the economy of the region. Iron ore was exported by wooden boats from this port. The Indian government designated it as a minor port in the early 1980s. Currently, Krishnapatnam Port is in the news because of its greater functional capacity in a short span of time for commercial usage. Now this port has been developed by a big corporate company with the government of India under the PPP (public-private partnership) and BOST policies. It is more about reviving old ports than it is about finding new locations for the development of new ports.

The fieldwork method helped in the collection of much information, which is also part of documented history. For example, Kataari Veera Raghavulu, a local fisherman, gave me a great deal of information about this port from the British period on. He stated that he came to

know all of these from his grandfather through oral tradition. I am surprised because all his information, including the environmental imbalances, tallied with the secondary sources and also with the primary sources of the government reports.

Krishnapatnam Port also displays a composite culture of Tamil fishermen and Telugu fishermen, with Telugu being the common language even for those who originally came from Tamil-speaking regions. Looking at cultural life, the study discovered that Manu's seven marriages system is still in use among them, despite the fact that Manusmriti is rejected by the Dravidians, primarily Tamilians. The Tamilians speak a mix of Tamil and Telugu or Tamil at their homes. They migrated from Arumbakkam to Krishnapatnam because of the port development works in Chennai port, which affected their occupation as fishermen. The coming of the SEZ and the clearance for 25 factories to set up their plants in this region affected the overall ecosystem, which eventually led to pollution in the region.

Dugarajapatnam Port:

This section deals with the origin of Dugarajapatnam Port, the existence of the shoal, its evolution, and its re-emergence during contemporary times. Sources for the study of port have been taken from primary and secondary literature since the textual evidence for port has come mainly from British texts. This time period, 1625-1641, saw the arrival of Europeans on the Coromandel coast, and 1639 saw the establishment of Madras as a British port. Vernacular literature from Telugu and Tamil has also surfaced, as Dugarajapatnam was located on the Coromandel coast. The port's study has been conducted through interdisciplinary lenses with sources in geography, ocean studies, and economics. Also, evidence has been sourced from political and trade transactions.

It is necessary to understand what Dugarajapatnam port was like before Europeans arrived, why the British chose Armagaon as their factory on the Coromandel Coast, why and how it was abandoned and then declined, and what the port was like after decline until the year 2020 A.D.

Dugarajapatnam has been referred to as Armugum, Armagaon, Armeghon, Monapalem, Manapalem, Duggarazupatnam, and Durgarajupatnam in literature⁶⁹. Dugarajapatnam is 40 kilometres east of Gudur, with a latitude of 13° 59' N and a longitude of 80° 12' E. It is a coastal community on the west bank of the Buckingham Canal, and it was once one of the country's natural harbours. It is reported that the English were the first to arrive at this port. There are still some remnants of the previous structure, such as the lighthouse. It is one of the seaside resorts in the Nellore district⁷⁰. It is listed in M. Francis' *Imperial Gazetteer of India* (1985) as a village in the Gudur taluk of Nellore district, Madras presidency and it is currently known as Monapalem, after a nearby village with a lighthouse. Dugarajapatnam, a little settlement on the Buckingham Canal seven miles north of Armagaon Lighthouse, has a population of 2,388. It was apparently the port of Armagaon, since it lay at Armugaon, and the two locations are sometimes referred to as one and the same. The ruins of a historic fort erected by the British East India Company can be found nearby. This harbour was also known as Armughaon in John Bosewell's district manuals. In Robert Sewells' prepared listings of the antiquarian remains in the Madras Presidency, it is also known as *Arumugam* or *Duggarajupatnam*. The early English settlers dubbed this location *Armegaum*. It is referred to as *Armeghon* by Mr. Bosewell's district manual. Dugarajapatnam is 23 miles east-southeast of Gudur and 9 miles south of the Suvarnamukhi River's embouchure on the sea. One of the early English conquests on the Eastern Coast was this little harbour. In 1625 A.D., the Karanam⁷¹ of the hamlet, Arumugam, received it from the then Raja of Venkatagiri. The factory was relocated to Madras, then known as *Chennakuppam*, in 1641 AD, where a new factory had been founded two years earlier on property donated by the Raja of Kalahasti with the permission of his sovereign, the exiled King of Vijayanagara, living at Chandragiri.

⁶⁹ Francis W,(comp), *Imperial Gazetteer of India. Provincial Series, Madras. Volume No. I.* (New Delhi: Usha Publications, 1985), p.no. 365;
 Rajagopal. M.V, *Andhra Pradesh District Gazetteers Nellore (Revised edition)* Hyderabad: Andhra Pradesh. The Government of Andhra Pradesh, Government Central Press, 1977), p.no. 212.

⁷⁰ Rajagopal.M.V, *Andhra Pradesh District Gazetteers, Nellore (Revised edition)* (Hyderabad, Andhra Pradesh. The Government of Andhra Pradesh, Government Central Press.1977), p.no.212.

⁷¹ Karanam (also spelled as Karnam), is a title and surname native to Indian states of Andhra Pradesh and Telangana. Traditionally, Karanam or Karnam was a title used by people who maintained the accounts and records of the villages and used in collecting taxes. The post was usually held by Niyogi Brahmins.

The English discovery of an outstanding site for a natural harbour near *Armagon* was more significant than the founding of Armagon in 1625. Vice Admiral Henry Blackwood chartered the Armagon Shoal, an underwater shoal (sand bank or sand bar) about six miles off Armagon, in the early 1800s⁷². The shoal is about ten miles long from north to south, with still (calm) seas within the shoal that are around nine fathoms deep, making it a *feasible harbour*, according to Blackwood. Later, it was renamed Blackwood Harbour. Close to the northern edge of the Armagon Shoal is another narrow, disconnected shoal about 2.5 miles long with a depth of 10–11 metres. Within the shoal, Blackwood even observed the reversal of coastal monsoonal currents. Coastal shoals, like coral reefs, attract a diverse range of species and fisheries. Prior to the construction of the Madras Harbour breakwaters, there was much discussion about whether the Blackwood Harbour should be developed instead of the Madras Harbour. Monapalem, a lonely coastal community seven miles south of Armagon, has a lighthouse⁷³ built in 1853 that beams once every 20 seconds and may be seen from up to 14 miles away. It was repaired multiple times before being completely closed between 1928 and 1938 due to a malarial epidemic that inexplicably killed one lighthouse keeper after another.

In the British records, it's mentioned that the port declined due to harassment by local rulers, the outbreak of epidemic malaria, and political unrest, but it seems researchers have not paid attention to the geography and nature of the soil at this place. Based on British records, Armagon was geographically a good shoal where it attracted rich marine products like fish, prawns, etc.

⁷² In oceanography, geomorphology, and earth sciences, a shoal is referred to as a natural submerged ridge, bank, or bar that consists of, or is covered by, sand or other unconsolidated material, and rises from the bed of a body of water to near the surface. Often it refers to those submerged ridges, banks, or bars that rise near enough to the surface of a body of water as to constitute a danger to navigation. Shoals are also known as sandbanks, sandbars, or gravelbars. Two or more shoals that are either separated by shared troughs or interconnected by past and or present sedimentary and hydrographic processes are referred to as a shoal complex.

⁷³ Towers with blazing lights and fog horns are used as lighthouses and beacons to mark significant or hazardous sites. They can be found on rocky cliffs or sandy shoals on land, on wave-washed reefs in the sea, and near harbour and bay entrances. They assist in guiding ships securely into and out of harbours and serve to alert seamen to treacherous rocky shores and dangerous shallows.

Based on the primary and secondary sources and with the help of scientific technology, Armagaon Shoal has the potential to be a shoal complex because of its location on the Eastern Ghats, the sedimentary deposits of monsoonal rains and floods in the eastern plains, brackish waters, and the fact that it is in the neighbourhood of the Suvarnamukhi River, Pulicat Lake, and the Bay of Bengal.

According to sources in Dugarajapatnam, it was a functional harbour and will remain so in the future. Geography has not much changed. Indeed, technological advances in large ship harbouring led to the revitalization of the Buckingham Canal, boosting India's maritime trade.

Textual references to Armagaon include:

Armagon (Arumukam), the location of an old English factory to the north of Madras, was founded in February, 1626 AD, and abandoned in favour of the settlement at Fort St. George in 1641 writes Pringle in his Consultations for 1683. Streynsham Master describes the factory house as the walls two storeys high of one portion of it, and a circular bulwark erected by itself. It was described as an *ancient dilapidated edifice* in a Surat letter to the court dated December 29, 1640–41, according to I. O. Records, O. C. No. 1764. The true name of the place, according to Streynsham Master's official diary, was *Duraspatam*.

There are a number of places along the coast to the north that once had international trade but are now abandoned and unfrequented. *Armagon* is one of them said by Alex Hamilton.

Armegam, formerly Monapolem, still exists today. Its harbour area known as Armegam Shoal. Blackwood's Harbour is the name given to the still water within the shoal. Armegam and Doogarauzpatam can be found in Madras Admin manuals, gazettes⁷⁴.

⁷⁴ Sir Richard Canac Temple, (ed). Thomas Bowrey. *A Geographical account of Countries Round the Bay of Bengal 1669-1679*. (New Delhi: Munshiram Manoharlal Publishers Pvt.ltd,1905), p.no.25-26.

On the Coromandel Coast, at the beginning of 1630, the sole English foothold was the little fort at Armagon, as the settlement at Masulipatam had been abandoned in 1628. The merchants of that port, however, were anxious that the English should return. The result was the dispatch from Bantam on April 1, 1630, of two small vessels—the Falcon and the Dove—under Henry Sill, who had been appointed *Agent of the Coast*, with instructions to reopen trade at Masulipatam. Apparently commerce was resumed on the old lines without any definite agreement, and soon the English had five factories going. The company at home was, of course, unaware of these developments. As already related, they had decided to reduce Bantam to an agency and to place that and the Coromandel factories under Surat, but this decision appears to have been taken after the dispatch of the *Star* (300 tons) in December, 1629, with a cargo on account of the Second General Voyage. In her went George Willoughby, whose instructions were to proceed first to the Coromandel Coast, invest some of his capital, and take the proceeds on to Bantam. He reached Armagon on June 27, 1630, and, after landing some of his goods, passed on to Masulipatam, where he found Sill and other factors employed on behalf of the Old Joint Stock.

Blackwood Harbour is the only safe harbour for large ships for the entire distance. The most notable marine places on this coast, which ends at latitude 17° 15', are Masulipitam, Cocanada, and Coringa. At this point, the Orissa coast begins⁷⁵. Similar information can also be found in William Thomas Thornton, C.B. 1875's *Indian Public Works and Cognate in India*. Mac Millon, London, p. 143.

Based on the above evidence, it could be that a treacherous shoal, political unrest, an outburst of malaria, and harassment of local rulers led to the decline of Armagon. But once again in 2014, the port occupied news headlines as a container port and the promising future smart port city of Andhra Pradesh. But there was controversy over the construction. The building

⁷⁵ J. Frederick Baness, . Index *Eographicus Indicus*; being a list, alphabetically arranged of the all places in her imperial majesty's Indian Empire, with notes and statements. statistical, political and descriptive of the several vinctes and administrations of the empire, five states, independent and feudatory, attached to and in political relationship with each, 'her information relating to India and the east. with maps. Survey of India. (London: E.Stanford 1881), p.no. 129

was met with some opposition, including concerns about the ecosystem of Pulicat Lake and the proximity of the ISRO satellite launching station in Sriharikota to Dugarajapatnam. The location was changed to Vagarru in Tupilipalem village after environmental and forest clearances. Despite the fact that Tupilipalem is 20 kilometres from Dugarajapatnam, it is still referred to as Dugarajapatnam port.

Dugarajapatnam is largely referenced in British records as a port of some importance for a short period of time. A principal port and about fifteen miles south of Krishnapatnam is the port of Arumugam, a port of some prominence in the seventeenth century according to Sinnapah Arasaratnam. Ships could anchor near the river's mouth, and large European vessels used to visit on a regular basis in the early seventeenth century. The English established a colony there early on, and both English and Dutch ships docked to carry goods. It was a key location for the export of textiles produced in the nearby hinterland settlement.

There were various assumptions obtained from the sources about the decline of Dugarajapatnam port after reading primary and secondary literature. The British East India Company desired its own port on the Coromandel Coast. They tried their luck in other ports but were unsuccessful. Finally, they settled on the Dugarajapatnam port as their manufacturing location. However, due to the port's unfavourable situation, this did not succeed. Finally, a new harbour known as Madras Port was built. This had a significant impact on many native ports at the time. The port's decline reveals the evolution of the Madras port over time.

Report of the Field Trip to Dugarajapatnam Port in 2016

Whitekuppam is adjacent to the shore of the Bay of Bengal. Vadapalem is only 100 metres from the lighthouse's north side. Monapalam is one kilometre away from Vadapalam. The new Armagon Lighthouse is between 300 and 400 metres from the shore, and the old Armagon Lighthouse is a little more interior but in the same vicinity. As already chartered from the evidence, Armagon can not be a practical port but has the potential to be a good harbour and shoal. Based on its lengthy submerged sand ridges and the still and shallow

waters, it can be a potential naval base too. A narration by a local from this place says that *all the records were burned when the Britishers left this place. They didn't want others to know their technology and strategies*. This intriguing information begs the question: was there a naval base during the colonial period? Why did they burn all the documents when they were in the habit of preserving all of them? Was this false or true information in records about this location so that the British could only use it as a defence base here? Possibly, this new perspective on the investigation may yield new information from the archival evidence.

Although European textile makers were well-versed in dyeing, they had little experience with textile printing. Woollens, as well as silks and velvets, were woven and finished on the loom, and their designs were the result of intricate weaving and finishing techniques. Simple designs on linens and woollens have been printed since the late Middle Ages, but this specialised industry never grew beyond the Rhenish districts of Germany. It was also unable to update its manufacturing to produce high-quality printed fabrics. On the other hand, Asia (and particularly India) had created a range of procedures that can be loosely divided into three categories: dyeing, painting, and printing. Although most Indian cottons were painted, historians believe that in places like Musulipatam, Nizampatam, Narasapur, Armagaon, and Madras, both techniques were used⁷⁶. This shows the importance and skilled nature of Indian textiles, which were available from the Coromandel Coast, especially where Dugarajapatnam (Armagaon) had hinterland connectivity for manufacturing this specialised cloth for export trade.

The Decline of Maritime Trade in the 18th Century

Historians have recently focused on the importance of the merchant in Indian history, and there has also been significant discussion concerning India's maritime history. Historians who are currently interested in maritime history have primarily focused on either European expansion beyond Europe or the topic of Indian offshore trade. Dr. Ashin Das Gupta has

⁷⁶ Beverly Lemire and Giorgio Riello. "East & West: Textiles and Fashion in Early Modern Europe", *Journal of Social History*, Vol. 41, No. 4 (Summer, 2008), pp. 887-916.

presented a number of considerations to show why the special role of merchants is important and designated, as maritime merchants were important for India at a critical period in its history and the decline of the maritime merchant contributed to the British empire's foundations in India.

The first step is to figure out who the seafaring traders were. The first individual who has a good claim over the Indian Shipping. According to Dr. Ashin Das Gupta, claims that the merchant was not necessarily a seafarer except for the fact that he made his living from the sea. A significant portion of his wealth was invested in shipping, and on occasion, despite being sick, he would embark on a cruise in command of his own ship. His primary responsibility was to gain a thorough understanding of the global market in order to report on global demand and prepare the Indian economy to respond.

The well-known *nakhuda* of Indian Ocean ships is the second type of individual who clearly qualifies as a marine trader. The *nakhuda* is thought to be a small god who steers a ship in the waterways between Basra and Bangkok. Although he is no longer visible, Ashin Das Gupta suspected that amid the dhows of the western ocean, he is still the one who rules over the vessel's fates without dispute. However, Ashin Das Gupta believes that as one gets closer to modern times, the *nakhuda* becomes a marine person, an expert navigator and sailor, which he wasn't before.

The western Indian Ocean knew some extremely prominent Mughal noblemen leading imperial *hajj* ships to and from Jedda, aside from the rare ship owner heading out as *nakhuda*. Later men were no better at sea, but they were *mansabdars* of some sort who would normally command on board an imperial ship. Another type of landlubber, the *nakhuda*, would sail frequently. He could be a representative of the ship's owner. He could be a close relative, such as a son or brother, or a close business friend, but he is almost certainly another famous merchant or aristocrat in the city.

Ashin Das Gupta explained to restless maritime professionals at this point that the actual navigation was entrusted to trained personnel who went by various names. A man in

technical command of an Indian ship was known as a *sarang*. A navigator known as the *Mulliam* would occasionally aid him. There would be a *tindal* on board who would be in control of the sailors. The *nakhuda*'s decisions were the law, but these *sarang*, *mulliam*, and *tindal* did the real labour at sea in later times.

Assessment

Scholars considered many Indian ports to be *entrepôts*. It is due to the location of India between Europe and Asia. Many people regard India as a link between the west and the east. According to Atiya Kidwai an *entrepôt* is essentially a trans-shipment point where goods and/or passengers are transferred from ship to ship. Its location and growth are dictated by the geographical layout of long-distance shipping routes and the technology of the ocean-going vessels⁷⁷. An *entrepôt* may not have a hinterland of its own⁷⁸. Outpost is defined as a military cantonment area. Krishnapatnam Port is considered an *entrepot* or *roadstead* by its definition but is classified as a deep sea port⁷⁹ by the Government of India's records post-Independence. Deep-sea ports are available for commercial activities throughout the year. Based on the British records, Dugarajupatnam can be an *outpost* or military settlement because of the nature of the sea and its location.

According to Himanshu Prabha Ray, the early contact was likely with members of Sanskritizing societies rather than agents of Sanskritization. We will not be concerned with the methods of interaction; instead, we will focus on historical changes in India that stimulated marine travel and trade, as well as the specific places that were the centres of these activities. The second half of the article will focus on current Southeast Asian sailing networks and their integration into developing Indian maritime circuits. References in early Sanskrit and Pali literature imply private land ownership and the growth of very wealthy

⁷⁷ K.Dharmasena. "Colombo, Gateway and Oceanic Hub of Shipping", 152.

Frank Broeze (ed). *Brides of the Sea : Port Cities of Asia from 16th to 20th Centuries* (Australia: University of New South Wales, 1989).

⁷⁸ J.Anderson.1979. discussion in *The Rise and Growth of Port Cities in Asia* (ed Dilip K. Basu), conference proceedings, Center of South Pacific Studies, University of California. Santa Cruz.

⁷⁹ Krishnapatnam port with draft of a 18.5 metres
<https://apmaritime.in/#/krishnapatnam-port>

households by the middle of the first millennium B.C. Though the Presidency is lapped by the sea for 1,700 miles, there is not a single natural harbour capable of admitting ocean-going vessels along the entire length of this long line of beach, either on the east coast or on the west Himanshu Prabha Ray explains. The numerous ports, with the exception of Madras, which has an artificial harbour constructed by running out masonry into the sea, are basically open *roadsteads* in which ships stand at anchor and dump their cargo onto light boats capable of negotiating the never-ending surf.

Roadsteads near the mouths of any of the big rivers are constantly at risk of silting up, and a number of places that were once prominent ports have now been left high and dry by the retreat of the sea. The prospect of building an artificial harbour in Vizagapatam's narrow bay has been examined, and a port on Pamban (Rameswaram) Island is being considered⁸⁰.

Red sandalwood, also known as Calitore in Dutch, is a South Indian indigenous tree. They can be found in the Palakonda and Seshachalam hill ranges of Andhra Pradesh, Tamil Nadu, and Karnataka's tropical dry deciduous forests. Red sanders prefer rocky, deteriorated, and fallow ground with red soil and a hot, dry climate. Red sanders have been downgraded from endangered to near-threatened by the International Union for Conservation of Nature (IUCN). It's used for a variety of things, including immune medication, furniture, radiation absorbents, musical instruments, food colours and spices, Ayurvedic and Siddha medicine, decorative and ornamental uses, and so on. Because of its red colour, it is a rare type of sandalwood that is in high demand around the world. Even in 2020, China, Japan, the Middle East, Sri Lanka, Bhutan, and Nepal will be the biggest markets for the timber.

On February 18, the Director General of Foreign Trade (DGFT), an agency of the Ministry of Commerce and Industry, revised its export policy to allow export if obtained from cultivation land. It has been already shown that the commerce of India with the West was interrupted by the fall of the Roman Empire in the West from A.D. 400 to 500 and by the success of the

⁸⁰ Imperial Gazetteer of India; Provincial Series Madras I The Presidency; Mountains, Lakes, Rivers, Canals, And Historic Areas; The East Coast And Deccan Districts, Madras City, And Chingleput District.(Calcutta: Superintendent of Government Printing,1908), p.no. 5.

