A SOCIAL HISTORY OF SHIPBUILDING IN MALABAR (900 - 1900 CE)

Thesis submitted to the
UNIVERSITY OF CALICUT
for the award of the degree of
DOCTOR OF PHILOSOPHY IN HISTORY

Submitted by

SHAMLI.C.K
(U.O.No.10899/2014/Admn)

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June 2023

DECLARATION

I, **SHAMLI. C.K,** do hereby declare that the thesis entitled ***A SOCIAL HISTORY OF SHIPBUILDING IN MALABAR (900 - 1900 CE)*** submitted for the degree of Doctor of Philosophy in History under the supervision of **Dr. T. MUHAMMEDALI**, Associate Professor, Post Graduate and Research Department of History, Farook College, Calicut, is done by me and that has not previously formed the basis for the award of any degree, diploma or other similar title of recognition.

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This is to certify that the thesis entitled **"A SOCIAL HISTORY OF SHIPBUILDING IN MALABAR (900 - 1900 CE)"** submitted for the award of the degree of **Doctor of Philosophy in History,** University of Calicut is a bonafide research work carried out by **SHAMLI. C.K (reg.no: U.O.No.10899/2014/Admn)** under my supervision. No part of the thesis has been submitted for the award of any degree, diploma or other similar title of recognition.

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This is to certify that the thesis entitled **"A Social History of Shipbuilding in Malabar (900-1900 CE)"** submitted to the University of Calicut in partial fulfilment of the requirements for the award of the Degree of Doctor of Philosophy in History, is a record of original work done by Ms. Shamli C.K., under my supervision and guidance and the thesis, has not formed the basis for awarding any degree, diploma, associateship, fellowship or other similar title of recognition. She is allowed to submit thesis to the University for evaluation.

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Calicut,

12/06/2023. **SHAMLI. C.K**

CONTENTS

LIST OF MAPS, TABLES AND IMAGE

ABBREVIATIONS

AES	:	Advanced Encryption Standard.
JESHO	:	Journal of the Economic and Social History of the Orient.
KCHR	:	Kerala Council for Historical Research.
MSME	:	Ministry of Micro, Small & Medium Enterprises.
OUP	:	Oxford University Press.

A Social History of Shipbuilding in Malabar (900-1900 CE)

(Research Scholar- Shamli CK under the Supervision of Dr. T Muhammedali, Associate Professor & Former Head, PG & Research Department of History, Farook College, Calicut)

This study investigates the social history of traditional shipbuilding on the Malabar Coast, located in the southwestern part of India between the Western Ghats and the Arabian Sea. Malabar is the area that consists the erstwhile district of Malabar under British rule.

Though there was maritime trade contacts with the western world since the 3rd century BCE, it assumed greater importance with the rise of Islamdom by the 9th century. This continued until the end of the colonial period.

The historical development in Kerala has been explained on the basis of the life in the wetland area. The land being watered by the sea on outside, it would also have impacted the life of the people here. How much the maritime world influenced the social life thus in an important question.

Shipbuilding is driven by production and exchange relations involving not only those who came by sea and lived on the coast, but also those in the interior. Naturally, investigating the social dimensions of shipbuilding provides further insight into Kerala society.

This research relies on primary sources, including archival records, travellers' accounts, and fieldwork, as well as secondary sources like books and literary works, to uncover insights into Malabar's maritime history, shipbuilding traditions and socio-cultural context. These sources provide invaluable perspectives on the region's vibrant maritime legacy.

The research is organized into five chapters, besides an introduction and conclusion. The first chapter explores the maritime history and geographical history of Malabar. The second chapter focuses on Malabar's maritime connections and its trade relations with the indigenous and Western regions. The third chapter analyses occupations related to shipbuilding in Malabar and the associated social networks. The fourth chapter examines various aspects of shipbuilding technology in Malabar. Finally, the fifth chapter highlights the relationship between shipbuilding and social life in Malabar.