Muhammadan armies. When Constantinople flourished, goods from the East were transported to Europe via Kandahar and Persia, the Caspian and Euphrates Seas, the Euphrates and thence to the Syrian coasts, or finally via the Red Sea and Egypt. Amalphi in the tenth century and Pisa, Genoa, and Venice in the eleventh became the principal emporiums for the trade to the East, and to that trade these cities owe their rise and prosperity. The discovery of the passage to India by the Cape of Good Hope proved fatal to the prosperity of these cities. In 1497, Vasco de Gama crossed the Cape of Good Hope, discovered Madagascar, and arrived in Calicut. India was at this time ruled over by many sovereigns and deputy sovereigns, the principal of whom were the kings of Cambey, Delhi, Bisnagur, Narsinga, and Calicut⁸¹.

The study of events in chronological order allows us to better understand the dynamics of war eras, trade monopolies, and technological advancements.

Medieval sources reveal that there is a possibility that the Vijaynagara rulers, the Qutub Shahis, and the Nizams had the biggest roles in shaping the Krishnapatnam and Dugarajapatnam ports because both the ports and their hinterlands, which are neighbouring villages, were part of their domains. Both prominent rulers have strong trade ties to the west and east. Both the rulers have strong holds and connectivity with the ports on the east coast of India and the west coast of India. Later, it was superseded by Europeans. However, drought, famine, malaria and cholera outbreaks, and cyclones have a greater impact on ports and nature later on. Demand and supply in global trade, as well as improvements in the manufacturing of the same goods at different locations at lower prices, have resulted in the decline of ports, while technological innovations have resulted in the decline of ports. Krishnapatnam and Dugarajapatnam are two of them.

The Coromandel trade had two types of patterns. One was bilateral, and the other one was linkage trade. This aspect of trade was responsible for the Coromandel's role in pre-modern

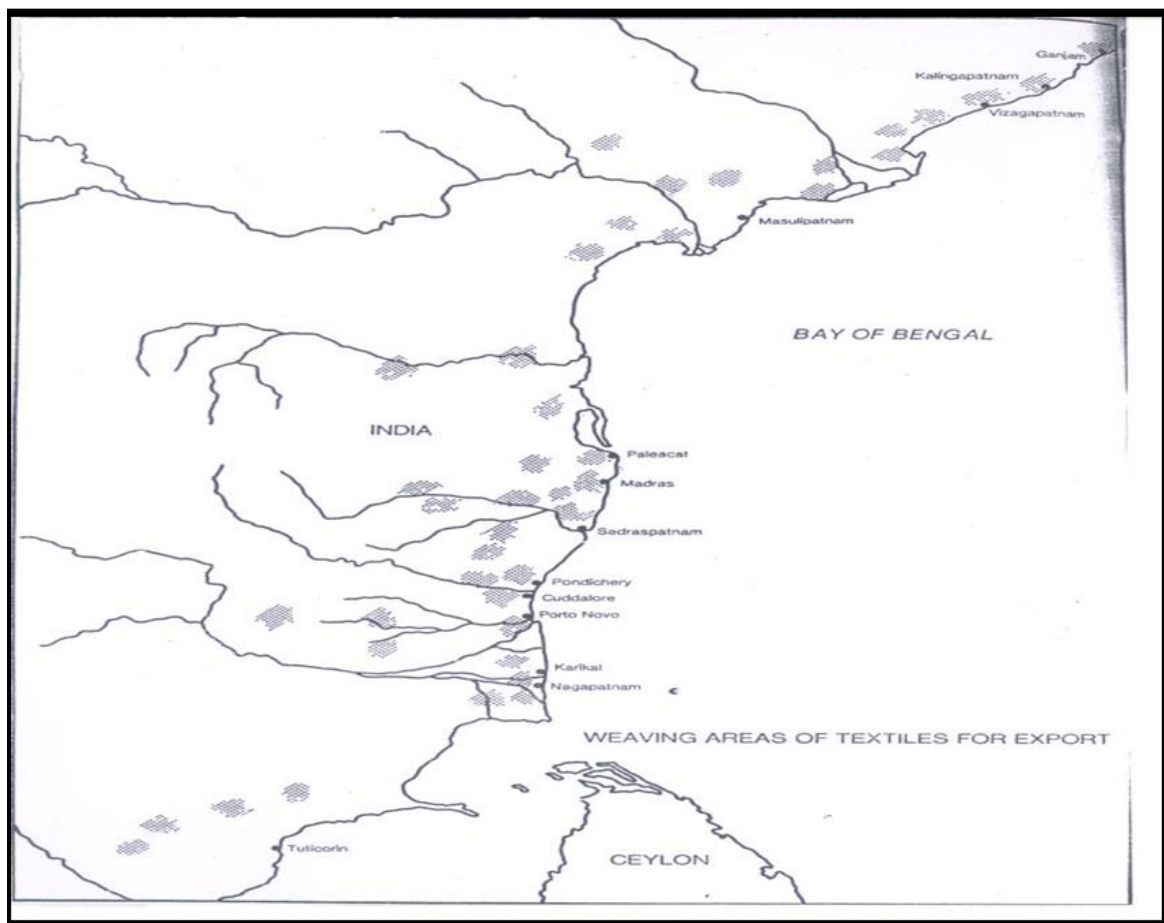
⁸¹ Alexander Graham, *Genealogical and Chronological Tables, Illustrative of Indian History*. (London: W. H. Allen And Co., 13, Waterloo Place, Published to the India Office, 1880), p. no. 28.

world trade and made it well known to early European traders. It was this that made the Dutch hail Coromandel as the left arm of the Moluccas. This aspect of the trade of Coromandel, being the feature most useful to the companies, was best known in contemporary records and has also received more attention in recent writings. The other aspect of bilateral trade that has a longer history and greater continuity dating back to the early nineteenth century has largely gone unnoticed⁸².

The fourth chapter deals with the evolution of Krishnapatnam and Dugarajapatnam ports in modern and contemporary times

Map. 1

Weaving Areas of Textiles for Exports

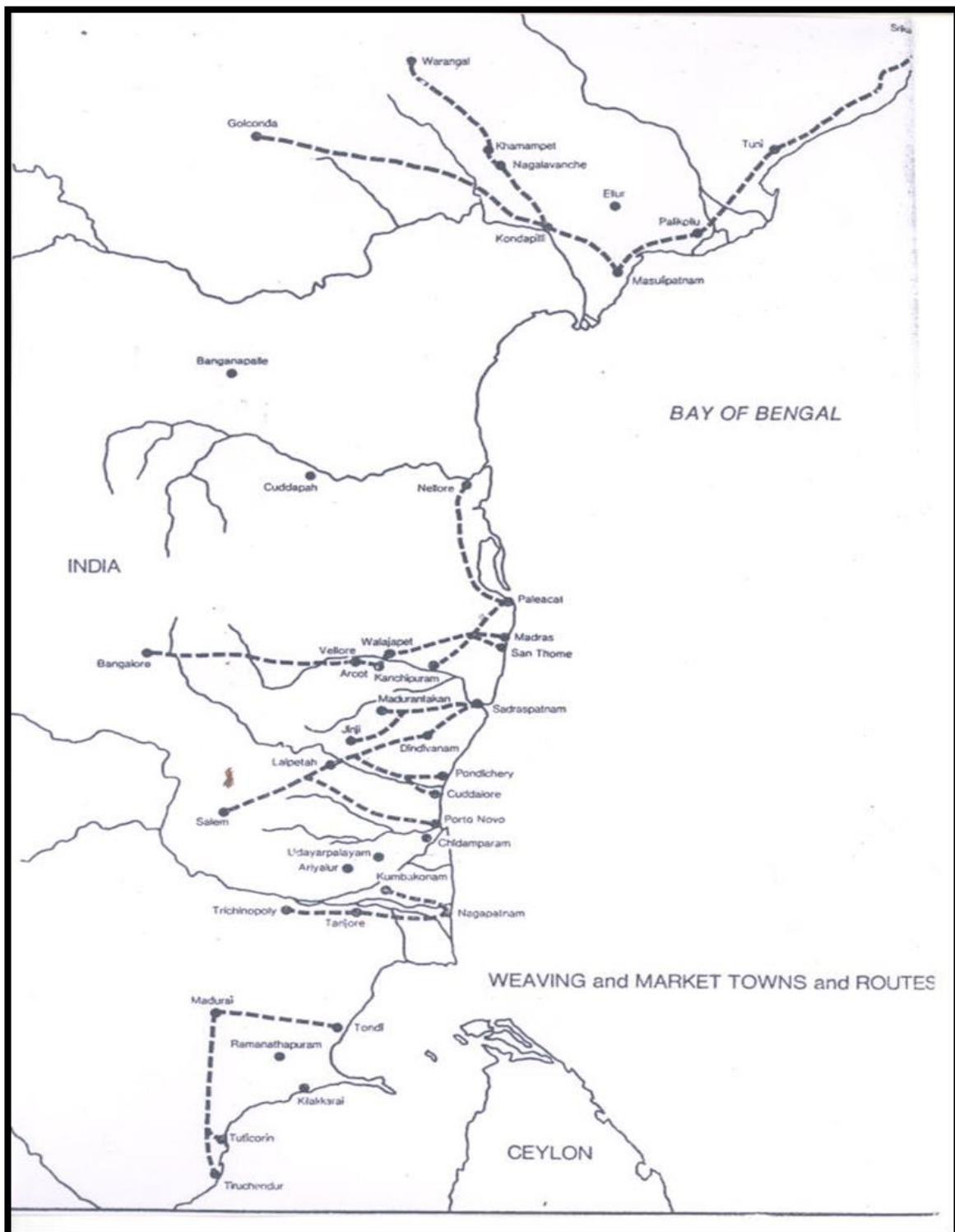


⁸² Arasaratnam Sinnappah, *Merchants, Companies and Commerce on The Coromandel Coast 1650-1740*. (Delhi. Oxford University Press, 1986). p. no. 96-97.

Source: Sinnappah Arasarastnam, *Merchants, Companies and Commerce on the Coromandel Coast 1650-1740*.(Delhi. Oxford University Press, 1986) p.no. 50.

Map. 2

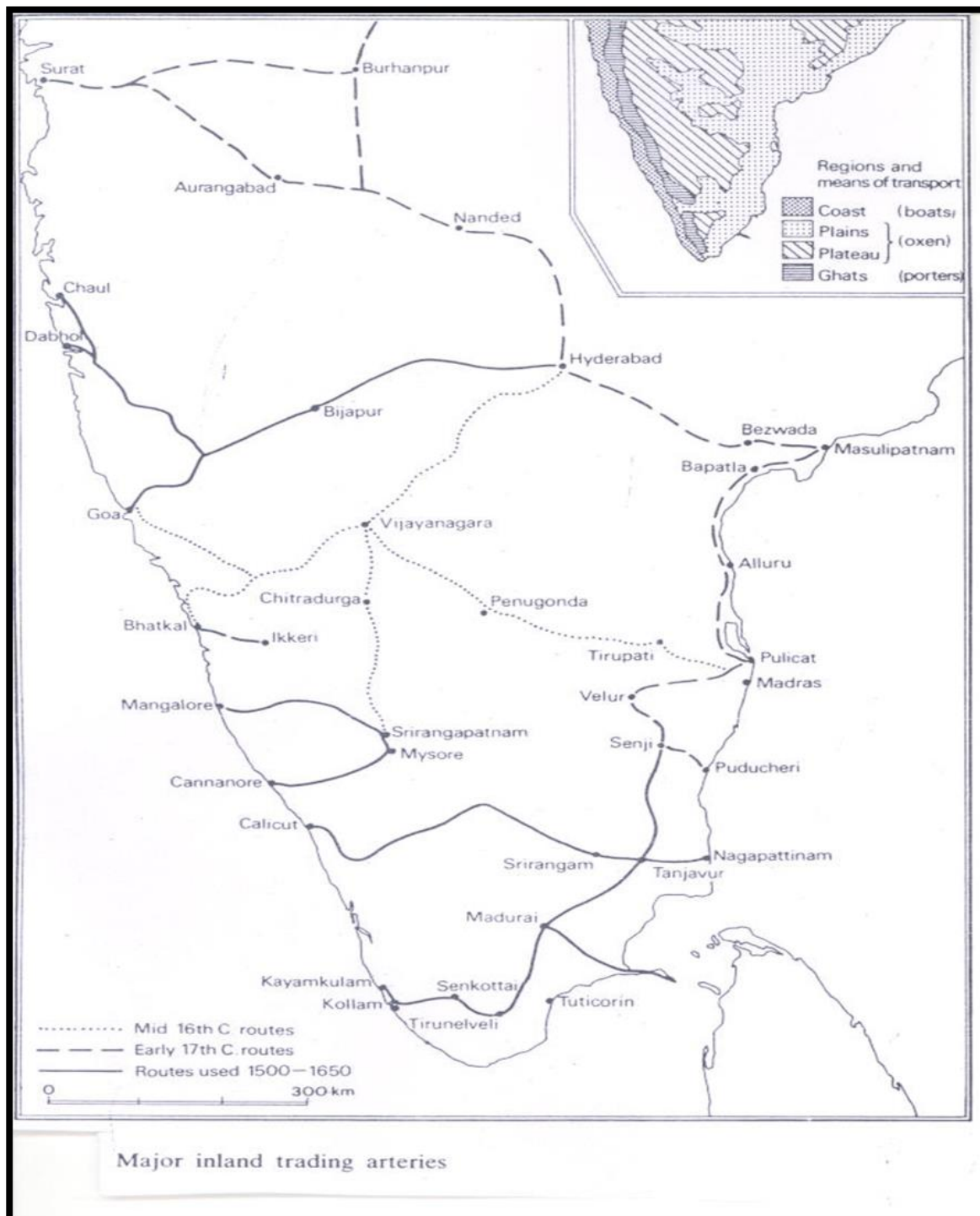
Weaving and Market Towns and Domestic Trading Routes



Source: Sinnappah Arasarastnam, *Merchants, Companies and Commerce on the Coromandel Coast 1650-1740*. (Delhi. Oxford University Press, 1986). P.no. 62.

Map. 3

Major Inland Trading Arteries



Source: Subrahmanyam Sanjay, *The Political Economy of Commerce South India 1500-1650* (Cambridge University Press, New York, USA, 1990), p.no.74.

Ports of Coromandel Coast Southern Pennar River

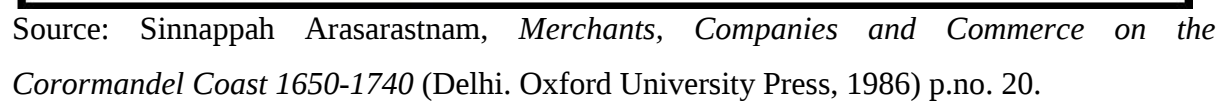


Image - 1

Dugarajapatnam Old Light House



Picture courtesy by N.Yadav. 15/10/2016.

Image - 2

Dugarajapatnam Present Light House



Picture courtesy by N.Yadav. 15/10/2016

Chapter 4

Evolution of Krishnapatnam and Dugarajapatnam Ports

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Evolution of Krishnapatnam and Dugarajapatnam Ports

The rise of ports was not an incidence that occurred in a short span of time. It was a gradual process in which were involved the sailing communities, adventurers, traders, merchants, caravan leaders, bankers, artisans, and many others. Ports form an important infrastructure in the economy of the region as they are the main centres of trade systems. This chapter analyses the various determinants that influenced the growth of the Krishnapatnam and Dugarajapatnam ports.

Course of Evolution and Decline of Krishnapatnam Port

Sinnapah Arasaratnam discussed the disintegration of the Vijayanagara empire and its impact on the ports of the Coromandel coast until the 18th century. He says that from the start of the 17th century on, there was a rapid disintegration of the Vijayanagara empire, both at its heart and its periphery. The central administration was torn by a series of succession disputes in the first decades of the century. By the 1640s, the Vijayanagara imperial family was living in Anegunda as a pensioner of the Golconda Sultans. Originally fiefdoms in a *Nayakara* system of military organisation peculiar to the Vijayanagara imperial system. These military Nayaks now became independent rulers, first at Madurai and Tanjore, then at Mysore and Ikkeri, and finally at Jinji, in close proximity to the last Vijayanagara capital of Chandragiri.

By the middle of the seventeenth century, the Qutb Shahi kingdom of Golconda had emerged as the strongest power in peninsular India. With its capital in the fortress of Golconda, later shifted to the newly built city of Hyderabad, it had expanded into the central and eastern Deccan and controlled the eastern seaboard of the Andhra delta. To the north, its boundary was the Orissa foothills, with Srikakulam (Chicacole) as the northernmost town and district. This seaboard embraces the districts of Srikakulam, Rajamundry, Ellore, Kondapilli, and Masulipatnam. These contained the seaports of Bhimilipatnam, Narsapore, Visakhapatnam, Petapuli (renamed Nizampatnam), and Masulipatnam. Further southward expansion of the

Golconda brought them up to the Palar river, about twenty miles south of Madras, and gave them control of important and productive villages in the Kanchipuram, Chingelpet, and Poonamalee districts. It gave them the important strongholds of Chandragiri, Vellore, and Jinji and brought under their jurisdiction a further extent of seacoast, including the ports of San Thome and Sadrasapatnam. All these efforts made them landlords to the European settlements of Pulicat and St. George. A successful seizure of Santo Domingo in 1664 pushed out the Portuguese and gave them sovereignty over the port. Thus Golconda became, in the seventeenth century, an important coastal power on the Bay of Bengal seaboard.

Bijapur in western India extending all the way to Tanjore. This gave Bijapur control over seaports south of Sadrasapatnam, including Devanampatnam, Cuddalore, Porto Novo, and Puducherry⁸³. The remaining ports and lands, including Krishnapatnam and Dugarajaptnam, were ruled by the Golconda dynasty.

Golconda secured its legendary reputation among the Europeans as a land of riches. It was the heir to a trading system that existed for centuries and extended the benefits of the seventeenth-century boom in Asian trade in the Indian Ocean. As a Shia kingdom, it forged close ties with the Safavid Persian Empire—political, economical, and cultural—enabling Persian and Armenian merchants for Persian Gulf ports to flock to its port of Masulipatnam and into interior cities. This Persian connection strengthened the already strong trade ties with Southeast Asia, western India, Bengal, and Ceylon. A century of peace and political stability laid the foundations for stable commercial relationships, and ports and the hinterland became enmeshed in mutually advantageous exchanges and ties. Besides the Persian contacts, the Golconda rulers forged links with every major trading power in the region—the rulers of Arakon, Pegu, Ayutha, Kedah, and the Sultans of Bantam, Acheh, Makassar, and Johore. The total annual revenue of the kingdom, according to figures extant for 1685/86, was 13,821,541 pagodas (Rs 41,634, 5694). Out of this, the sixteen districts of Karnataka produced 2,

⁸³ Bijapur's Expansion is dealt with in D.C. Varma, *History of Bijapur*, (New Delhi, 1974) Chapters VI, VII and VIII and Arasaratnam Sinnappah, *Merchants, Companies and Commerce on The Coromandel Coast 1650-1740*. (Delhi. Oxford University Press, 1986). p.no. 41

675,498 (Rs 8,038,494), or about 20 percent of the total⁸⁴. Next to the Mughal empire, Golconda was probably the wealthiest kingdom on the Indian subcontinent.

After the submission of Golconda to the Mughal empire in 1636, though it became a satellite state of the empire with obligations to pay an annual *peshkash*⁸⁵, there was political stability in the region, and Golconda's attention could be diverted to the consolidation of her eastern territories. In these territories, the rulers followed pragmatic policies of administrative integration. In those regions where the old Telugu military aristocracy was entrenched and in control, agreements were entered into with them. The district of Srikakulam was left to the tributary Rajas across the Godavari river in exchange for annual payments to the Centre. The general method of tax collection was to farm out the taxes to district governors, who agreed to pay the treasury a fixed sum annually. The governors then sublet parts of the territory under their control to lessees called *Hawaldars*. A number of such *Hawaldars* were the tax collectors of the coastal districts. The taxes embraced land revenues, dues on artisans, market duties, custom duties, and tolls at transit points. Revenues from import ports or market towns such as Masulipatnam were generally collected and directed from the centre by royal officials⁸⁶.

Bijapur's part of Karnataka did not have such stability and was troubled from the outset. Its hold on these territories was of less duration, and it did not have time to establish stable links with influential nobles of the locality. It had to contest the area with a number of rivals. The independent rulers of Mysore, Madura, and Tanjore, as well as Ramnad, felt they were heirs to the Vijayanagara empire. The biggest threat to Bijapur control over its Karnataka lands came from the Marathas. As a result, unlike in northern Karnataka, the southern regions south of the Palar River were denied stable government and administration after the 1650s. In the Maratha push to the south, Shivaji's brother, Ekoji, captured Tanjore and established a Maratha dynasty there, displacing the old ruling family. Shivaji's brother-in-law, Harji,

⁸⁴ H.K.Sherwani, *History of the Qutb Shahi Dynasty* (New Delhi: Munshiram Manoharlal Publishers, 1974), pp. 655-6.