Ships played a crucial role in connecting Malabar with the Western world and in capturing its economic and cultural landscapes. The shipbuilders of Malabar played a crucial role in the development of Indian maritime trade. Until the arrival of Europeans, various types of indigenously built vessels were used on the Indian coast. Some European methods seemed to have adopted later.

The main support for shipbuilding in Malabar was the abundance of timber available from the hilly region and the river waterways that could transport it to the coast. From finding the trees to be cut to the completion of the shipbuilding, the construction process is completed with the cooperation of various groups. In addition to the traditional carpenters, *Thattans,* and Woodworkers, occupational groups such as *Odayis, Khalasis, and Kammalis* are emerging in the society. Although the latter groups were not castes, social distinctions have been formed.

The traditional shipbuilding style changed with the arrival of Europeans. Moreover, with British rule, the teak trees from the hills were being transported to the factories in Bombay, and the British were not interested in shipbuilding in Malabar, which led to a crisis in the region. Naturally, the traditional labour communities also began to disintegrate. Only the construction of luxurious vessels continued traditionally.

The limitations of the source materials have affected the study. The study could not come across sources that refer to shipbuilding or related fields. The main support for the study was the information obtained by analysing the references in folk songs and other sources and visiting shipbuilding areas. Future discovery of medieval document collections can further improve the current study.

Keywords - Malabar, Ship, Shipbuilding, Maritime trade, Odayis, Khalasis. Kammalis.

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മലബാറിലെ കപ്പൽ നിർമ്മാണത്തിൻ്റെ സാമൂഹിക ചരിത്രം (900-1900 CE)

(ഗവേഷക - ഷംലി സി.കെ, റിസർച്ച് ഗൈഡ് -ഡോ. ടി മുഹമ്മദലി,
അസോസിയേറ്റ് പ്രൊഫസർ & മുൻ മേധാവി, പിജി & റിസർച്ച്
ഡിപ്പാർട്ട്മെൻ്റ് ഓഫ് ഹിസ്റ്ററി, ഫാറൂക്ക് കോളേജ്, കോഴിക്കോട്)