⁸⁵ A tribute or offering to the Rulers

⁸⁶ J.F.Richards, *Mughal Administration in Golconda* (Oxford: Oxford University Press, 1975), pp. 12-34.

became viceroy of Jinji. Harji quickly became a maharaja and effectively controlled towns and strengthened his power. The destabilisation of southern Karnataka, begun with the Bijapur conquest, continued under the impermanent Maratha tenure and lasted through a well-endowed resource.

South of this Palar region, the Nayakdom of Tanjore was one of the strong successor states of the Vijayanagara empire. Firmly based on the fertile Kaveri Delta and in control of a large coastline with a number of ports, it provided a picture of reasonable stability and prosperity. The Nayaks represented Telugu aristocratic military power, and in their wake came Telugu Brahmans, administrators, and revenue farmers. This structure was grafted smoothly onto the traditional political and economic base without major upheavals. There was continuity in port-hinterland relations between 1650 and 1740 A.D. in this region. The only disturbances are the threat of external invasions and the indemnities demanded of the kingdom. The state seemed to cope even with this hiving-off of revenue in the seventeenth century. The change in the dynasty to the Marathas was also achieved with a minimum of disruption. The Maratha rulers retained intact the predominantly Telugu administrative machinery, only topping it with an overlay of Maratha and Desanatha Brahmans to share power with the older Telugu Brahmans. The Maratha link proved advantageous in staving off Maratha attacks and revenue demands⁸⁷.

The Mughul defeat of Adil Abdul Shah in 1687 and the annexation of the kingdom of Golconda brought the direct Mughul administration to the Coromandel seaboard. The Golconda, Karnataka up to the Palar river passed into their hands, and Mughul officials were appointed to administer these areas. The running Mughal-Maratha conflict was extended into southern Karnataka. The Maratha ruler Rama Raja fled after his defeat at the hands of the Mughals.

These years of conflict left the southern Karnataka hinterland utterly devastated. There was no properly constituted administration. Mughal and Maratha armies pillaged the country,

⁸⁷ V.Vriddhagirisan, *The Nayaks of Tanjore* (Annamalainagar: Annamalai university. 1942), pp.12-34.

often looting villages for grain and other food supplies, raising whatever taxes they could, and occasionally raiding coastal ports and towns in search of bullion and money. During these years, peasants, artisans, and merchants protected themselves by flight and migration. Coastal European strongholds suddenly assumed an importance they did not have before, providing shelter not only to merchants and artisans but even, on occasion, to families of harassed Mughal officials⁸⁸. When Mughal military authority was finally established and the empire expanded to its southernmost limits, the tasks of administrative consolidation and financial control began.

These years saw a severe economic crisis in Karnataka, leading to one of the worst famines and epidemics ever witnessed in North Coromandel. The failure of the monsoon rains in 1685–86 had produced shortages of rice stocks, and this was compounded by the appearance of the cholera epidemic in lower Andhra in 1686–87. Krishnapatnam and Dugarajapatnam ports and their hinterlands are located there.

The Mughal wars in the heart of the kingdom cut off the main roads and approaches to the capital of Golconda and other cities in the area. The resulting dislocation of towns and markets in the Deccan halted all trade and worsened the economic crisis. Widespread starvation, resulting deaths, and a reduction in population were noted by contemporary observers⁸⁹. Those who could relocated to Tanjore and south Karnataka, which were unaffected by crop failure, did so. As happens on these occasions, the slave market was active, with entire families selling themselves to escape starvation and death. The food situation improved slowly after a succession of good monsoons in 1688.

The extension of Mughal administration and financial control over Karnataka was a torturous process attended by many phases of struggle and opposition by a number of local forces. The

⁸⁸ Farman of Nawab Zulfikar Khan Bahadur, 16 December 1690; Pit, Governor of Coromandel GG & C., 26 January 1692, I.O.L. Hague Transcripts, First Series, Vol. 46. Sinnappah Arasaratnam *Merchant and Companies*, pp. 45.

⁸⁹ Richards, *Mughal Administration*, pp. 69–70.

existence of Maratha power under its fugitive king in Jinji was always a destabilising factor. Towards the north, in the Krishna-Godavari delta and up to the border of Orissa, where Maratha incursions did not extend, there was the problem of Telugu Rajas and Sardars. Then there were renegade Mughal and Golconda officials and sheer banditry. During the first ten years, when the Mughal army was primarily busy against the Marathas in the western Deccan, the Mughals came to terms with various Telugu *rajas*, *zamindars*, and *deshmukhs* and caused relatively little disturbance to the revenue system. The government concentrated on the revenues from the *Khalisa* lands, which were usually the most lucrative source. These included the most productive agricultural lands, artisan and market towns, and major ports. In these lands, some order was quickly restored, and the purpose was to use these resources to finance the armies that were still operating against the Marathas. In this context, the majority of the resources remained in the regions, and there appears to have been a revival of economic activity and relative prosperity. It was only after the overthrow of the Marathas at Jinji and their withdrawal from there that Mughal officials appointed to lower Karnataka were able to make stable revenue arrangements. When this eventually happened, they were more successful than in upper Karnataka and Andhra because of the absence of strong local military lords. The *polygars* of the south were less powerful than the *rajas* and *zamindars* of Andhra and were ready to become tax farmers, retaining their power over local revenue and over law and order, and remitting taxes to the Mughal *fauzdar* or *diwan*.

Sinnappah Arasaratnam discovered that markets and trade routes from the hinterland to coastal ports can be traced reasonably accurately and remained consistent over a specific time period (1650-1740). Market towns and *mittahs*, or centres for the sale of artisanal produce, were also conveniently located throughout the entire region. Export outlets were also conveniently located near manufacturing centres. Where there was a confluence between food-producing areas and areas of handicraft manufacture, there were extremely favourable conditions for the growth of trade. Where this was not the case, there was an active exchange of commodities across most of the region by land and by sea, with food surplus areas feeding deficit areas and receiving manufactured goods or cash in exchange. The nuclear areas of production and exchange were also the centres of regional administration and the homes of regional military commanders and their fiscal officers. In times of good, settled government, these officers and their subordinates saw to the efficient functioning of market towns, the security there and on the roads, and the collection of taxes from peasants, artisans, and

merchants. There were villages that were purely agricultural; villages solely of artisans of one profession or another; and, more frequently, mixed villages. The ubiquitous merchant was the medium between one sector and another. Though economically and structurally this entire Coromandel region had a broad similarity, there were naturally differences in the functioning of the economy, depending on geographic, political, and social factors.

On the entire Coromandel coast, major items for export were cloth, rice, and paddy, and there were settlements of artisans in the neighbourhoods around ports. In the extensive Andhra lowlands and plateau, included within the old Golconda kingdom and later in the Hyderabad subah, the large district of Srikakulam, with its northern border on the foothills of Orissa, was the northernmost district. In the 18th century, the territory contained a number of weaving villages, market towns, and central warehouses of manufactured cloth to which merchants could come and negotiate their purchases. A long tradition of manufacturing for the overseas market had enabled weavers and craftsmen to fabricate goods suitable for specialised markets. When Europeans arrived with their specifications in weave⁹⁰, textiles⁹¹, and measurement, it was for the craftsmen a further extension of the process of making to order that they had successfully performed. Some of these weaving centres were very close to the coast and therefore to the port for export. Others were about a hundred miles away, and the mechanisms of ordering and purchasing goods went through an extended process of two, three, or more stages. Goods had to be transported on the roads for up to twenty days⁹² accessibility and security were major requirements, and towns, mittahs and paykets⁹³ arose in convenient places. Paykets appear to be a Telugu country feature that evolved.

To the centre and south of the Godavari delta were more dense settlements of weavers, dyers, painters, and washers. South of the Pennar River, we move to an area of highly concentrated nuclear towns surrounded by villages of handicraft production and marketing. The road

⁹⁰ See map no.2

⁹¹ See map no.1.

⁹² Sinnappah Arsaratnam. *Merchants, Companies and Commerce on the Coromandel Coast 1650-1740*. (Delhi: University Of Oxford Press,1986). p.no.51

⁹³ A *payket* (*paykit*) is a group of weaving villages formed together into administrative unit. The word probably must have originated from an old Telugu word and used widely in the Andhra region as well as in Chingleput and Arcot areas of Tamil Nadu. A *payket* had a central clearing house to which the finished cloth was brought and where sorting and delivery to buyers took place.

system here was relatively undisturbed by Islamic conquest, with the Vijayanagar rulers and successor states having maintained stability in administration and economic activity. Old towns had a longevity of life that was unusual in the north. The region also had the advantage that distances between places were not great, population centres were adjacent to each other, and the terrain was not as hostile to penetration by road as was the Deccan. Consequently, as Deloche has observed in his important study of pre-modern communication systems in the Indian subcontinent, no other region of the Deccan had such permanence in its road system. The distances between ports and the hinterland areas of production and marketing get closer as we move southward, and the existence of several ports along this stretch of coastline also helped reduce this distance.

South of Nizampatnam, at the mouth of the Krishna, there were no major ports that shipped goods overseas between 1650 and 1740 until we came to Armugam (Dugarajaptnam port) and Paleacat. This may be explained by the fact that there were no large clusters of weaving villages noted for the making of goods for export until the Nellore district, which was noted for the making of fine varieties for the Southeast Asian market. Nellore-manufactured goods were transported along the coasts of Armugum, Paleacat, Madras, and San Thome, a distance of 100 to 200 miles. A further forty miles into the interior from Nellore was Matalavare, another town with some weaving villages around it. South of the Nellore district was Chingleput, perhaps one of the most concentrated centres of an export-oriented weaving industry in contemporary India. The northern taluq of this district, Ponneri, contained weaving villages clustered around the towns of Ponneri and Arani. The port of Paleacat was in this taluq, about ten to eighteen miles from these towns, which were twenty to twenty-five miles from Madras. Ponneri was a good place for bleaching and washing, as plenty of water and suitable shell sand were readily available here. Also in Ponneri was Karungali, a centre of production with well over a hundred looms. Along the coast, to the north of Arumugum and Kalutara, were weaving settlements that produced cloth for export.

South of Ponjeeri was the taluq of Saidapet, a coastal taluq where Madras and San Thome were situated. Here the weaving centres were to be found even closer to the ports. In San Thome and Mylapore, there were weavers who specialised in painting and stripping cotton for the Siamese, Cambodian, and Burmese markets. It is mentioned by Sinnappah

Arasaratnam that the indigo was very good, grown in interior Andhra⁹⁴. This reveals that the indigo cultivated on the Andhra coast, where Krishnapatnam and Dugarajapatnam ports are located, had hinterlands that were prominent for textile manufacturing with superior quality indigo dying. After Europeans arrived in India, those clothes were in high demand all over the world.

From Vijayanagara times, diamonds appear to have had a good market in Jinji and Vellore, but it appears to have fallen between 1650 and 1740 AD. It is difficult to say where the diamonds came from, but they were reportedly mined in Jinji's and prior Vijayanagar rulers' territories, according to contemporary documents. Later, the country was ruled by Bijapur. After the subjugation of most of the mining districts, the diamond market had clearly moved northwards to Golconda.

The only Europeans who entered the Coromandel coarse goods markets during 1650–1740 were the Dutch from their fort in Tuticorin. Because of the lack of competition, export varieties such as long cloth and Salem were cheaper here than in the north. As a result, they were mostly used by Indian shippers in trade to Ceylon, South East Asia, and West Asia. A good deal of the produce was also exported through Malabar ports. The great advantage of the southern Tamil areas was their surplus production of rice, which was cheaper than anywhere else on the Coromandel coast, except the far north. It was a good natural resource balance along the entire coast because there was rarely a monsoon failure along the entire stretch of coast. Thus, when there was a shortfall in one area, imports came in from another. During 1650–1740, there was a continuing seasonal export of rice from Tanjore to Ceylon, and sometimes to Malacca and Acheh. The low cost of the rice also had an impact on wages and, thus, on the price of textiles, which were generally lower than in the northern centres of production. During 1650–1740, there was a continuing shortage of rice along that long stretch of coast between Masulipatanam and Cuddalore. This seldom occurred to the south of Cuddalore, except when there were successive seasons of crop failure, extensive devastation by cyclone, or the destructive consequences of a prolonged war. Though the southern

⁹⁴ Sinnappah Arasaratnam, *Merchants, Companies and Commerce on the Coromandel Coast 1650-1740*. (Delhi: Oxford University Press, 1986), p.no: 57.

Coromandel ports were ideal for textile export due to their accessible hinterland and low-cost production, they were limited in terms of imports compared to ports like Masulipatnam and even Paleacat and Madras.

Locally cultivated goods were brought to markets. Other textile components were imported, including a specific type of dye root from Persia, as well as colours, gum, and alum from South East Asia. A densely populated, fertile, and well-managed hinterland was essential to the maintenance of trade and exchange operations.

Sanjay Subrahmanyam says that the Vasco da Gama epoch or 1498 land mark in Indian history. He also stated that the presence of North West Europeans in Asia around the turn of the seventeenth century increased the corpus of documentation. The Coromandel trade appears to have functioned in two ways, according to the report. The first was bilateral trade, which took place directly between Coromandel ports and ports in other regions where these items were sold. The other one was link trade. These occurred on both the mainland and the islands of Southeast Asia. Coromandel textiles were sent to these ports by Coromandel merchants or merchants from these specific places, while a variety of products from these regions were imported into Coromandel in return. In this pattern of commerce, Coromandel textiles were used to barter for Malacca spices or to earn purchasing power for spices for the Mediterranean and West Asian markets.

Vereenigde Oostindische Compagnie (V.O.C.) or Dutch East India Company

The Dutch had been attempting to establish a passage to India and the East since the middle of the sixteenth century. Cornelius Houtman led the first Dutch expedition to the East Indies.

Linschoten's work, which was first published in 1596 AD, caused a stir throughout Western Europe. He was, in reality, Holland's forerunner. Linschoten was reviving their respective countries' spirits.

Cornelius Houtman's mission was immediately followed by a slew of others outfitted. The Dutch made as many as fifteen expeditions to the East between 1595 and 1601 AD. The Dutch recognised the importance of stopping small, isolated journeys. They founded the Dutch United East India Company in 1602 AD by combining the various Indian corporations formed inside their various provinces into one large organisation.

The Dutch quickly monopolised the whole spice trade to Europe, and in addition to a burgeoning commerce with ports throughout the Indian and East African coasts, they earned substantial money from tolls and customs.

The Dutch were granted permission to build another plant in Pulicat in 1610 AD after negotiating with the ruler of Chandragiri. Despite being defeated, Portuguese resistance remained for several years. The main export of the Coromandel ports were textiles. Masulipatnam was the source, shipped to Batavia. Apart from spices, the archipelago's sandalwood and pepper, Japan's copper, and China's tatenag and textiles were the main imports to the Coromandel.

The market was shrinking in both export and import commerce. Many thriving market towns and trading emporia have closed down and been abandoned, according to reports. It was a predicament in which the only way to stay put was to keep running. It was an uphill battle to keep the trade running despite so many disadvantages, both for European dealers and Indian brokers and manufacturers. At the turn of the century, some broad tendencies were already apparent. Changes in market control had already occurred.

The Dutch Governor and administration had been based in Paleacatte, a fortified port. Its strategic importance was lessened after the administrative headquarters were moved to Nagapatnam in 1690, but it remained a vital commercial centre. Paleacatte, as the textile trade's headquarters, had certain clear advantages over Nagapatnam. It was nearer to

traditional production centres and inland markets. It was in a superior geographical position to oversee the Coromandel commerce.

After the capital was moved to Nagapatnam, the southern factories saw a boom in commercial turnover. Nagapatnam was part of the Tanjore kingdom. The seizure established Dutch rights there, which did not rely on the whims of native monarchs. It was a fortified and well-defended fortress. During battles with European countries, their ships could seek refuge in this stronghold to avoid hostile warships. To the north and south, a number of other enterprises acted as cloth collection points and markets for the sale. Masulipatnam, in the north, was the most important Dutch port. The English, Dutch, and French, as well as a slew of other Indian and European private traders, conducted free trade. The Dutch had a factory at Bimilpatnam, north of Masulipatnam, which was important primarily for the supply of fabric. It was close to the Vizagapatnam English plant. Two Dutch industries, Palicollu and Dacheram, were also located north of Masulipatnam. The Golconda inland factory, located in the Mughal province of Golconda, had previously been shut down. Internal unrest and the loss of local authority afflicted the northern factories in general, resulting in a slew of inconveniences and encumbrances. A number of factories were located to the south of Paleacatte, Sadraspatnam and a few miles south of Madras.

In the first decade of the 18th century, English investment in Madras' Fort St. George increased dramatically. The implications of this growth on the textile market were visible to Dutch officials. Paleacatte's fall was aided by the expansion of Madras. From its preeminent position in the second half of the 17th century, it had significantly sunk as a centre for the buying of fabric. The English enjoyed stronger relations with the provincial government of Golconda and had greater trading relationships in the northern provinces. They had a stronger foothold in Masulipatnam and were able to obtain several unique sorts of fabric that were unavailable to their competitors. The Dutch factory at Tegenapatnam had been useless as a result of their presence at Fort St. David. In the early years of the century, French trade was becoming more effective. Pondicherry's return to them in 1699, as well as their Governor Francois Martin's (1699–1706) excellent management, had prepared the path for prosperous trade and investment. From 1710 on, orders similar to those of the English and Dutch began to be placed, albeit they were not as regular and were contingent.

The Ostend Company, created by merchants from Flanders, attempted to break into the Eastern trade, adding to the Dutch troubles. They attempted to establish themselves at Kovilam, an embarrassingly close beach village to the Dutch industry in Sadraspatnam.

References to Krishnapatnam Port in Chronological Order

According to Kenneth R. Hall's book *International Trade and Foreign Diplomacy in Early Medieval South India*, the tenth and eleventh centuries marked a critical stage in mediaeval Europe's recovery from its dark age, and the same centuries assumed importance as a period of economic expansion in the Asian world, an expansion that may have influenced Europe's recovery in part. In Asia, these centuries were a period of change as new powers rose to govern the key centres of modern civilization. Kenneth further claimed that inscriptions from Mannirgudi and Tanjavur, dating from the thirteenth century, indicate that local duties and tolls were collected in a Crirgaikatai warehouse. The local nagaram⁹⁵ of Madigai and the local branch of the Ticaiyayirattaiirruvar association, whose accountant (Samayakaranattan) recorded their actions, levied fees on arecanuts, pepper, clothing, and other commodities brought for sale into the community as Chola rulers established revenue relationships with the various assemblies of the interior, with these assemblies being responsible for collecting assorted cesses. Indeed, a local civic assembly ("zr") and an itinerant commercial organisation supervised the collection of levies related to boats and ships, according to an inscription by Rijendra III (1256 AD) from Gandagopilapattinam (Krishnapatnam, Nellore).

R.S Hole, a botanist, conducted an interesting examination of Calitore, also known as Red Sandelwood and Dutch word, and concluded that it was a very discreet commerce to Europe that was rarely documented. The red colouring ingredient "Santaliu", was once the main attraction of the Red Sanders tree's wood. It was widely used as a colouring ingredient, with considerable amounts of "Red Wood" being sent to Europe. The shipments lasted until very recently, when the emergence of chemical alternatives completely replaced this natural dye.

⁹⁵ Nagaram was the town in Tamil country, where merchants conducted commercial activities

It is Rumphius who is credited with coining the name ‘Calicut’. He mentions ‘Santalum rubrum’ as recognised. It was used to make a variety of furniture, including benches and finely carved chairs. As evidenced by letters given to him in 1689, only mature trees provided good Sandalwood. The wood was also employed in the arts as a tincture with vivid crimson colour. Rumphius’s description in Latin is given below:

“Hisce addo ex iisdem litteris locum Calicut quondam dictum,
 hodie in ora Coromandelensi hoc nomine non amplius esse notum,
 sed tempore iustitatum fuisse in Kustnapatanum, seu Kustna Patan,
 ita ut primi nominis memoria inter Europeos tantum conservetur.”

The town of Kustnapatan, mentioned in this line, is located in the Madras Presidency’s Nellore District. Currently located at 14° 17’ North Latitude, has a magnificent back-water, and is a monsoon shelter for native ships. Calicut is featured between Armagon and Penner on a map by Philips Baldens

The first English factory was established in Masulipatan in 1625 AD, where trade was conducted with inconsistent success for several years. Due to the Dutch rivalry, the Agent shifted southwards to Armegam in 1628 AD. Armegam was replaced in 1639 by Madras, letter, dated February 8, 1681. The Dutch termed this red wood Calicut wood, and we have a pattern of it that originated from India, which we have sent to Nathaniel and Williamson. We’ve been told that each candy costs around 2½ pagodas.