ഇന്ത്യയുടെ തെക്കുപടിഞ്ഞാറൻ ഭാഗത്ത് പശ്ചിമഘട്ടത്തിനും അറബിക്കടലിനും ഇടയിൽ സ്ഥിതി ചെയ്യുന്ന മലബാർ തീരത്തെ പരമ്പരാഗത കപ്പൽനിർമ്മാണത്തിൻ്റെ സാമൂഹിക ചരിത്രം ഈ പഠനം അന്വേഷിക്കുന്നു. ബ്രിട്ടീഷ് ഭരണ കാലത്തെ മലബാർ ജില്ല ഉൾക്കൊള്ളുന്ന പ്രദേശത്തെയാണ് പഠനത്തിൽ പരിഗണിച്ചിട്ടുള്ളത്.ക്രിസ്തുവിനു മൂന്ന് നൂറ്റാണ്ട് മുമ്പ് തന്നെ അറേബ്യ, സുമേറിയ, ബാബിലോണിയ, ഗ്രീസ്, ഫെനിഷ്യ തുടങ്ങിയ പാശ്ചാത്യ പ്രദേശങ്ങളുമായി കേരളം കടൽ വ്യാപാര വാണിജ്യ ബന്ധങ്ങൾ സ്ഥാപിച്ചിരുന്നു. ഒൻപതാം നൂറ്റാണ്ട് മുതൽ മലബാർ ഉൽപ്പന്നങ്ങൾ പാശ്ചാത്യ രാജ്യങ്ങളിലേക്ക് വൻതോതിൽ കയറ്റുമതി ചെയ്തതോടെ ഈ ബന്ധങ്ങൾക്ക് ഉയർന്ന പ്രാധാന്യം ലഭിച്ചു. കൊളോണിയൽ കാലഘട്ടത്തിന്റെ അവസാനം വരെ ഇത് തുടർന്നു പോന്നു.കേരള സമൂഹത്തിന്റെ ചരിത്രം കരയിലെ നീർ നിലം കേന്ദ്രീകരിച്ച് നടന്ന പഠനങ്ങളുടെ അടിസ്ഥാനത്തിലാണ് പൊതുവിൽ മനസ്സിലാക്കപ്പെട്ടിട്ടുള്ളത്.കടലും കടൽക്കര ജീവിതവും കേരളത്തിന്റെ സാമൂഹിക ജീവിതത്തെ സ്വാധിനിച്ചുവോ എന്നതിന് പഠനങ്ങൾ പരിമിതമാണ്. ഈ പരിമിതി ലഘൂകരിക്കാനുള്ള ശ്രമമാണ് ഈ പഠനം.കടൽ വഴി വന്നവരും, തീരദേശത്ത് ജീവിച്ചവരും മാത്രമല്ല ഉൾപ്രദേശങ്ങളിലുള്ളവർ കൂടി ഉൾകൊള്ളുന്ന ഉത്പാദന- വിനിമയ ബന്ധങ്ങൾ കപ്പൽ നിർമ്മാണത്തെ ചൂഴ്ന്നു നിൽക്കുന്നുണ്ട്.സ്വാഭാവികമായും കപ്പൽ നിർമ്മാണത്തിന്റെ സാമൂഹിക മാനങ്ങളെക്കുറിച്ചുള്ള അന്വേഷണം കേരളസമൂഹത്തെക്കുറിച്ച് കൂടുതൽ ഉൾകാഴ്ച നൽകുന്നുണ്ട്. മലബാറിൻ്റെ സമുദ്രചരിത്രം, കപ്പൽനിർമ്മാണ പാരമ്പര്യങ്ങൾ, സാമൂഹിക-സാംസ്കാരിക പശ്ചാത്തലം എന്നിവയിലേക്കുള്ള ഉൾക്കാഴ്ചകൾ കണ്ടെത്തുന്നതിന് ആർക്കൈവൽ രേഖകൾ, യാത്രക്കാരുടെ അക്കൗണ്ടുകൾ, ഫീൽഡ് വർക്ക് എന്നിവയുൾപ്പെടെയുള്ള പ്രാഥമിക സ്രോതസ്സുകളെയും പുസ്തകങ്ങൾ, സാഹിത്യകൃതികൾ തുടങ്ങിയ ദ്വിതീയ സ്രോതസ്സുകളെയും ഈ ഗവേഷണം ആശ്രയിക്കുന്നു. ഈ സ്രോതസ്സുകൾ പ്രദേശത്തിൻ്റെ ഊർജ്ജസ്വലമായ സമുദ്ര പാരമ്പര്യത്തെക്കുറിച്ചുള്ള അമൂല്യമായ കാഴ്ചപ്പാടുകൾ നൽകുന്നു. ആമുഖവും ഉപസംഹാരവും കൂടാതെ അഞ്ച് അധ്യായങ്ങളായാണ് ഗവേഷണം ക്രമീകരിച്ചിരിക്കുന്നത്. ആദ്യ അധ്യായം മലബാറിൻ്റെ സമുദ്ര ചരിത്രവും ഭൂമിശാസ്ത്ര ചരിത്രവും അന്വേഷിക്കുന്നു. രണ്ടാം അധ്യായം മലബാറിൻ്റെ നാവിക ബന്ധങ്ങളെയും തദ്ദേശ, പാശ്ചാത്യ മേഖലകളുമായുള്ള വ്യാപാര ബന്ധങ്ങളെയും കേന്ദ്രീകരിക്കുന്നു. മൂന്നാമത്തെ അധ്യായം മലബാറിലെ കപ്പൽ നിർമ്മാണവുമായി ബന്ധപ്പെട്ട തൊഴിലുകളും അനുബന്ധ സോഷ്യൽ നെറ്റ്വർക്കുകളും വിശകലനം ചെയ്യുന്നു. നാലാമത്തെ അധ്യായം മലബാറിലെ കപ്പൽ നിർമ്മാണ സാങ്കേതികവിദ്യയുടെ വിവിധ വശങ്ങൾ പരിശോധിക്കുന്നു. അവസാനമായി, അഞ്ചാം അധ്യായം മലബാറിലെ കപ്പൽനിർമ്മാണവും സാമൂഹിക ജീവിതവും തമ്മിലുള്ള ബന്ധത്തെ എടുത്തുകാണിക്കുന്നു.മലബാറിനെ പാശ്ചാത്യ ലോകവുമായി ബന്ധിപ്പിക്കുന്നതിലും അതിൻ്റെ സാമ്പത്തിക സാംസ്കാരിക ഭൂപ്രകൃതികളെ സ്വാധിനിക്കുന്നതിലും കപ്പലുകൾ നിർണായക പങ്കുവഹിച്ചിട്ടുണ്ട്.ഇന്ത്യാ