1702 Sunday, the 15th, sent the Moollah to St. Thome to be delivered to the Nabob, Dewan, and Buxie, as there was no more good brought; which were kindly accepted, but the Dewan bid the Moollah write the Governor for a hundred more, so that he might send them to court; which is understood to be one hundred gold shoes, or so many pagodas or rupees, according

to Talboys Wheelers. Monday, September 16th When word arrived that a boat carrying the company's goods from Kistnapatam had been seized by the Moors in a catamaran off the coast of Pulicat, a musoola was dispatched to pursue them, along with four well-armed Portuguese soldiers, with orders to kill anyone who opposed the goods being brought away. "Friday, February 20th This day, our Moolah informed us that he had been conversing with the Buxie, who appears to be our friend, about the troubles we are currently experiencing and was telling him that the only way to get out of them was to petition the king, and that the Nabob, Dewan, and himself would likewise send another on our behalf. As a result, the moollah requested that he advise them on how to proceed. petitions, which he promptly filed. So, after reading them, we decided to give no response because they were unworthy of our attention, but we agreed to send for our Moollah to come here tomorrow morning to report on his negotiations⁹⁶."

There is a reference to Kistanapatam in the book title "The English Factories in India" (1651–1654). William Foster, C.I.E. 1915, wrote it. The Brahmans' Declaration of 1654 in the book refers to trade at Krishnapatnam during the 17th century. In the dispute over [William] Gurney's accounts, they proved their case by appealing to his foul booke; therefore, Greenhill, Leigh, and John Gurney [as his executors?] are liable to answer to the company. They warned Greenhill not to trust Seshadri and Koneri Chetti; he ought therefore to pay to the company what those men cannot. 'Many types of cloth, in my opinion, can be obtained in Gingerlee for 20% or 30% less than they can be obtained here; to that end, I once told the agent that the Dutch had established a factory there, and the company might as well, but the agent said he didn't want any of my advice'. The rice brought by John Gurney was landed at Kistnapatam. An instance of Greenhill's private trade gives another instance of Krishnapatnam's reference. Gurney defrauded a weaver he had employed. Greenhill used the company's rice to provide cloth for a private venture with Bantam, repaying only the original value. Gurney borrowed the company's money for his own purposes and charged them the interest on a loan thus necessitated. Greenhill imprisoned a broker for disclosing private trade information and beat a Brahman employed by the president. He took Rudriga's part when a complaint was made against him in a bargain over some jewels. Rudriga was concerned

⁹⁶ Talboys Wheeler, *Madras in the Olden Time: Begin a History of the Presidency from the First Foundation to the Government of Thomas Pitt. 1639-1702*. (Madras. Scottish Press, 1861) p.no 397-398.

about marrying an Indian woman to a man, though she had a husband living in the town. When Greenhill came to pay his respects at Fort St. George⁹⁷, he insulted Kanappa.

The records of Fort St. George⁹⁸: refers to the Krishnapatnam and the port, stating that there were charges collected for a small present to the Kistnapatam boatmen.

Information about firewood was conveyed by boats from a canal cut from Madras to Pulicat and mentioned Kistnapatam or Kalitore as a native village on the Coromandel coast and there starts the Golconda Coast. Southern Circars refer to the territory off Madras; these are financial divisions introduced by the East India Company. Betapilly, a sandy, uninhabited island close to the shore where the native town of Nizampatam is located⁹⁹.

Reference of Kistnapatam in Indian Public Works, 1875 Among inland canals, several of those designed primarily with a view to irrigation are, as already mentioned, intended to be used for navigation likewise, but it has also been shown why, except in deltaic regions, the two objects are unlikely to be advantageously combined. Fresh water, too, is in most parts of the country too scarce and valuable to be spared in sufficient quantities for purely navigable canals, and such as exist are therefore generally replenished from the sea. One series, connecting the Pulicat, Ennore, and some other lagoons, forms an almost continuous line of navigation for nearly 600 miles along the eastern coast from Sadraspatnam to Kistnapatam, and another gives similar continuity to the long succession of magnificent backwaters by which nearly the entire length of the Malabar coast is lined. Except on the sections nearest to Madras, by which considerable quantities of firewood and other necessities are brought up to that city, there is very little traffic on the East Coast Canal, which, besides having to compete with the sea, traverses, during the greater part of its course, a poor and thinly populated

⁹⁷ William Foster, *The English Factories in India (1651-1654). A Calendar of Documents in the India Office*, (Westminster. London. Published Under the Patronage of His Majesty's Secretary of State for India in Council. Oxford. At The Clarendon Press. 1915), p.no.258-263.

⁹⁸ Fort St. George: Diary and consultation book 1746. (Madras: printed by the Superintendent Government Press). 1931.

⁹⁹ James Hingston Tuckey. *Maritime Geography and Statistics. Vol.III.* (London. Printed for Black, Parry And Co., 1815), p.no. 205-206.

territory¹⁰⁰. Memoirs of the Indian Geological Survey, Vol. XV. 1878 R. Bruce F. G. S. I. on the Geological Structure of the Eastern Coast from latitude 15° northward to Masulipatam also refers to the entire geological region from the Northern Circars, It mentions that the region “begins at Masulipatam beyond the Kistna and treats the entire country across the peninsula of southern India, from Kistnapatam to Honawar¹⁰¹. The alluvium of rivers varies greatly. The Penner deposits are pale, sandy deposits with more brown, humid soils than those found in the streams to the south. There are only relatively small bands of alluvium along the river’s banks, with an occasional band up the tributary streams. There is often pale-grey sandy alluvium out in the delta spread, with good thicknesses of dark-brown and reddish-brown soils containing a mixture of lateritic sand and gravel. There is very little of the light sand deposits in the Kandaleru, which flows out to sea at Krishnapatam, except above Gudur, with everything seen below that point being of an estuarine nature. The pale-colored sand deposits that lie beneath the line of Cuddalore sandstone ridges are the strongest in the Swarnamukhi valley.

The customary strip of blown sand that surrounds the Coromandel is fairly thin in these fields, presumably because the moister north-east wind isn’t strong enough to take the sand far inland, but the drier westerly winds carry much of it back to the sea. During the hot months (April, May, June, and July), surveyed most of the coast line, and it was clear that the sand was constantly blown eastward, the shore being fairly foggy with the stream of sand, which rose about 2 feet above the ground surface. It is possible to find a thin sandy strip about 2 or 3 miles wide that becomes heaped up in low undulations or is commonly arranged in long, narrow belts with intervening strips of alluvium from dried up backwaters. Most of these intervening patches are either completely dry or have a shallow channel open to the tide in dry weather. Sriharikota island, or the land between the sea and the Pulicat Lake, and again to the east of Kavali, 34 miles north of Nellore, are two famous examples of this strip configuration.

¹⁰⁰ William Thomas Thornton, *Indian Public Works and cognate Indian Topics*. (London. Macmillan and Co. 1875), p.no 148.

¹⁰¹ *Memoirs of the Geological Survey of India*. Vol. XV.1878. p.no. 255.

The more common blown sandhills or dunes can be found 14 miles south-east of Nellore, at Striniavasarrow Chatram, about 18 miles east of Gudur, and typically along the Sriharikota coast. The sand coast belt towards Toolypoliem in the first scenario is a regular collapsed sea of sandhills arrayed in long waves with a north-northeast to south-southwest strike, sloping up gently but quickly from the eastward and descending down to the westward by sharp slopes¹⁰².

In 1894, Kistnapatnam was mentioned in the Scottish Geographical Journal, Indian Marine Survey. Commander Oldham has brought the Marine Survey of India's yearly administration report for the official year 1893–94. He states, "The survey of the Coromandel coast was completed up to Pennair, after which the investigator proceeded down the coast to the Armeghon Shoal and then northward as far as Chapalmundi, taking soundings to fill in gaps left by previous surveys and making observations to be used later in future editions of the Sailing Directories." Kistnapatnam was reached after a visit to Madras, and a line of soundings was completed up to Shalinger Shoal when it was discovered that the beacon at Kistna, like that at Pennair, had vanished. A temporary replacement was arranged. During the monsoons, the sand-covered shoreline, which is flanked by sandhills, undergoes significant changes. The bottom off the coast is uneven and rocky, making trawling at depths up to 600 fathoms less successful than expected; however, some unusual corals were discovered, one of which, from 80 fathoms, was an Oculinoid, a family not previously discovered in the Indian Ocean. After another call at Madras, the investigator sped to Bombay, where Lieutenant C. V. Smith was dispatched to the Seychelles Bank on board H.M.S. Marathon, while the rest of the crew went to Poona to work out the results of the latest investigations. Lieutenant Smith made successful sectional lines of soundings and marked the position over the edge of the bank for the proposed telegraph cable between the Seychelles and Zanzibar on the one hand and Mauritius on the other, with the deep-sea sounding machine and the necessary accompaniments transferred to the Marathon, which proceeded to the Seychelles¹⁰³.

¹⁰² Ibid. p. no. 182.

¹⁰³ W.A. Taylor. *The Scottish Geographical Magazine*. (Edinburgh. T. and A. Constable, printed to her Majesty at the University Press. By Royal Scottish Geographical Society. 1894), P.no.485.

Fisheries at the Krishnapatnam Port

The physical characteristics of the shore have demanded a comparable difference in the sorts of fishing craft used previously. Four unique coast portions are linked with four different types of fishing craft, two of which are of considerable importance and two of lesser value. These sections of the shoreline can be distinguished as follows:

- (a) The catamaran coast,
- (b) The Dhoney Coast,
- (c) The boat-catamaran coast,
- (d) The canoe coast

- (a) The shoreline of the catamaran:

“Wherever high surf breaks over a long stretch of open coast without any shelter-giving headlands, the catamaran’s form and handling have been fine-tuned.” The catamaran is the most serviceable craft for use on a surf-beaten coast because of its effective simplicity of design, the safety with which it can be launched and brought ashore through the roughest surf, and the ease with which its parts can be taken apart and carried up the beach and then reassembled. Almost no other ship is used in fishing for 250 miles south of Madras and a much greater distance north; the larger ones carry three or four men apiece and are equipped with a well-barked permanent sail of reasonable proportions. Except for Madras, there are no notable headlands to break up the monotony of the coast line from Point Calimere to far past the Penneru; the only available harbours, with the exception of Madras, are those formed by the estuaries of the larger rivers, and a large proportion of these become useless for the greater part of the fine weather fishing season, the south-west monsoon period, owing to the closure of the bars caused by the silting action of strong long-shore currents. The estuaries of all the rivers and backwaters between Madras and the Swarnamukhi river, 60 miles north of Madras, are prone to closing during the hot season, and even when they do remain open, the depth of water over the bars is too shallow to allow for easy ingress and egress in the case of boats with several feet of draught; north of the Swarnamukhi river, all bars remain open

continuously, but only examined two: the Kan, the old. It was the port of Nellore few years ago, and native craft of considerable burden, drawing as much as 9 feet of water, entered the river for repairs, the repair sheds being located along the edge of the deep water, tying west of the present forest bungalow. The estuary itself is of ample depth, in places over 25 feet, and has excellent road communication with Nellore, 17 miles away. At high spring tides, it was said to have a depth of 11 feet of water on the bar in 1833. The current state of the river is less favourable; on a spring tide, the highest depth on the bar was 7 feet, given that the tide ranges from 0 to 3 to 3 ½ feet, and at low tide, 4 ¼ to 4 ¾ feet. Apart from that, the river mouth's position is stable, and the estuary is less susceptible to silting than any other on the Coromandel Coast. There was once a mud bank off this port (not sure if it still exists), and it's interesting to read in Gr.O., No. 293, June 1883 (Marine), that when His Excellency the Governor lauded in 1878 at Kistnapatam in order to visit Nellore, this mud bank provided effective protection to the steamer "Khandalla" from the violence of a cyclone that struck while the steamer was waiting for His Excellency return the sea was unusually high outside, and "the centre of the storm passed very near, bursting on the coast at Ongole, and doing great mischief." Captain Taylor, the then Master, Attendant of Madras, says, "I remained at anchor in the 'Khandalla' upon this mud bank" and "we did not experience any discomfort, the sea being reduced to a long lazy swell"¹⁰⁴,

Krishnapatnam Port in Contemporary Times

Post-independence The Government of India decided to appoint committees on the subject of the development of minor ports so as to meet the probable demands of coastal shipping traffic. Eventually, there were many committees appointed on the subject of the development of minor ports, intermediate ports, the problems and prospects of the minor ports, and potential ports that can handle iron ore in particular. Based on tonnes of cargo handled per year, these committees recommended categorising ports as major, minor, intermediate, and sub-port/petty ports. Along with these, the Indian governments wanted potential iron ore handling and all-weather ports due to growing demand for iron ore exports to Asian countries. The geographical position of India enabled her to become a large source of supply to the steel industry in Japan, China, and Western Europe, as well as to the developing steel

¹⁰⁴ Bulletin No: 4. Madras Fisheries Bureau. Madras Fishery Investigation 1908. p.no: 34-36.

industry in east European countries. The traffic in iron ore could be handled both by the major and intermediate ports. Intermediate ports were defined as those that handled one lakh tonnes or more of cargo per year or were otherwise significant. Other ports with annual cargo tonnage less than a lakh but greater than 1500 tons, or ports with importance for other reasons such as passenger amenity, customs, or naval requirements, could be classified as minor ports. All the remaining ports should be classified as sub-ports or petty ports. Cargo tonnage of 5 lakh per annum should be the minimum requisite trade consideration for the development of an intermediate port as a major port. It would be helpful to the transportation economy of the country as a whole to have a few well-equipped intermediate ports suitably placed geographically and well maintained. Fifteen to eighteen intermediate ports would provide the country with a very good system of second-line ports. Krishnapatnam Port has been considered a cargo port¹⁰⁵ in recent years.

Projects in Progress at Krishnapatnam Port and Its Development for Trade and Commerce

The following details of the current projects—the setting up of ultra-mega power projects in the energy sector, the coming up of SEZ, the implication of the coastal corridor project, and roadway connectivity (Golden Quadrilateral and Astabhuji) schemes—are interlinked with each other. It is believed that the development of the port and the region will result in overall urban development as well.

¹⁰⁵Krishnapatnam port is considered to be a Cargo port. Post-independence The Government of India decided to appoint committees on the subject of development of minor ports so as to meet probable demands of coastal shipping traffic. Eventually there were many committees appointed on the subject of development of minor ports (technical), intermediate ports, the problems and prospects of the minor ports and potential ports which can handle iron ore especially. These committees recommended categorisation of ports into major, minor/intermediate, sub-port/petty ports based on tons of cargo handling per year. Along with these the Indian governments wanted potential iron ore handling and all weather ports due to growing demand for iron ore export to Asian countries. The geographical position of India enabled her to become a large source of supply to the steel industry in Japan, China, Western Europe as well as to the developing steel industry in the east European countries. The Traffic in iron ore could be handled both by the major and intermediate ports. Port which handled one lakh tons or more cargo per year or were otherwise important were regarded as intermediate ports . Other ports with annual cargo tonnage below one lakh but not less than 1500 tons or which had importance for any other reason such as passenger amenity, customs or naval requirement, could be classified as minor ports. All the remaining ports should be classified as sub-ports or petty ports. Cargo tonnage of 5 lakh per annum should be the minimum requisite trade consideration of development of an intermediate port as major port.

An international leather park is coming up at Krishnapatnam. To connect this port to the Mumbai Railway Line, a railway line is being built from Krishnapatnam to Obulavaripalle. The rail line linking Nellore and Chennai has been completed up to the Venkatachalam junction. Simhapuri Power (Madhucon Group) at 900 MW, KPCL at 1000 MW, and Meenakshi Power and Others at 1000 MW are among the Ultra Mega Power Projects now under construction in Krishnapatnam, each having a capacity of 4000 MW. The IFFCO fertiliser factory in Regadi Chelika, near Nellore, just received approval from the central government.

The Indian government also intends to build a “Petrochemical Terminal” in Krishnapatnam. The construction of two textile parks in Venkatagiri and Nayudupeta is expected to begin soon. In Nellore, IFFCO will shortly establish an agriculture-based food processing Special Economic Zone (SEZ). The Caparo Group, led by Lord Swaraj Paul, would invest Rs 3,500 crore in Nellore to establish an auto Special Economic Zone (SEZ) and a car-and-aerospace component manufacturing facility. RKKR Steels Limited, which manufactures and trades flat and long steel products, plans to invest an additional Rs. 6200 crore to expand its SBQ steel facility in Nellore’s Ankulapatur (NH5 Chinthavaram–Port Road). Hindusthan National Glass & Industries Ltd. has proposed to build a container glass and float glass manufacturing base in Naidupet, Nellore district, Andhra Pradesh, for Rs 1,000 crore. The construction of a 600-tonne-per-day float glass plant will begin in early 2012 and is expected to be finished by 2014.

In light of India’s rising marine trade on the global market, which has seen unprecedented development in bulk commodities and containerized trade, Krishnapatnam Port has been designed as a modern, deep-water¹⁰⁶, high-productivity port to meet the demands of the growing international trade environment.

Krishnapatnam Port, one of India’s largest and fastest-growing seaports, has established itself as a world-class port with world-class services and facilities. According to reports from the

¹⁰⁶ Krishnapatnam has 18.5metres draft .
<https://apmaritime.in/#/krishnapatnam-port>

Andhra Pradesh government, it is quickly becoming the preferred port for all foreign freight originating in and bound for southern and central India.

The Government of Andhra Pradesh has given Krishnapatnam Port Company a 50-year BOST (build-operate-Share-Transfer) contract to convert the existing little port into a modern, deep-water, high-productivity port. The port is being developed in three phases, with the second phase now underway. The port has various advantages, like its size, location, weather, and new generation of world-class port facilities; it is on track to become one of the world's largest ports and India's largest port.

World-Class Port Facilities of the Next Generation

It is a deep-water port (i.e., any port that can accommodate a fully loaded Panama ship with the approval of the Panama Canal expansion proposed in October 2006). Krishnapatnam is one of the very few ports in the world that can handle giant ships with load capacities of 1,50,000 metric tonnes. This port was renovated to become India's largest privately owned world-class port.

Road Connectivity

Keeping in mind the importance of the hinterland in the development of a port, it was decided that a dedicated 26-km, four-lane road connecting the port to National Highway No. 5 (the Chennai-Kolkata Highway) will be upgraded to a six-lane road in the future, once the land acquisition is complete. It will also facilitate obstruction-free passage for project cargo. Due to this, the road connectivity from Nellore to Kolkata will take a new turn, which will increase the transport of cargo through roadways.

Rail Link from Krishnapatnam Port to the Kolkata Main Line

Krishnapatnam Rail Company Limited (KRCL) is a Special Purpose Vehicle comprising the Government of Andhra Pradesh, Krishnapatnam Port Company Limited, and Rail Vikas Nigam Limited, formed to provide rail connectivity to the port.

Phase I: A dedicated 19-km railway line connecting the port to the Chennai-Kolkata main line

Phase II: A 91-km new broad gauge line between the port and Obulavaripalle in Dr. Y. S. Rajasekhara Reddy district (previously Cuddapah district), with an outlay of Rs. 600 crore. This rail line will reduce the distance between the port and the region in eastern Karnataka and southern Andhra Pradesh by 75 km, thereby saving substantial freight costs. This led to the development of hinterland connectivity to the western part of India from the port, which was in the historical hinterlands.

Public-Private Partnership (PPP): A New Trend in a Democratic Nation State

The Department of Economic Affairs of the Ministry of Finance says that India has systematically rolled out a PPP programme for the delivery of high-priority public utilities and infrastructure and, over the last decade or so, created what is possibly one of the largest PPP programmes in the world. According to the World Bank, India is one of the leading countries in terms of PPP preparedness, with about 1300 PPP projects in various phases of implementation. According to the Economist Intelligence Unit's 2015 Infra-scope Report, "Evaluating the environment for PPPs in Asia-Pacific 2014," India is ranked first in the world for "operational maturity" for PPP projects, third for sub-national PPP activity, and fifth overall for having an ideal environment for PPP projects.

The PPP Cell of the Department of Economic Affairs (DEA) created www.pppinindia.gov.in to give critical information on PPP activities in India and to share PPP best practises with

PPP practitioners in the public and private sectors. Policy Documents, Government Guidelines, Model Documents, Project Information, Institutional Mechanisms for Appraisal of PPP Infrastructure Projects, Schemes developed for Financial Support to PPP Projects, and Guidance Material and Reference Documents developed by the PPP Cell are all available on the website. Another website built by the PPP Cell, www.infrastructureindia.gov.in, provides information on infrastructure projects completed in India.

About PPP Cell, DEA, Ministry of Finance

The DEA's PPP Cell, which was established in 2006, serves as the secretariat for the Public Private Partnership Appraisal Committee (PPPAC), the Empowered Committee (EC), and the Empowered Institution (EI) for projects seeking financial assistance through the Viability Gap Fund (VGF). The PPP Cell is in charge of PPP-related policy issues such as policies, schemes, programmes, model concession agreements, and capacity building. The PPP Cell is also in charge of PPPAC clearance, the VGF Scheme for Financial Support to PPPs in Infrastructure (VGF Scheme), and the India Infrastructure Project Development Fund (IIPDF)¹⁰⁷. BOST is a policy that was implemented as part of India's economic reforms in the 1990s.

BOST Policy

In 1994–95, Andhra Pradesh was one of the first governments in India to recognise the critical need for improved port infrastructure, as well as the central role that the private sector would be required to play in its development. In Andhra Pradesh, the port privatisation was done on a build-operate-share-transfer basis. The policy's most notable features include a 30-year concession period that can be extended by two further 10-year stints. On a BOST basis, Krishnapatnam Port has a 50-year concession.

¹⁰⁷ <https://www.pppinindia.gov.in/overview>

Look East/Act East Policy

India's "Look East" policy aims to strengthen India's position as a regional force and a counterweight to the People's Republic of China's strategic influence by cultivating significant economic and strategic ties with Southeast Asian nations. It was launched in 1991 and signalled a strategic shift in India's worldview. It was conceived and enacted during Prime Minister P.V. Narasimha Rao's (1991–1996) administration, and it was vigorously pursued by successive governments led by Atal Bihari Vajpayee (1998–2004) and Manmohan Singh (2004–2014).

Background: China and India have been geopolitical rivals in South and East Asia since the 1962 Sino-Indian War. China and India's neighbour and adversary, Pakistan, have developed close commercial and military ties, and the two countries have fought for influence in Nepal and Bangladesh. Following Deng Xiaoping's ascension to power in 1979, China attempted to reduce fears of expansionism and, as a result, developed substantial trade and commercial ties with Asian countries. China became Burma's biggest ally and sponsor after the military regime was expelled from the international community in 1988 for violently suppressing pro-democracy demonstrations. During the Cold War, on the other hand, India had a shaky relationship with several Southeast Asian states, and diplomatic contacts with the region were given a low priority.

During the governments of P.V. Narasimha Rao (1991–1996) and Atal Bihari Vajpayee (1998–2004), India's "Look East" strategy was created and implemented. India's approach has focused on developing tight economic and commercial relations, boosting strategic and security cooperation, and emphasising historic cultural and ideological links, in addition to economic liberalisation and moving away from Cold War-era policies and actions. India wanted to boost regional trade, investment, and industrial development markets. It has started strategic and military collaboration with countries worried about China's growing economic and geopolitical power.

Relations with East Asian Nations:

After years of supporting Burma's pro-democracy movement, India's position altered in 1993, and it began making cordial overtures to the military regime. Although private sector activity in Burma remains minimal, India's state firms have scored lucrative contracts for industrial projects, the construction of major roads and highways, pipelines, and port upgrades. India has also increased its competition with China over Burma's significant oil and natural gas reserves, seeking to establish a major and stable source of energy for its growing domestic needs, thereby countering China's monopoly on Burmese resources and reducing reliance on oil-rich Middle Eastern countries. Despite the fact that China is Burma's top military supplier, India has offered to educate Burma's military forces and has asked for their help in combating separatist militants and the widespread drug trafficking that has afflicted most of Northeast India. The awarding of contracts to China for the extraction of over 2.88–3.56 trillion cubic metres of natural gas in the A-1 Shwe field in Rakhine State, as well as the development of naval and surveillance installations along Burma's coast and in the Coco Islands, has caused great concern and anxiety in India, which has increased its investment in port development, energy, transportation, and military sectors.

The Philippines, Singapore, Vietnam, and Cambodia have all developed strong commercial, cultural, and military relations with India. India has inked free trade agreements with Sri Lanka and Thailand, as well as increased military cooperation. It has a number of free trade agreements with East Asian economies, including a Comprehensive Economic Cooperation Agreement with Singapore and an Early Harvest Scheme with Thailand, and is in the process of negotiating accords with Japan, South Korea, and ASEAN member states. Taiwan, Japan, and South Korea have increased their ties as a result of their shared commitment to democracy, human rights, and strategic interests. South Korea and Japan continue to be two of India's most important sources of foreign investment.

Despite remaining a staunch supporter of the "One China" policy and recognising the People's Republic of China on the mainland above the Republic of China authorities on Taiwan, India has pursued a policy of increased engagement with the island. India has increased its engagement with East Asia, driven by the need for collaboration in counter-

terrorism, humanitarian aid, anti-piracy, maritime and energy security, confidence-building, and countering the rise of other nations, particularly China. The Indian Navy has established a Far Eastern Naval Command off Port Blair on the Andaman and Nicobar Islands, owing to the fact that more than half of India's trade goes via the Malacca Strait. India has also participated in joint naval exercises with Singapore (SIMBEX) since 1993, with Vietnam in 2000, and has patrolled the Andaman Sea with Indonesia since 2002. Along with Australia and the United States, Japan and India were members of the tsunami relief regional core group in the Indian Ocean in 2004.

Relations with China: Despite the fact that India and China are still strategic adversaries, India's Look East policy has resulted in significant rapprochement with China. India has been holding high-level conversations with Chinese officials and taking other confidence-building measures since 1993. For the first time since the 1962 war, China and India opened the Nathu La Pass to cross-border trade in 2006. On November 21, 2006, Indian Prime Minister Manmohan Singh and Chinese President Hu Jintao signed a 10-point joint statement aimed at improving ties and resolving long-standing disputes. Each year, trade between China and India grows by 50%, putting it on track to fulfil the \$60 billion objective set by both the Indian and Chinese governments and business leaders for 2010. However, China's close ties with Pakistan, suspicion over India's acquisition of Sikkim, and Chinese claims to Arunachal Pradesh have jeopardised the progress of the bilateral relationship. The fact that India has granted shelter to the 14th Dalai Lama, a political and spiritual leader, has strained bilateral relations further.

India's Look East strategy has been criticised by Chinese analysts. The Look East policy, according to a People's Daily editorial, was born out of the failure of India's attempt to use the Cold War to pit the Soviet Union and the United States against each other for its own gain and that attempting to do the same with China and Japan by strengthening ties with the latter would also fail. The Look East policy, according to a commentator for the China Internet Information Center, is based on a false fear of China and reflects a lack of comprehension of the PLA's strategic aspirations.

Participation in Organizations: India has developed multilateral organisations such as the Mekong-Ganga Cooperation and BIMSTEC, forging extensive cooperation on environmental, economic development, security, and strategic affairs, allowing India to expand its influence beyond South Asia without the tense and obstructive presence of Pakistan and China, which has stymied its efforts in the South Asian Association for Regional Cooperation. In 1992, India was granted advisory status by ASEAN, and in 1995, it became a member of the Council for Security Cooperation in the Asia-Pacific, a member of the ASEAN Regional Forum in 1996, and a summit-level partner (on par with China, Japan, and Korea) in 2002. In 2002, New Delhi hosted the first India-ASEAN Business Summit. In 2003, India signed the Treaty of Amity and Cooperation in Southeast Asia with ASEAN.

In many cases, India's participation in these forums is a result of the region's efforts to counter China's expanding influence in the region. Notably, Japan invited India to join ASEAN+6 in order to dilute the ASEAN+3 process, which is dominated by China, while Singapore and Indonesia were key in getting India to the East Asia Summit. India's inclusion in the Asia-Pacific Economic Cooperation has also been promoted by the United States and Japan. A slew of infrastructure developments are also bringing India and East Asia closer together. India is taking part in the United Nations Economic and Social Commission for Asia and the Pacific's Asian Highway Network and Trans-Asian Railway Network initiatives. The reopening of the World War II-era Stilwell Road, which connects India's Assam state with China's Yunnan region via Myanmar, is also being discussed.

Assessment:

India's foreign trade with South and East Asian countries accounts for nearly 45 percent of the country's total. Despite its tremendous success, India follows China in terms of the volume of trade and commercial relations it has with the countries of the region. The development of amicable relations with Burma's military administration, as well as India's reluctance to condemn or pressure it over human rights violations and the suppression of democracy, has sparked widespread criticism both at home and abroad.

Act East Policy:

Under Prime Minister Narendra Modi's leadership, India's new administration has prioritised relations with its East Asian neighbours as a foreign policy priority, at a time when the US is pursuing a pivot to Asia. Following on from the Look East policy, which was established during Prime Minister P.V. Narasimha Rao's administration and seriously pursued during the administrations of Atal Bihari Vajpayee and Manmohan Singh, Indian Foreign Minister Sushma Swaraj advocated the Act East policy.

According to India's Look East Policy, which was formulated during Narasimha Rao's government in 1992 for better economic engagement with its eastern neighbours but successfully turned into a tool for forging strategic partnerships and security cooperation with countries in that region in general, the Modi government made it clear from the start that India would focus more and more on improving relations with ASEAN and other East Asian countries. Sushma Swaraj stressed the need for an Act East policy during her recent visit to Hanoi, Vietnam, which she said should replace India's over two-decade-old Look East policy, emphasising a more proactive role for India in the area.

A Maritime-Oriented Look East Policy:

Is It Possible? North-east Indians consider South-east Asian countries to be neighbors. However, the east coast of India—Orissa, Andhra Pradesh, or Tamil Nadu—is also adjacent to South East Asia. Indeed, mainland India's links with Southeast Asia have traditionally been marine rather than continental. The Look East Policy was initiated by P.V. Narasimha Rao, the first Indian Prime Minister from peninsular India. He is from a town near the Coromandel Coast, which is noted for its naval ties to Southeast Asia. Continentally focused trade with Southeast Asia may not be encouraging for mainland India, as trading with Southeast Asia by sea is cheaper and less bothersome for India. As a result, it may be attractive for India to develop primarily marine rather than continental links with Southeast Asia.

Concepts and definitions that are used with regard to Krishnapatnam Port

Backwaters:

A backwater is a part of a river in which there is little or no current. It refers either to a branch of a main river that lies alongside it and then re-joins it or to a body of water in a main river, backed up by the tide or by an obstruction such as a dam.

Hinterland:

According to Atiya Habeeb Kidwai, the term hinterland is loosely applied but extensively used in literature on port geography and history. In earlier works on seaports, a hinterland was simply defined as the area served by a port¹⁰⁸.

Later works, especially those appearing after World War II, became more specific and defined and delineated port hinterlands from several perspectives: in terms of quantity of exports and imports, transport links, nature of the commodity flows (bulk or general cargo), and political policies that determine and control the rate structure of inland transport¹⁰⁹. Weigend described them as organised and developed land spaces that are connected with a port by means of transport lines and that receive or ship goods through that port¹¹⁰.

¹⁰⁸ A.J. Sargent, *Seaports and Hinterlands*, *Geography*, Vol 24, No.3, (Sept.1939) p.no.4.

¹⁰⁹ F.W.Morgan, *Ports and Harbours*, maps. (London: Hutchinson's University Library, 1952)

¹¹⁰ G.G.Weigend, *Some Elements in the Study of Port Geography*. In more recent literature, the complexity of the port hinterland concept is being acknowledged and they are being considered as economic rather than geographical regions.

Temples as Banks:

This paragraph would detail us the emergence of Temples as banks for trade and the key role played by Andhra rulers in maritime trade where Krishnapatnam and Durgarajapatnam ports lies on the Coromandel coast. Then merchants began to use temples as banks for their transactions. For example, many merchant guilds and patrons, rulers have made numerous donations and granted land grants to temples since ancient times. They also use the temples as assembly halls for the development of the village and trade. That is why, in later times, many invasions and destructions of famous temples occurred in order to loot the wealth in temples.

Himanshu Prabha Ray mentioned that it was from the ranks of the grhapatis that the trading communities of vanijas and setthis arose, and salt, metals, textiles, and pottery were the standard items of trade. An increase in trade led to the weakening of the economy during the Vedic period. This had taken place at that time due to the emergence and impact of Buddhism and Jainism. Literature says that the traditional agrarians were suspicious to reinvestment of wealth and earning of the interest on investment and living in cities. But Buddhism and Jainism propagated the reinvestment and accumulation of wealth. Also these two religions supported money lending and usury. According to Himanshu Prabha Ray ‘the combination of apprehensive nature of traditional Brahmanical agrarians on city dwelling and reinvestment of wealth and the emergence of traders especially ‘Settis’ on usury led to the long distance trade relations from the landlocked Gangetic valley to the Deccan peninsula. Deccan peninsular is known for the availability of gems, precious stones, minerals and pearls. Tamralipti on the east and Bharuch on west were the outlets of the land-locked Ganga valley’s maritime trade. Epigraphical evidences says that it’s only during Mauryas in 3rd B.C. the traffic at the ports had increased. Gold mines in Karnataka have mentioned. Early Historical trade on the subcontinent was not politically controlled or administered, which was one of its distinguishing features. Instead, an examination of early inscriptional data reveals that it was in the hands of merchants and guilds who, in the majority of cases, crossed political boundaries. The distribution pattern of ceramic enterprises would be a useful sign in

demarcating this early network, and it is here that the Rouletted Ware comes into play. Mortimer Wheeler discovered the Rouletted Ware in Arikamedu on the east coast for the first time. Ancient coins feature a ship symbol, which is a legitimate source for maritime trade, and he assigned it a date of the first-second century A.D. Since then, the Ware has been discovered all along the east coast, from Chandraketugarh and Tamluk in the lower Ganga delta to Sisupalgarh on the Orissa coast; several sites in the lower Krishna basin to Korkai on the Pandyan coast in the south and Kantarodai on the north coast of Sri Lanka; and several sites in the lower Krishna basin to Korkai on the Pandyan coast in the south and Kantarodai on the north. It was also discovered in the Karur excavations on the Kerala coast. Begley suggested an earlier dating of the second century B.C. for the earliest occurrence of the Rouletted Ware at Arikamedu based on a re-examination of the excavated material from the site. Its final dating is the third century A.D., based mostly on data from Nagarjunakonda, where the Rouletted Ware has yet to be discovered. However, there is a deterioration of the Ware's fabric in subsequent levels, indicating that certain sites in the network were added later. Thus, in the second and first centuries B.C., the east coast was linked in a single trade circuit with pockets of ruling elite in the deltaic regions of the river valleys, whereas elsewhere on the peninsula, a more generalised nature of political authority prevailed, marked by tribal chiefs and Megalithic burials.

Conclusion

Sources from different times revealed that the origin of port was from ancient times until today, determined by situations of particular times. There are references to Krishnapatnam ports from ancient times until today. From Kollatturai to Gandagopalapattanam to Kistnapatam to Calitore to Krishnapatnam Existing circumstantial sources reveal that there has been a change in the name of a port at every stage of its significance, assuming that this port had greater significance at that point in time.

Late in the 18th century, there was a decrease in trade from Krishnapatnam port. From late medieval times on, there was a change in trade patterns with the intervention of Europeans. Internal factors such as political unrest, a lack of patronage from rulers and trading guilds, war and unrest among local rulers, the manufacture of salt in various parts of the country, and

the construction of the Buckingham Canal, railways, and road ways, as well as external factors such as Europe's monopolization over maritime trade and control over certain ports, a dynamic global political scenario, and changes in demand for goods in international trade, caused some Indian ports to decline. Among them, Krishnapatnam is one such port.

Map No.5

Specific Location of Krishnapatnam Port on Upputeru River, Nellore



Source: The Department of Tourism, Government of Andhra Pradesh, India. 2010

References and Evolution of Dugarajupatnam Port

Armagon, or Duraspatam, was the English major colony on the Coromandel coast before the establishment of Madras in 1628, described as a place with mountings for twelve guns round the factory, with a guard of twenty-three factors and soldiers¹¹¹.

Armagon (Arumukam), the location of an old English factory to the north of Madras, was founded in February, 1626, and abandoned in favour of the settlement at Fort St. George in 1641 says Pringle in *Consultations for 1683*, vol. ii, p. 140. Streynsham Master describes the factory house in his diary the walls were two storeys high on one portion of it, and a round bulwark erected by itself. It was described as an ancient dilapidated edifice in a Surat letter to the court dated December 29, 1640–41, I. O. Records, O. C. No. 1764. Andrew Cogan on the Eagle brought away whatever belonged to the factors even before the foundations of Fort St. George were laid; therefore, Armagon was swiftly abandoned at the end. Armagon is supposed to be named after one Arumukam Mudaliar, who aided the English in 1625; nevertheless, such derivations, even when supported by family documents, should be regarded with suspicion, and there is no reliable proof in this case. The true name of the place, according to Streynsham Master's official diary, was Duraspatam.

There are other places along the coast to the north that used to have commerce with other countries but are now forgotten and unfrequented. Armagon is one of them mentioned in Alex. Hamilton's *East Indies*. For numerous forms of the word, see *Ind. Ant.* vol. xxx. p. 346 Armegam, formerly Monapollem, still exists today. It's a small harbour in the Nellore area known for a lighthouse that warns ships about the 6-mile-off-shore Armegam Shoal. Blackwood's Harbour is the name given to the still water within the shoal. Doogarauzpatam. It was a subordinate port to Masulipatam¹¹².

¹¹¹ James Hingston Tuckey, *Maritime Geography and Statistics*. Vol.III. (London. Printed for Black, Parry And Co. 1815), p.no. 205-206.

¹¹² Richard Canac Temple, (ed). Thomas Bowrey. *A Geographical Account of Countries Round the Bay of Bengal 1669-1679* (New Delhi. Munshiram Manoharlal Publishers Pvt Ltd,1905) P.No.25-26.

On the Coromandel Coast, at the beginning of 1630, the sole English foothold was the little fort at Armagon, as the settlement at Masulipatam had been abandoned in the autumn of 1628, owing to the exactions of the native officials. The merchants of that port, however, were anxious that the English should return, and the latter were equally desirous of doing so, owing to the fact that Armagon by itself was insufficient to supply their commercial needs. The result was the dispatch from Bantam on April 1, 1630, of two small vessels—the Falcon and the Dove—under Henry Sill, who had been appointed Agent of the Coast, with instructions to reopen trade at Masulipatam. Apparently commerce was resumed on the old lines without any definite agreement, and soon the English had five factories going. The company at home was, of course, unaware of these developments. As already related, they had decided to reduce Bantam to an agency and to place that and the Coromandel factories under Surat, but this decision appears to have been taken after the dispatch of the Star (300 tons) in December, 1629, with a cargo on account of the Second General Voyage. In her went George Willoughby, whose instructions were to proceed first to the Coromandel Coast, invest some of his capital, and take the proceeds on to Bantam. He reached Armagon on June 27, 1630, and, after landing some of his goods, passed on to Masulipatam, where he found Sill and other factors employed on behalf of the Old Joint Stock.

The Coromandel Coast begins at Point Calymere and heads north across the Cauvery estuaries, which enclose a delta with a base towards the sea, where the ports of Negapatam and Tranquebar are located. The Coromandel Coast continues to head north for another 297 miles to Gondegam, where the river Musi is considered to bind it to the north and retains the same character of slight elevation and general sandy formation, with shallow wading. Blackwood Harbour is the only port for large ships at this distance, and ships must anchor in the open sea at the other ports along the coast¹¹³. The Golgondi Coast stretches from Gondegam to Vizagapatam's southernmost point, passing through the Kistna and Godavari estuaries. The coast here is so low that it is frequently flooded. The most important marine sites on this coast are Masulipitam, Cocanada, and Connga. Similar information can also be

¹¹³ J. Frederick Baness, *Index Eographicus Indicus*; Being A List, Alphabetically Arranged of the all Places in Her Imperial Majesty's Indian Empire, with notes and statements. Statistical, Political and Descriptive of The Several Vincs and Administrations of the Empire, Five States, Independent And Feudatory, Attached To And In Political Relationship With Each, 'Her Information Relating To India And The East. With Maps. Survey of India. (London: E.Stanford 1881) p.no. 129.

found in Indian Public Works and Related Matters. 1875, William Thomas Thornton, C.B. London, P. No. 143, Mac Millon.

Sinnappah Arasaratnam stated in his writings that the period 1650-1740 was the period of disintegration of the Vijayanagara rulers; by 1640, all that remained were the dependents of the Golconda rulers. It was also the time of Armagaon's hasty abandonment and the rise of Madras port. The land for Armagaon and Madras port was taken from the Chandragiri Rajas. Dugarajapatnam port, which was referred to and regarded as a more practicable harbour rather than a navigational port and also charted the submerged sand ridges of the shoal complex. During monsoons, ocean currents are also reversed at Dugarajapatnam port.

Sinnappah Arasaratnam(Mar.1989) says that Ceylon and the Coromandel Coast have very close ties. He refers to the Coromandel Coast as a unified unit of trade, but it is extremely diverse. For instance, the nature of the sea at Krishnapatnam and Dugarajapatnam. Because of its location at the confluence of the Vupatheru river and the stem of the Bay of Bengal, the sea at Krishnapatnam port was considered deep. However, just a few miles south of the Krishnapatnam port was the Dugarajapatnam port, which was referred to and regarded as a more practicable harbour rather than a navigational port. Though there are some similarities in the production of textiles, dyes, rice, and food grains, there are many differences between the ports on the East Coast.

Many of the traditional maritime historians' primary sources were European records of trade books, cowl books, and letters of office and personal. But the geographical evidence, oceanography and scientific study, folk narratives, vernacular literature, and archaeological evidence enrich the authenticity of the history.

The currency coins minted at Paleacot, i.e., pagoda and fanam, are widely used and accepted for trading in the region. Commonality of the Coromandel Coast is seen in the nature of the

commodities traded, the destinations of trade, the communities and categories of people who traded in them, the mechanisms used to mediate with producing and consuming markets, the administrative systems which impacted on trade, the fiscal system, and the nature of the currency¹¹⁴.

According to Sinnappah Arasaratnam, the Coromandel Coast means from Madurai, Bay to Ganjam, including Ceylon and littoral ports. This view was shared by many scholars, like C.R. Boxer. He drew parallels between the Coromandel Coast region and the currencies of pagodas and fanams. These were minted in different places but widely circulated and accepted for currency exchange in trade. So he tried to draw the connection through the common medium of exchange for goods. He also stated that the export and import taxes at ports, custom duties, transit dues, and loom taxes, i.e., all taxes related to commercial operations, are sufficiently comparable across the region to merit classification as a single system. So Sinnappah Arasaratnam primarily relies on economic records. But J.J. Brenning and Sanjay Subrahmanyam were opposed to the concept of the Coromandel Coast as one region or unit for trade. J.J. Brennan contested this, saying that the northern Coromandel is more diverse when compared to the southern Coromandel coast. Sanjay Subrahmanyam also says that the northern and southern Coromandel Coast regions are too different and too vast to consider them to be one region. Sanjay also debated with Arasaratnam about gaining a better understanding of this region's port and hinterland by studying internal trade and fiscal systems.

The Existence, Evolution, Decline, and Re-Emergence of Dugarajapatnam Port

Macro-global scenarios affecting micro-regional politics and economics eventually affected regional history. Vice versa, regional history demands knowledge of global history. Changes in demand bring certain old ports back into the spotlight. Dugarajapatnam is one such port among many.

¹¹⁴ Sinnappah Arasaratnam, *Coromandel Revisited: Problems and Issues in Indian Maritime History. The Indian Economic and Social History Review* Vol.26, No.1, (Mar.1989) p.no. 102. Sage Journals.

Sinnappah Arasaratnam mentioned that the British and the Dutch were the two larger companies that had a clear idea of the potential of the Coromandel trade. By 1650–1740, both powers had their own ways to reach their goals. To achieve their aims, they had begun appropriate investment policies as well as pursue back-up political and diplomatic policies. Mir Jumla is said to have waived half the duty on cloth brought into Armugum for export by the Dutch in April 1649¹¹⁵.

Armugam mentioned as the road-stead, fugues as a shoal and light house¹¹⁶. Radhakumud Mookerjee mentioned Armagaon in the writings. Though his focus was on north India and its trade relations with foreign countries, he did mention the Deccan and south India and their relations with western and eastern Asian countries. He specifically stated that The Armagaon was a part of India's port system to the world between the 17th and 19th centuries. Armagaon's neighborhood and hinterland are known for the manufacture of cotton textiles and natural dying techniques.

The English took Ormuz from the Portuguese in 1622 AD, gaining control of the Persian Gulf's trade and shipping. Armagaon was founded and fortified in the Bay of Bengal in 1625 AD; however, Masulipatam was founded and fortified a few years earlier. In 1641, Fort St. George in Madras was built to replace Masulipatam as the English headquarters on the Coromandel Coast.

According to the aforementioned Radhakamal Mookerjee, the Armagaon was established in 1621 but was quickly abandoned in favour of Madras, which later became the Presidency in the south Indian provinces also reveals how the English became superpowers by the end of the 17th century.

¹¹⁵ Sinnappah Arasaratnam.1986. p. no : 66.

¹¹⁶ William Wilson Hunter. *A History of British India*. Vol. II. (Calcutta :Longmans, Green and Co, 1912) p.no : 79.

Summary of Recent studies on Maritime Economic history of Krishnapatnam and Dugarajapatnam Ports

Recently, there were articles and research work on the Krishnapatnam and Dugarajapatnam ports. Roughly 23 articles and a few research works were submitted and published in reputed journals. Among them are 9 research works on Dugarajapatnam port and the remaining 14 on Krishnapatnam ports. These research works stemmed from different disciplines like anthropology, ocean studies, geology, geography, economics, management studies, the travelogue of Francois Martin, environmental studies, education, and the sciences, apart from historical study.

In these articles it's clearly mentioned that the Krishnapatnam port was major port town in 13th (V.K 1999, 1205¹¹⁷) and 16th (Ramaswamy¹¹⁸ 2003,300-336) centuries and Armagaon (F.C Danvers, John Loudoun Shand and R.Brudenell Carteer¹¹⁹ .1890,159-206) was shoal and a British settlement. These research works talk about Krishnapatnam was at very low level vulnerable (K.Nageswara Rao¹²⁰ et al, Nov.2008, 195-207) even if the sea level rise at spring tide range but Dugarapatnam (K.Nageswara Rao¹²¹ et al, 2008,195-207) is at very high in vulnerability at significant wave heights. Hence Krishnapatnam port (Thomas A.Timberg¹²², 1998.123-136) could be more prospective and profitable¹²³ all weather deep sea port and Dugarajapatnam could be Harbour or defence research centre or

¹¹⁷ V.K.Mohan.1999. "Dvasuparna from Krishnapatnam" *Proceedings of the Indian History Congress* Vol.60. Diamond Jubilee.pp.1205.

¹¹⁸ Ramasamay Vijaya.2003. " Crafts and Artisans in South Indian History" *Proceedings of the Indian History Congress*. Vol.64. pp. 300-336.

¹¹⁹ F.C Danvers, John Loudoun Shand and R.Brudenell Carteer.1890. "Journal of the Society for Arts". *Journal of the Society for Arts*. Vol.38.No.1940. January 24,1890.pp.159-206.

¹²⁰ K.Nageswara Rao et al. 2008. "Sea level rise and Coastal Vulnerability : An Assessment of Andhra Pradesh Coast, India through remote Sensing and GIS". *Journal of coastal Conservation*.Vol.12 No.4 (Nov.2008) pp.195-207.

¹²¹ Ibid. 195-207

¹²² Thomas A Timberg.1998. "The Impact of Indian Economic Liberalization on U.S- India relations". *SAIS REVIEW*(1989-2003) Vol.18 No.1 (Winter- Spring 1998)pp.123-136.

¹²³ As per the Ministry of State (I/C) for Science and Technology of Earth sciences of India, 2021 Krishnapatnam located into Zone III which is least vulnerable to earth quakes.
<https://pib.gov.in/PressReleasePage.aspx?PRID=1740656>

harbour. Recent studies says that the 90% of Karimnagar granite (Anant Maringanti¹²⁴ et al , 2012, 10-13) was shipped to China through Krishnapatnam port and was utilised for 2008 Beijing Olympics stadium and Krishnapatnam port becoming as world class port (Economic and Political weekly¹²⁵ ,2010, 23-29). Krishnapatnam port has coarse sand for bore well (Yenumula Rangareddy¹²⁶ , 2018, 677-731). Historical research says that the Armagaon (Alfred L.P. Dennis,1911, 605-607)(Y.Vittal Rao¹²⁷ 1957, 236-240) and Krishnapatnam and Masulipatnam were to serve as stepping stones to Calcutta port and rich administration of Bengal in 1630-33. It's clearly mentioned that India had trade relations with Arakan for rubies from Armagaon (Michael W. Charney¹²⁸ , 1998, 185-219). And said that till Armagaon those were Tamil speaking ports but from Armagaon its telugu speaking (Yogesh Sharma¹²⁹ , Spring 2004,122-136) ports in Francois Martin travels. It's mentioned that the dying, printing and painting techniques of cotton clothes had taken place at Armagaon (Beverly Lemire and GiorgioRiello¹³⁰ , Summer 2008, 887-916) hinterland. Krishnapatnam port is one of the locations monitoring once a year for long term data on coastal pollution (B.R.Subramanian¹³¹ , 2011, 49-51).

¹²⁴ Maringanti Anant et al.2012. "Tragedy of the commons revisited(1): Granite Quarrying in Telangana". *Economic and Political Weekly*.Vol.47. No.42 (October20, 2012)pp10-13.

¹²⁵ Economic and Political Weekly. "Front Matter". 2010. Vol.45 No.43.(October 2010) pp.23-29.

¹²⁶ Yenumula Rangareddy.2018. "An updated checklist of ground water crustaceans of India". *Crustaceana*.Vol.91 No.6 (2018)pp. 677-731.

¹²⁷ Y.Vittal Rao. 1957. "The East India Company and Andhra". *Proceedings of Indian History Congress*. Vol.20. pp.236-240.

¹²⁸ Michael W. Charney. 1998. " Crisis and Reformation in a Maritime Kingdom of South East Asia- Forces of Instability and Political Disintegration in Western Burma(Arekan)1603-1701.1998.*Journal of the Economic and Social History of the Orient*.Vol.41 No.2. pp.185-219.

¹²⁹ Sharma Yogesh. 2004. "From Pondicherry to Surat : The Travels of Francois Martin. *India International Centre Quarterly* (Winter 2003-Spring 2004)Vol.30. No. ¾.pp.122-136.

¹³⁰ Beverly Lemire and GiorgioRiello. Summer 2008. "East and West- Textiles in Early Modern Age". *Journal of Social History*. Vol.41. No.4. pp. 887-916.

¹³¹ B.R.Subramanian. 2011. " Long term data on Coastal Pollution and Dissemination to Academic and Research Communities".*Current Science*.Vol.100. No.1 (10th January 2011)pp.49-51.

Chapter 5

Conclusion

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Conclusion

The Andhra Coast has a long history of overseas trading activity that dates back to early years of Christian era as has been established from literary, archaeological and numismatics findings. Numerous ports that dotted the coast served as important entrepôts of the maritime trade that the region experienced. Satavahanas, the early dynasty that ruled the Andhra region promoted trade – both inland and overseas – on a large scale. The overseas trading activity reached great proportions during the reigns of Pulamavi II and Yajnasri Satakarni. The ship marked coins issued by them commemorate this maritime tradition.

The extensive commercial contacts which were established under the supremacy of the Satavahanas were continued in the subsequent centuries. During the Kakatiya period, the maritime trade reached new heights. Ports like Motupalli, Machilipatnam, Krishnapatnam and Hamsaladeevi gained importance and developed as centres of trade and commerce under the Kakatiya rulers. Ganapatideva, one of the rulers, encouraged overseas commerce by granting a charter of security for foreign merchants trading with coastal Andhra. The Venetian traveller Marco Polo attested to the brisk trading activity of the emporium at Motupalli during the reign of queen Rudramadevi. But the fall of Warangal marked the decline of seaborne trade. However, after the re-establishment of regional chieftains like Reddy rulers who renovated the port of Motupalli and gave concessions to the merchants to develop the trading activities in the region, the trade gained its past glory. There was proliferation of ports during this time. The trade continued to flourish under the Vijayanagar rulers who issued several charters granting concessions and security to foreign merchants at Motupalli. New ports like Armagaon and Pulicat also became part of Indian Ocean trading network during this time.

The prospects of trade in coastal Andhra region attracted the European trading companies. Other Europeans – English, French and the Dutch – also settled themselves in different parts of Andhra. Over a period of time, the English replaced all other Europeans Companies and

brought the region under its political control. During their rule, Masulipatnam became an important port. From this Coromandel coast, ships sailed to different parts of Europe, South East Asia and Arabian Peninsula. The articles exported included cotton goods, iron and tobacco apart from other resources locally available. The principal item, however, was the cotton fabric of a special variety produced in this region. The foreign travellers Thomas Bowrey and Tavernier who visited India in the seventeenth century CE remarked that for the export of cotton fabrics, the coastal Andhra was pre-eminent. In the eighteenth century CE Narsapur became an important trading port. From this port, the forest-produce like teak was exported to other regions. Vizagapatnam and Bhimilipatnam also became significant ports during this century. From these ports cotton fabrics and jute were exported. The ports at Kakinada and Narsapur became famous for manufacturing ships which carried merchandize from coastal Andhra to distant lands. Thus, the arrival of the Europeans for trading purposes culminated in substantial growth in commerce of the region.

The maritime trade of the European Companies changed the geographical landscape of coastal Andhra. With advent of Europeans, overseas trade took a completely new trajectory. It promoted economy of the region but also facilitated establishment of new ports, trading centres and European settlements which played an important role in overseas trade prospects of coastal Andhra. Over a period of time, as a result of the growing trade, these ports and centres were considerably expanded and developed into urban settlements. Masulipatnam, Narsapur, Kakinada, Korangi, Vizagapatnam, Bhimilipatnam, Dugarajapatnam, Krishnapatnam, etc emerged as port-towns.

The sources which used in this thesis were archival data collection, field trips, Tamil and Telugu stone inscriptions, compilations and secondary literature. Also secondary literature have drawn from various disciplines like economics, geography, ocean studies apart from history. Choice of sources was a conscious effort to justifiable for thesis research since the research was about ancient and modern ports and maritime economic trade history. Many company dispatches were tapped for investigation. Tried tallied the information with alternative and other disciplines information. For instance *Calitore* was mentioned as Greek word in British Manuals and Gazetteers. But after further research it is found out that its actually Dutch word equivalent to red sandalwood. Wood is necessary good for cold

countries at that time for furniture and ship building. Also used for dying and medicinal purposes. Even today Red sandel wood thrones considered to be of great importance in Chinese Monarchy. It is also confirmed with geographical ecosystem of the Krishnapatnam and its surrounding areas. It is also found out that there was a secretive trade of Red sandalwood from India to Europe and China for medicinal and other purposes. Sources revealed that red sandalwood once extensively used as dye later on artificial colour making techniques over seeded the natural colour. Also there were trade despatches of Kadapa traders on this red sandal wood secretive trade. Red sandalwood is one robust wood which does not get damaged in sea water and good for manufacturing wooden boats at those times and for furniture.

The study also proves that history is “chosen and selective”. Some events chosen to be glorified not all the history. British records hardly mentioned about the existence of the Krishnapatnam port and its strengths though it had many advantages and there was also presence of Portuguese, Dutch at this port. But Madras port has glorified in all British records.

Stone inscriptions found out here belongs to 13th century to 16th century. One inscription belongs to 1256- 1257 A.D. found on the north wall of Siddeswara temple, in Tamil, says that all the men of Kollatturai and men from 18 foreign countries having assembled at the flower garden of Desanayakan attached to the temple of Chandirattiraipillaiyar gave to the God of Manumasiddeswara of this town money and arable land to be spent on clothes, deep and maintenance of the temple. There were references of kings, gods and goddesses and the regnal years which was tallied by the sources of Telugu Chodas rulers of Nellore. Another inscription found at the house of Ayyavarappakhandriga dated 1408-09 A.D. in Tamil provides circumstantial evidence reveals that there was even secretive red sandalwood trade to Europe from this port.

Ports are generally related to the phase of urban growth and cosmopolitan culture, but the studies on ports have been drastically neglected for decades. A few major works have recently been done on ports and their links to urbanisation. It is generally accepted that any

port model and the port generation model are one of the valuable models for analyzing of a port developed into a port city. Among the social scientists, the main writings on ports, port cities and their hinterlands have come from voyagers, geographers and historians. The available literature, however, is scanty. Port geography has received sporadic attention by geographers, still holds true. The main model and substantive issues in port-hinterland studies still stem from the classic works of Sargent, Bird, Morgan, and Weigned. Historians writing about ports, on the other hand, derived that initial inspiration from the works of Rhoads Murphey. Though a geographer, Murphey infused a vital sense of history into his theory and writings on the port cities of Asia.

Some other theories were put forward on development of ports. One of these was that of Bird, who argued that four stages may be identified in the evolution of a port. By acknowledging the usefulness of any port model, Vigarie also proposed a four-phased model of port evolution. Bird's model had underlined two general causes which is instrumental in the evolution of ports in Britain, i.e. the contribution of world merchant fleet and the influence of British history. In Vigarie's test case, the four phases were coterminous with economic periods and were linked to the phases of the Industrial Revolution. Taaffe, Morrill and Goud outlined a well-developed model of transport development in an under developed countries in which, they highlighted the evolution of spatial patterns of port locations and the emergence of a port hierarchy. The works of Rimmer has been more useful in studying the Asian ports. Rimmer also mentions that ports are developed in different stages. His model speaks about the main and feeder ports, and put forward a diagrammatic representation of his idea. Later in 1973, Rimmer attempted to incorporate both changes in maritime and landward transportation networks on his model of port evolution. His basic assumption was that a general process of high ranking takes place through the improvement of international accessibility. The model is intended to serve as a yardstick for comparing changes in the evolution of sea ports. Rimmer delineated five important stages in the idealised type sequence of port development.

Later, historian Ashin Das Gupta took up the case of Asian Countries, has however identified three distinct phases in the overall development of port hinterland relationships. The first stage started around 1500, with the establishment of European dominance at certain ports.

These ports did not linked with the hinterland and controlled a little except oceanic trade. This phase last 1700s, followed by a period when ports were highly linked with their hinterlands. During the third phase, the character of the hinterland was altered due to definite form of political control which had emerged for about two centuries till. In this sequence of changing relationship with the hinterland, the character of the colonial port city got transformed.

India's ports hardly fit into the above detailed theories because Indian ports were dependent on monsoons. Indian ports settlements are very different from European settlements. Indian Rulers and Merchants stay in interiors and controlled the ports. Indian settlements were hierarchical, caste based and even skill based. In Indian maritime we rarely see feeder ports. For instance Madras ports was a sea side village, rose to Presidency level during British East India's reign. Same with the test case of Armagaon but Armagaon fell into decay due to unrest and wars. Madras port still considered to be the major port till today. Test case of Krishnapatnam port on Coromandel Coast of the present Andhra Pradesh was documented as major port, was a Dutch settlement but lost significance during the British reign but gaining importance due to its natural potentials. As pointed out by Ashin Das Gupta phases wise growth is bleak work. Ports on Coromandel coast were rose and fell into decay due to political and economic reasons along with the demand for certain goods for certain period. History repeats but the causes and consequences are way far different.

So once can propose a new theory on port evolution as an addition to the existing theories on port-evolution. Emergence of a port can be because of necessity or to sell the surplus or for defence purposes or some times to increase the economy of the nation. Whichever is the country or nation or kingdom had limited land, limited jurisdiction, limited resources. There must be a greater need for particular goods for certain period of time. The location of the port either directly more economical to the voyage or more profitable or it should increase the network. In the case of India's ports settlements on the east coast are majorly interior of the ports not on the beach-shore. Also on the east coast now we have connected backwaters, small waters bodies through in the name of Buckingham canal. That can be used for irrigation or for inland trade from one port to another. Since India has larger coast line we do have specialised and multi-specialised ports and its open doors for ample possibilities and

opportunities. Ports emerge basically for trade or to make profits. But in Indian case, it started to sell the surplus initially and then went on for trade. Ports emerged by necessity for necessity with limited resources. Sometimes it was even by collaboration.

Indian ports may not fit into phase wise evolution proposed neither by Rimmer nor by Ashin Das Gupta. Indian ports hardly become feeder ports to the other major ports. They rose to big ports because of the demand for the certain products and economic viability of geo-location of the port. The needs of the human beings keep changing, so the needs for certain goods keep changes and it is so dynamic across the time. So ports arose. Once the demand is over they may transform into other uses. Even big major ports many times just remains like sea side village for fishing or holiday resort if the port has scenic beauty. Again if there is necessity new ports emerge or revival of historical ports takes place.

Powerful political rulers, adaptive society, best merchants and their trade networks, banks for financing, investment loans, need for goods, economically more advantageous port locations are the best meters for port-evolution. India's geography has a key role since India is a subcontinent and has large land size with moderate climatic conditions. Predictable monsoons and Technological developments boost maritime trade.

There is a necessity in understanding Indian ports and evolution. Ports studies and investigations needs to be explored from interdisciplinary approach to get finer results to unravel the facts which helps us to find better solution for logistic problems. Case studies of a particular port's investigation would help employment generation in the present for example Krishnapatnam Port. Archival explorations on ports help us to find eco-friendly methods for sustainable development which is a core segment in the contemporary period. Case studies on an Individual ports lead to economic development of region for example Madras Port. Studies on ports helps to understand the space and time in a better way because port was there in the past and it is in the present. Continuity of the port and discontinuity of few things helps us to understand the space with the help of time. In order to bring out better understanding of ports more tools needs to be employed like "experience" in addition to "narration".

Forgotten ports need to be documented. Based on the literature documentation of Port's history is selective, chosen. Not all facts are documented, not everything was recorded and documented. British East India records highlights particular ports because they have developed those ports. Some ports which were under the control of Indian merchants and Rulers were not given proper space in the realm of history of ports. Krishnapatnam and Dugarajapatnam ports are such ports.

This thesis is a study of history from below. Its helps in reconstructing the most reliable documentation of past with available sources from different disciplines. This study also explains that the origin of port, evolution, rise and decline of port is dependent not only on socio-politico-economical but also the change in the needs of that society and change in demand and supply for few goods at particular period of time. This study tells us "time and context" are matters for the rise and decline of a port along with the natural advantages.

Ports are micro regions that, with their hinterlands, have specific characteristics that distinguish them from other areas. They are natural or man-made economic regions. They are centres of migration, a region in transition, and thus distinct socio-cultural regions as trade entry points. Any understanding of regions, especially coastal regions, will not be complete without a historical analysis of their ports.

Precisely findings are:

Krishnapatnam, which was also a Dutch port and where secretive red sandalwood trade happened from this port to Europe and China, can be utilised now with technical advancements due to its deep sea port, all-weather natural port being on the east coast, and naturally formed port. And being on the east coast, it's away from tectonic and seismic disturbances, and the port is really a safe place as per its geolocation to become one of the major ports in the world today. The Dugarajapatnam port can be used as a harbour complex and marine research centre for the protection of the country and the harbouring of ships. An "experience" tool can be incorporated in addition to research tools. Indian ports need to be

understood in a more detailed way; hence, an additive port evolution theory has been proposed. Interdisciplinary research aids in the discovery of more refined results, and two major and strategic ports can be utilised for the development of the country.

References

Primary Sources:

1. “India-2010, A Reference Annual”, Research, Reference And Training Division, Publication Division, Ministry Of Information and Broad Casting. New Delhi: Government of India. 2010.
2. *Epigraphia Indica* Volumes (36) 1892- 1966., Archaeological Survey of India, New Delhi.
3. Basic port statistics of India 1984-1985
4. Imperial Gazetteer of India (Oxford 1907-09)
5. Imperial Gazetteer of India ,Provincial Series (Calcutta 1908-09)
6. Imperial Gazetteer of India, Provincial Series (Madras vol. 1 The Presidency, Mountains, Lakes, Rivers, Canals and Historical areas, the east coast and Deccan districts of Madras city and Chingelpet district.). 1985. New Delhi: USHA Publications.
7. Report of the Intermediate Ports Development Committee (H.P.Martharani Committee), 1959. New Delhi: Ministry of Transport and Communication.
8. Revenue Reports of Madras Presidency 1800-1900
9. *South Indian Inscriptions*, Archaeological Survey of India, New Delhi.
10. *Nellore District Inscriptions*, Gudur Taluk. No:39-48. AP&TS Archives, Hyderabad.
11. Travelogues and Memoirs of Foreigners.

Secondary Sources:

- “Port City Factors and Port Production: Analysis of Chinese Ports”.

Accessed: 29-02-2016 19:48 UTC.

- Ahsanjan Qaisar, 1982. The Indian Response to European Technology and Culture, (A.D. 1498-1707). New Delhi: Oxford University Press.
- Banga, Indu (ed.) 1992. "Ports and their hinterland in India 1700-1950". New Delhi: Manohar Publication.
- Black, Jeremy. 1986. Natural and Necessary Enemies: Anglo- French Relations in the eighteenth Century. London: Gerald Duckworth & Co.Ltd.
- Boswell, John A.C. (e.d. & comp). 1873. Manual of the Nellore District in the Madras Presidency. Madras: H.Morgan at the Government Press.
- Butterworth, Alan & V, Venugopaul Chetty. 1990. A Collection of the Inscriptions on Copper Plates and Stones in The Nellore District. Part II. New Delhi : Asian Educational Services.
- C.D, Maclean. (e.d.). 1990. Manual of the Administration of the Madras Presidency, Vol.III. New Delhi: Asian Educational Services.
- C.V, Ramachandra Rao. 1981. "Two Telugu Choda Temples at Krishnapatnam in Nellore District". Ithihas. Journal of Andhra Pradesh State Archives. Special Issue: Temples of Andhra Pradesh (History, Art and Architecture) VOL.VIII. NO.I. Hyderabad. State Archives. Government of Andhra Pradesh.
- Carlo M, Cipolla.& Woodall, Christopher (Tr). 1991. "Between History and Economics: An Introduction to Economic History". UK: Basil Blackwell Ltd.
- Chandra, Satish. 2006. "Medieval India from Sultanat to the Mughals" volumes 2. New Delhi : Har-Anand Publications Private Limited. Revised edition.
- Chaudhuri, K.N. (ed). 1990. Asia before Europe. New York, USA: Cambridge University Press.
- Durga Prasad. 1988. History of Andhras upto 1565 A.D. Guntur. Andhra Pradesh. P.G.Publishers.
- E.H, Warmington. 1928. The Commerce between the Roman Empire and India. Delhi: Vikas Publishing House. Pvt. Ltd.
- E.H,Carr.1961. What is History. New York: Penguin Books.

- E.Subbarao.2008. Penna teeram. Nellore: Andhra Pradesh: E.Subbarao Publications.
- Furber, Holden. 1990. Rival Empires of Trade in the Orient 1600-1800. New Delhi: Oxford University Press.
- Gupta, Uma Das. (comp). 2004. The World of the Indian Orient Merchant 1500-1800 (Collected essays of Ashin Das Gupta). New Delhi: Oxford University Press.
- H.B, Sarkar. 1986. Trade and Commercial Activities of Southern India in the Malayo-Indonesian World. (upto A.D.1511). Vol.I. Calcutta: Firma Klm Private Limited.
- H.K,Sherwani. Felicitation Volume. 1975. Studies in the Foreign Relations of India: From the earliest times to 1947. Hyderabad, A.P: State Archives. Government of Andhra Pradesh.
- J.Talboys, Wheeler. 1994. Early Records of British India: A History of the English Settlements of India. New Delhi: Asian Educational Services.
- K, Siddartha. & Mukharjee, S. 2007. Ensemble Geography through maps. New Delhi: Kisalaya Private Limited.
- K,Sundaram. 1982. Modern Andhra Pradesh History. Hyderabad, Andhra Pradesh: Andhra Pradesh State Archives.
- M, Prothero. 1917. The Development of the British Empire. London: Macmillan and Co.Ltd.
- M.V,Rajagopal. 1977. Andhra Pradesh District Gazetteers- Nellore (Revised edition). Hyderabad: Andhra Pradesh. The Government of Andhra Pradesh, Government Central Press
- Malekandathil, Pius. 2010. Maritime India: Trade, Religion and Polity in the Indian Ocean. Delhi: Primus Books.
- Maps published by the Department of Tourism, Government of Andhra Pradesh, India. 2010.
- Mookerjee, Radhakumud . 1999. Indian Shipping: A History of the Sea-Borne Trade and Maritime Activity of the Indians from the Earliest Times. New Delhi: Munshiram Manoharlal Publishers Pvt. Ltd.

- P.N, Chopra (ed).1975. The Gazetteer of India. Indian Union”. Vol.3. Economic Structures and Activities. New Delhi: Ministry of Information and Broadcasting, India. Reprinted in 1990.
- Prakash, Om. 2000. “The New Cambridge History of India European commercial Enterprise in Pre-Colonial India”. New Delhi: Cambridge University Press.
- Ray, Animesh. 1993. Maritime India Ports and Shipping. New Delhi: Munshiram Manohar Publishers Private Limited.
- Rayachaudhuri, Tapan and Habib, Irfan. (ed). 1983. The Cambridge Economic History of India. Volume 1: c, 1200 - c, 1750. Delhi: Orient Longman in association with Cambridge University Press.
- Robinson Francis.(ed).1996. Cambridge Illustrated History Islamic World. UK: Cambridge University Press.
- S, Muthaiah. & K.R.A, Narasaiah. 2007. “Overcoming Challenge (The 125 Year Saga of A Harbour Men made), Chennai : Port Trust of Chennai.
- Sewell, Robert. 1882. Archaeological Survey of South India. Lists of the Antiquarian Remains in the Presidency of Madras. Madras: E.Keys at The Government Press.
- Shuk Man, Sherman Cheung. & Tsz, Leung Yip. “Port City Factors and Port Production: Analysis of Chinese Ports”. Transportation Journal, Vol. 50, No. 2 (Spring 2011), pp. 162-175.Published by: Penn State University Press
- Sinnappah, Arasaratnam . 1986. Merchants, Companies and Commerce on the Coromandel Coast, 1650-1740. New Delhi: Oxford University Press.
- Sinnappah, Arasaratnam. 1994. Maritime India in Seventeenth Century. New Delhi: Oxford University Press.

Stable URL: <http://www.jstor.org/stable/10.5325/transportationj.50.2.0162>

- Subrahmanyam, Sanjay. (ed). 1990. Merchants, Markets and State inEarly Modern India”. Delhi: Oxford University Press.
- Subrahmanyam, Sanjay. 1990. The Political Economy of Commerce South India 1500-1650. New York USA: Cambridge University Press.

- Subrahmanyam, Sanjay. 1993. The Portuguese Empire in Asia 1500-1700: A Political and Economic History. United Kingdom: Longman Group UK Limited.
- Thompson, Ian (tr.) Claval, Paul. 1998. An Introduction to Regional Geography. Malden Massachusetts USA : Blackwell Publishers.
- V, Rangacharya.1919. A Topographical List of the Inscriptions of the Madras Presidency. (Collected till 1915). With Notes and References. Volume I. Madras : The Superintendent, Government Press.
- Velcheru, Narayana Rao. Shulman, David. Subrahmanyam, Sanjay. (ed). 1992. Symbols of Substance Court and State in Nayaka Period in Tamilnadu. Delhi: Oxford University Press.
- W, Francis. (comp) 1985. Imperial Gazetteer of India. Provincial Series Madras. Volume No. I. New Delhi: Usha Publications.
- Yashoda Devi. 1995. History of Andhra Country 1000 A.D. -1500 A.D. Administration, Literature and Society. Part .II. New Delhi : Ganapathy Publishing House
- www.gloriousindia.com. 2014
- www.krishnapatnam.com.2010

Articles:

- Kemp, John, and Brian D'Olier. "Early Navigation in the North Sea–The Use of the Lead and Line and other Navigation Methods." *The Journal of Navigation* 69, no. 4 (2016): 673-697.

Appendix

Table -1

Foreign travellers who visited India: 1024-1695 A.D.

Traveller	Year of visit to India- A.D	Country	Dynasty	Remarks
Al -Beruni	1024-1030	Ghazni	Came with Ghazni; Delhi Sultanat period	Wrote <i>Kitab-ul-Hind</i> First Muslim scholar to study India Father of Indology
Marco polo	1292-94	Venetian Traveller	During the reign of Pandyan ruler of Madurai	His work <i>The Book of Sir Marco Polo</i> gives valuable details of the economic history of India Salt used as currency
Ibn-Batuta	1333-47	Morocco	During the reign of Md. Bin Tughlaq	His book <i>Rehla</i> .
Shihab Uddin al-umari	1348	Damascus		His book <i>Masalik albsar fi-mamalik al amsar</i>

Nicolo Conti	1420-21	Venetian traveller	During the reign of Devaraya I of Sangam dynasty, Vijayanagara Empire	Gave details about Vijayanagara capital
Abdur Razzak	1443-44	Persian traveller Ambassador of Shahrukh of Timurid Dynasty	During the rule of Devaraya II of Vijayanagara Empire	Reached Zamorin's Calicut Gave details about countryside in his <i>Matla us Saddin wa Majuma ul Baharain</i>
Athnasiaus Nikitin	1470-74	Persian traveller	Bahamani kings	Visited South India. Detailed account of Bahamani Kingdom His narrative <i>The journey beyond three seas</i>
Duarte Barbosa	1500-1516	Portuguese traveller		About Vijayanagara kingdom Refers to trade route from Vijayanagara to the Pulicat lake
Domingo Paes	1520-22	Portuguese traveller	Sri Krishnadevaraya Vijayanagara	Details about Vijayanagara

			Empire	dynasty
Fernao Nuniz	1535-37	Portuguese Traveller	Achyuta Devaraya of Vijayanara Empire	Whole History of entire Vijayanagara Empire till Achyutha Devaraya's reign
John hughen von Linschotten	1583	Dutch traveller		Given valuable account of the social and economic life of South India
William Hawkins	1608-11	England	During the reign of Jahangir, The Great Mughals	Ambassador of England King James I William finch came along with him
Sir Thomas Roe	1615-19	England	During the reign of Jahangir, The Great Mughals	Ambassador of England King James I
Thomas Coryat	1612-17	England traveller		
Pal Canning	1615-25	England traveller		
Edward Terry	1616	England ambassador	During the reign of Jahangir, The	Describes the Indian Social Behaviour of

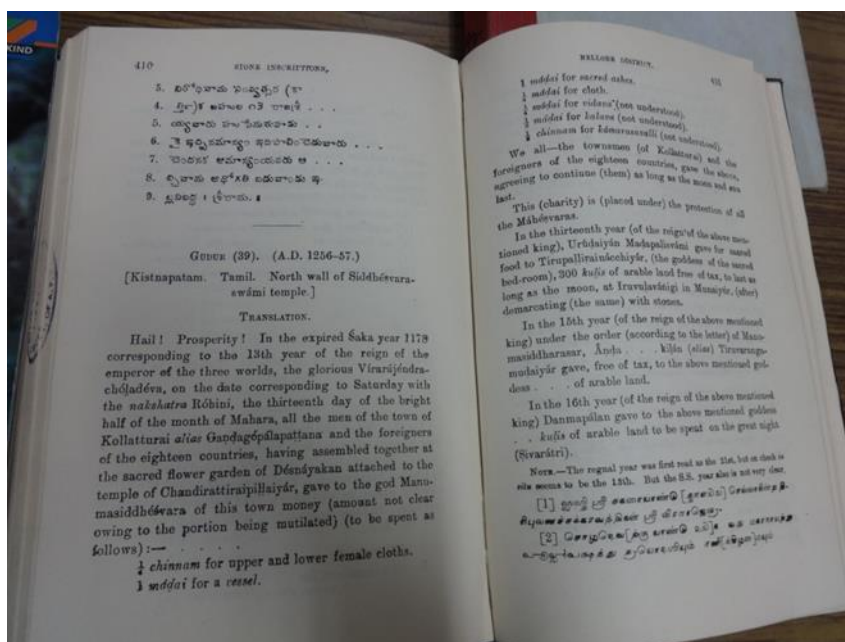
			Great Mughals Ambassador of Thomas Roe	Gujaratis
Pietra della Velle	1622-60	Italian traveller		
Franciso Palseart	1620-27	Dutch traveller		He stayed at Agra Gave detailed account of trade at Surat, Ahmadabad, Broach Cambay, Lahore and Multan
Peter Mundy	1630-34	Italian traveller	Came during the reign of Shah Jahan , The Great Mughals	Gave valuable account about Mughal India
John albert Mandesto	1638	German traveller		Reached Surat in 1638 A.D.
Jean bapstite Travernier	1638-63	French traveller	Visited six times during the reign of Shahjahan and Aurangajeb, The Great Mughals	Gave references of Nellore, Sarvealli, Pulicat port, Madras and Cuddappah land route; Dutch settlements, silks
Nicolo Manucci	1653-1702	Italian traveller	During Dara Shikoh	He got service at the court of Dara Shikoh, the great Mughals

Francois Bernier	1656-1717	French traveller	Aurangajeb's reign	
Jean de Thevenot	1666	French traveller		Given account of Gujarat cities and Golkonda
John Fryer	1672-81	English traveller		Gave details about Surat and Bombay
Gemelli Careri	1695	Italian traveller		Gave details about Mughal empire admin and military

Nellore Map at TNSA, Egmore , T.N.

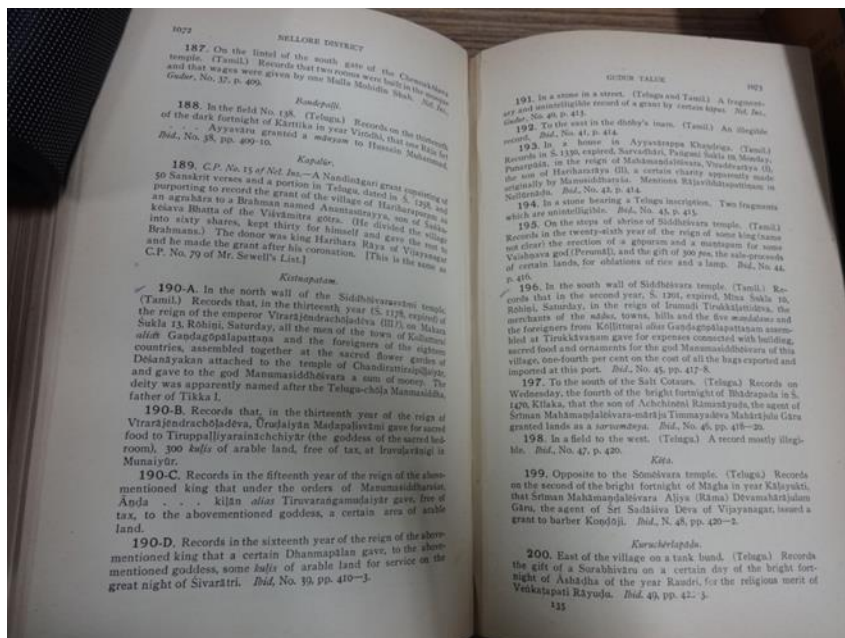


Nellore District Inscriptions : Krishnapatnam-1

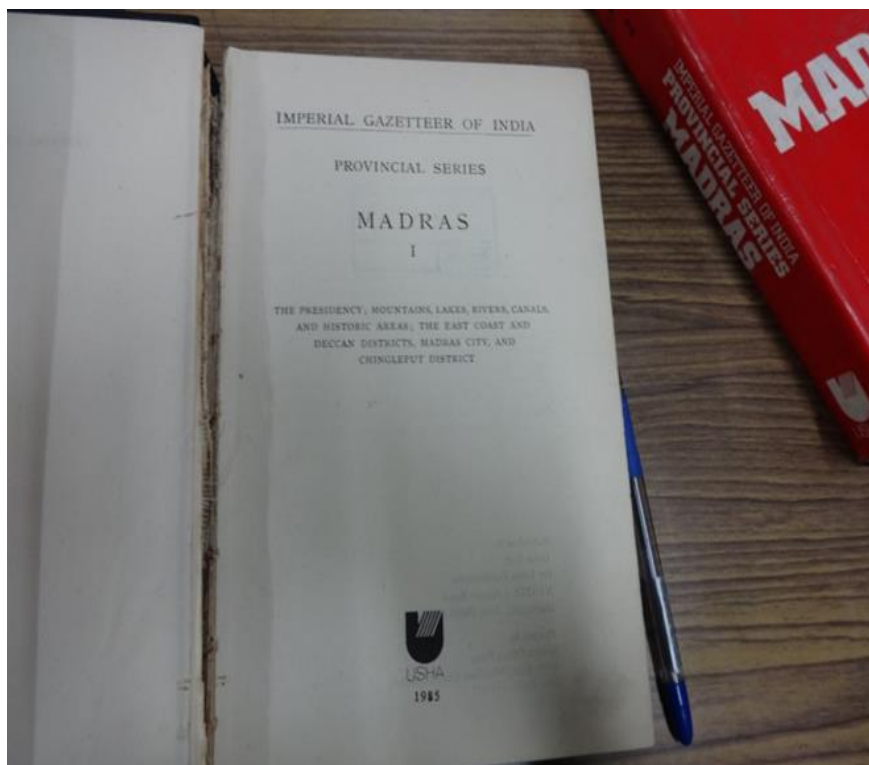
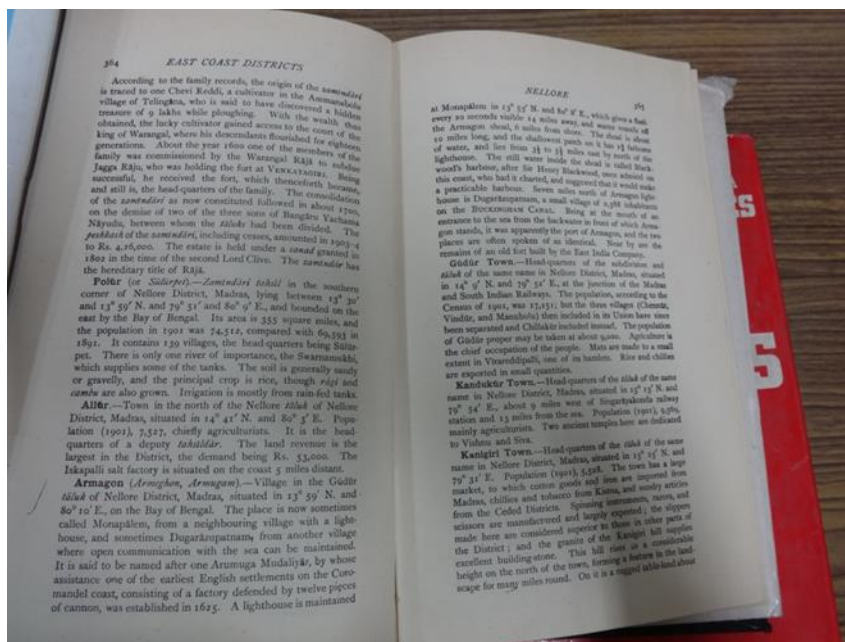


Nellore District Inscriptions

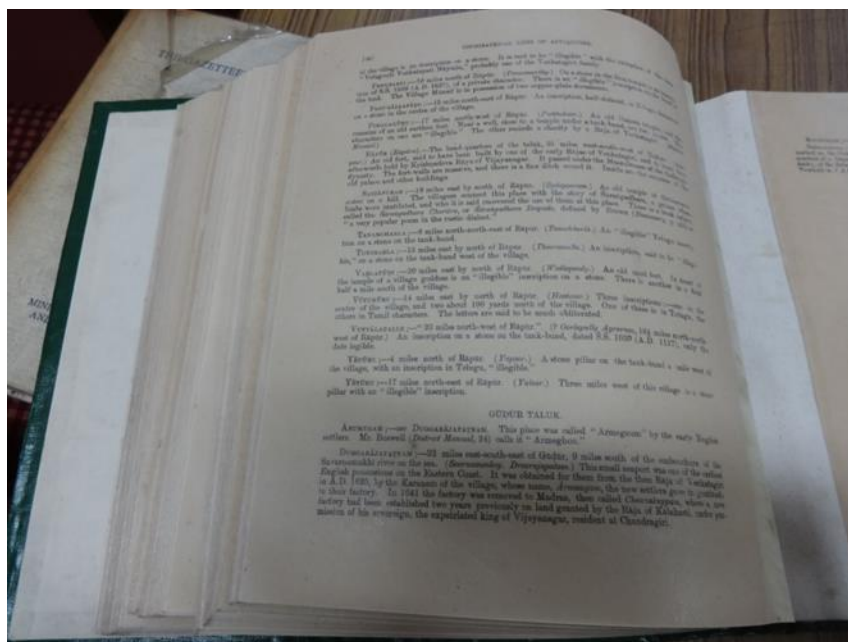
Krishnapatnam Inscriptions -2



Armagaon (Dugarajapatnam)



Dugarajapatnam

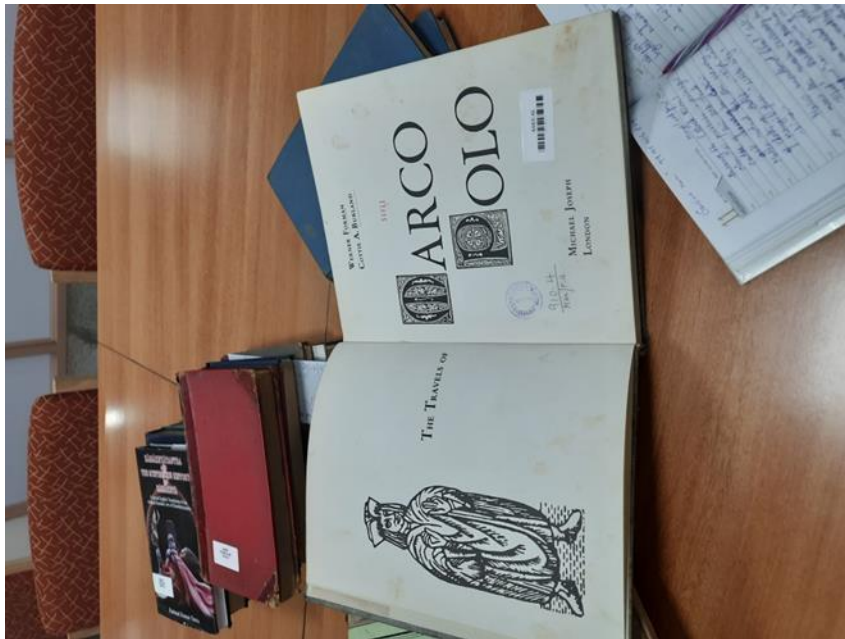




Krishnapatnam port Image taken from BHUVAN :06-02-2023 2D Image

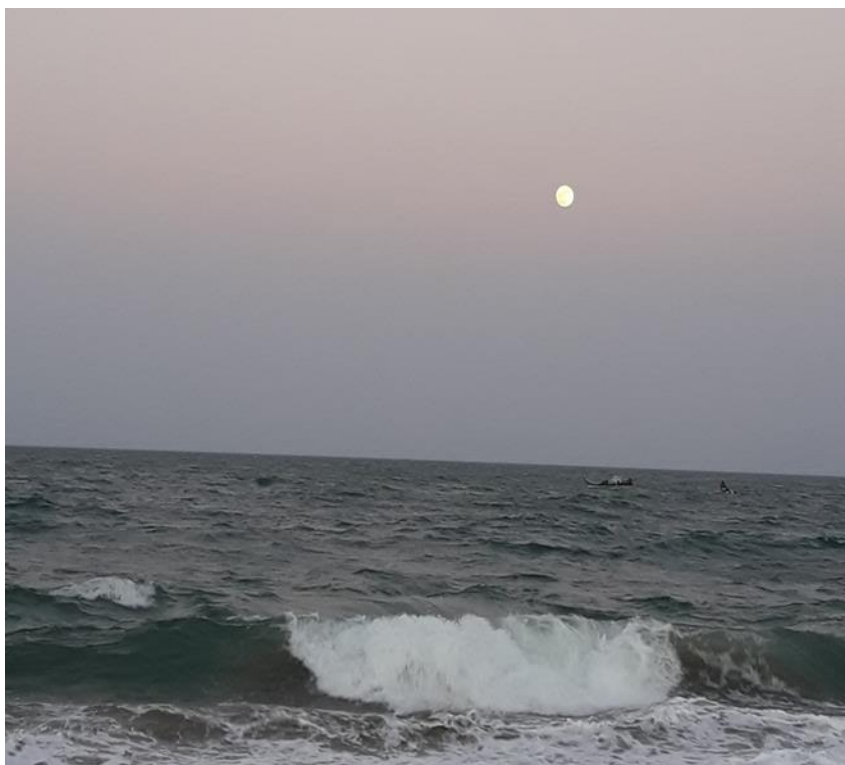


Krishnapatnam Port on 06-02-2023 from BHUVAN 3D Image

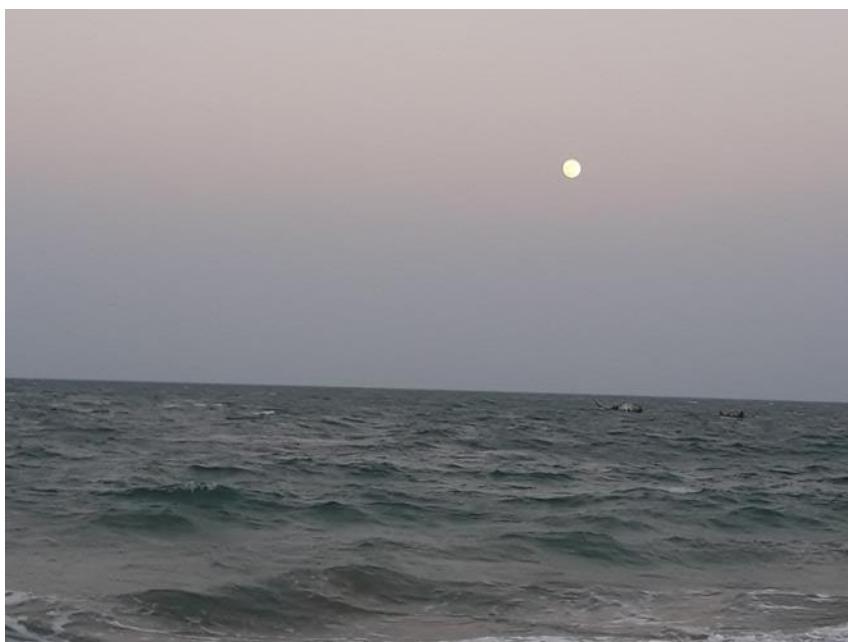


The Travels of Marco Polo

Dugarajapatnam port area 2015



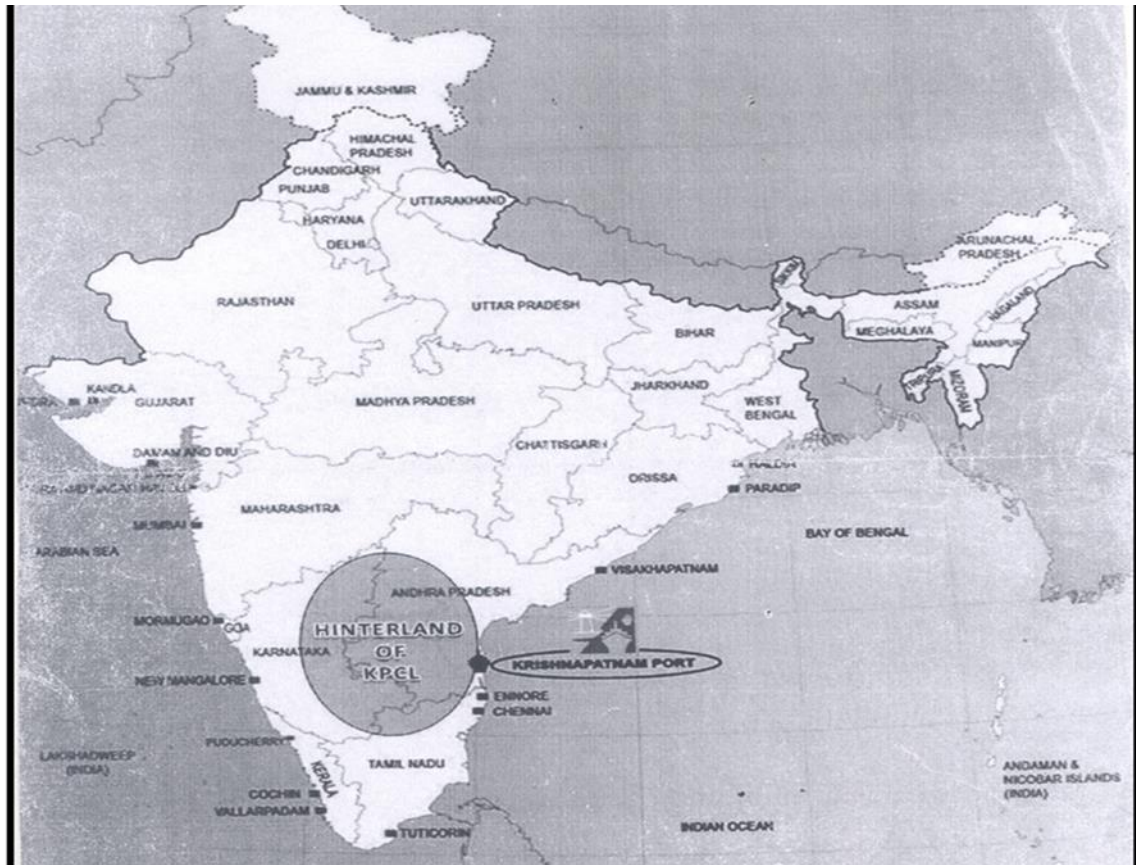
Dated: Oct.2015



Dugarajapatnam Port dated: Oct.2015

Map.6

Krishnapatnam port company limited area



Source: [www.krishnapatnam port company limited.com](http://www.krishnapatnamportcompanylimited.com).2011.

Archaeological Survey of India. New Delhi.

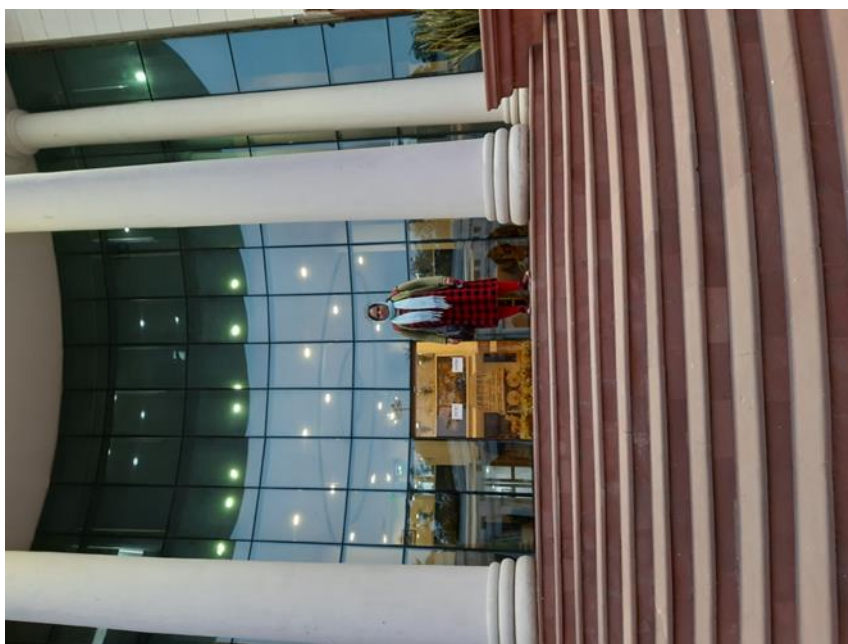


Photo Courtesy by Ms. Garima, ASI, New Delhi, India Dated 24.01.2023

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REFERENCES

1. S. Padmanabhan, Thiruvalluvar a universal poet, Dakshinaa Publishing House, Chennai, Jan 2000, p.8.
2. Dr.S.Padmanabhan, India the Holy Land, KumaranPathippagam, Nagercoil, Nov 1985, p.35.
3. Dr.S.Padmanabhan, Hinduism The Universal Religion, Vigneswara Publication, Nagercoil, 1983, p.36.
4. Ibid., p-38.
5. Dr.S.Padmanabhan, Temples in Kanyakumari District, PressDaws son, Nagercoil, Feb 1970, p.138.
6. Dr.S.Padmanabhan, Nagaraja Temple, Kumaran Pathipaham, Nagercoil, Jan 1969, pp.8-9.
7. Ibid., pp.12-13.
8. Personal Interview with S.Padmanabhan dated on 20-2-2016.
9. Dr.S.Padmanabhan, Nagaraja Temple, op.cit., p-6.
10. Ibid., p-9.
11. Ibid., pp.18-19.
12. Dr.S.Padmanabhan, Aayvukalachiya Monthly, Kanyakumari Historical and Cultural Research Centre, Nagercoil, Oct 2011, Vol-17, p.12.
13. Dr.S.Padmanabhan, South Indian Temples, KumaranPathippagam, Nagercoil, May 1977, pp. 9-16.
14. Dr.S.Padmanabhan, KumariMavattaKottaikal, Kumaran Pathipaham, Nagercoil, July, 1978, p.1.
15. Ibid., pp.7-21.
16. Dr.S.Padmanabhan, AayvuKalanchiyam, Oct-2009, p.30.

DOES PORT EVOLUTION LEAD TO URBANIZATION? A STUDY ON KRISHNAPATNAM PORT

N. POORNIMA

Ports are related to the phase of urban growth and cosmopolitan culture but the studies on ports have been neglected for decades. A few major works have recently been done on ports and their links to Urbanisation. In 1990's a seminar on "Ports and their Hinterlands" was organised to draw the scholarly attention towards this neglected aspect of urban studies¹. It is generally accepted that the any port model and the port generation model are valuable models for analysis of a port developing into a port city². Among the social scientists, the main writings on ports, port cities and their hinterlands have come from geographers and historians. The available literature, however, is scanty. A remark made by Daysh in 1951 that, 'port geography... has received sporadic attention by geographers, still holds true³. The main model and substantive issues in port-hinterland studies

still stem from the classic works of Sargent, Bird, Morgan, and Weigend⁴. Historians writings about ports, on the other hand, derived their initial inspiration from the works of Rhoads Murphey⁵. Though a geographer, Murphey infused an immense sense of history into his writings on the port cities of Asia. The work was carried forward most effectively by Lewandowski⁶, and later in 1979, at another conference organised in the Santa Cruz in Asia⁷. Another multi-disciplinary conference was held at Perth in 1989 in which the concept of 'port-cities' was reviewed and given a new perspective⁸.

Some other theories were put forward on development of ports. One of these was that of Bird, who argued that four stages could be identified in the evolution of a port. Acknowledging the usefulness of any port

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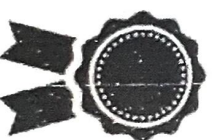
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WHAT MAKES A PLACE TO BE A PORT? A CASE STUDY OF ARMAGAON PORT

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Dugarajapatnam is referred to as Armugum, Armagaon, Armaghon, Monapalem, Manapalem, Duggarazupatnam, Durgarajupatnam¹ in primary and secondary historical sources. As per the literature Durgarajupatnam's latitude is 13°59' N and longitude 80°12' E and is situated at the distance of 40 km to the east of Gudur. It is a coastal village on the west of the Buckingham canal and was one of the natural ports in the country. It shows the natural edge of the port during colonial times. The English is said to have first landed at this port. Some relics to the old construction such as the light house can still be seen there. It is one of the sea side resorts in the Nellore district². It is mentioned in W. Francis's *Imperial Gazetteer of India* as it is said to be named after Arumuga Mudaliyar, by whose assistance one of the earliest English settlements on the Coromandel coast, consisting of a factory defended by twelve pieces of cannon, was established in 1625³. A light house is maintained at Monapalem which gives a flash for every 20 seconds visible 14 miles away, and warns vessels off the Armugaon shoal, 6 miles from shore. The shoal is about 10 miles long and the shallowest patch on it has 1 ¾ th fathoms of water, and lies from 3 ½ to 5 ½ miles east by north of the light house.⁴

The still water inside the shoal is called "Blackwood's harbour" after Sir Henry Blackwood, once admiral on this coast, who had it charted and suggested that it would make a practicable harbour. Seven miles north of Armagaon light house is Dugarazupatnam a small village of 2,388 inhabitants on the Buckingham canal. Being at the mouth of an entrance to the sea from the back water in front of which Armugaon stands, it was apparently the port of Armagaon, and the two places are often spoken synonymously. This port also mentioned in John Bosewell's District manuals as Armughaon. It is also referred in Robert Sewells's compiled lists of the *Antiquarian Remains in the Presidency of Madras* as "Duggarajapatnam", 23 miles east- south- east of Gudur, 9 miles south of the embouchure of the Suvarnamukhi river on the sea. This neighbourhood makes Armagaon port a practical shoal. This small seaport was one of the earliest English possessions on the eastern coast. It was obtained from the then Raja of Venkatagiri in 1625 A.D., by the *karanam*⁵ of the village, whose name Armugam, the new settlers gave in gratitude

¹ W.Francis, I.C.S.(comp) 1985. IMPERIAL GAZETTEER OF INDIA. PROVINCIAL SERIES MADRAS. VOLUME NO. 1. New Delhi. Usha Publications. P.365.

M.V.Rajagopal.M.A.(Canab).I.A.S.1977. ANDHRA PRADESH DISTRICT GAZETTEERS" NELLORE (Revised edition).Hyderabad, Andhra Pradesh. The Government of Andhra Pradesh, Government Central Press. P.212.

² M.V.Rajagopal.M.A.(Canab).I.A.S.1977. ANDHRA PRADESH DISTRICT GAZETTEERS" NELLORE (Revised edition).Hyderabad, Andhra Pradesh. The Government of Andhra Pradesh, Government Central Press. P.212.

³ W.Francis, I.C.S.(comp) 1985. IMPERIAL GAZETTEER OF INDIA. PROVINCIAL SERIES MADRAS. VOLUME NO. 1. New Delhi. Usha Publications. P. No: 364-365

⁴ Ibid P.No:365

⁵ ROBERT SEWELL. 1882. Archaeological Survey of South India. LISTS OF THE ANTIQUARIAN REMAINS IN THE PRESIDENCY OF MADRAS. COMPILED UNDER THE ORDERS OF GOVERNMENT. Madras. E.KEYS, AT THE GOVERNMENT PRESS. P. No: 146-147.

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A study on Krishnapatnam Port. in Political / Social /

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