സമുദ്രവാണിജ്യത്തെ പുഷ്ടിപ്പെടുത്തുന്നതിൽ മലബാറിലെ കപ്പൽ നിർമ്മാതാക്കൾ നിർണ്ണായകമായ പങ്കുവഹിച്ചിട്ടുണ്ട്. യൂറോപ്യന്മാർ വരുന്നതുവരെ ഇന്ത്യൻ തീരങ്ങളിൽ തനതായി നിർമ്മിച്ച വിവിധയിനം യാനങ്ങളായിരുന്നു ഉപയോഗിച്ചിരുന്നത്. യൂറോപ്യൻ രീതികൾ പിൽക്കാലത്ത് സ്വീകരിക്കപ്പെടുന്നുണ്ട്. മലയോര മേഖലയിൽനിന്ന് ലഭ്യമായ ധാരാളം മരഉരുപ്പടികളും അവയെ തീരത്തെത്തിക്കാൻ കഴിയുന്ന തരത്തിലെ നദീജലവഴികളും തന്നെയായിരുന്നു മലബാറിലെ കപ്പൽ നിർമ്മാണത്തിന്റെ മുഖ്യ പിൻതുണ.മുറിച്ചെടുക്കാനുള്ള മരങ്ങൾ കണ്ടെത്തുന്നതു തൊട്ട് കപ്പൽ നിർമ്മാണം പൂർത്തിയാവുന്നത് വരെ വിവിധ വിഭാഗങ്ങൾ സഹകരിച്ചാണ് നിർമ്മാണ പ്രക്രിയകൾ പൂർത്തിയാകുന്നത്.പരമ്പരാഗതമായ ആശാരിമാർ, തട്ടാന്മാർ, മരപ്പണിക്കർ എന്നിവർക്കു പുറമെ ഓടായിമാർ, ഖലാസികൾ, കമ്മാലികൾ തുടങ്ങിയ തൊഴിൽ കൂട്ടങ്ങൾ സമൂഹത്തിൽ വളർന്നു വരുന്നത് കാണാം. രണ്ടാമത് പറഞ്ഞ വിഭാഗങ്ങൾ ജാതികളായിരുന്നില്ലെങ്കിലും സാമൂഹികമായ വ്യതിരിക്തത രൂപപ്പെട്ടിട്ടുണ്ട്. പരമ്പരാഗത കപ്പൽ നിർമ്മാണ ശൈലിയിൽ യൂറോപ്യന്മാർ വരുന്നതോടെ മാറ്റങ്ങൾ വന്നു. മാത്രമല്ല ബ്രിട്ടീഷ് ആധിപത്യത്തോടെ മലയോരത്തെ തേക്ക് മരങ്ങൾ ബോംബെയിലെ നിർമ്മാണശാലകളിലേക്ക് കടത്തിയിരുന്നതിനാലും, മലബാറിൽ കപ്പൽ നിർമ്മാണത്തിന് ബ്രിട്ടീഷുകാർ താൽപര്യം കാണിക്കാത്തതിനാലും ഈ മേഖല പ്രതിസന്ധിയിലായി. സ്വാഭാവികമായും പരമ്പരാഗത തൊഴിൽ സമൂഹങ്ങളും ശിഥിലമാവാൻ തുടങ്ങി.ഉല്ലാസയാന നിർമ്മാണം മാത്രം പരമ്പരാഗത രീതിയിൽ തുടർന്നുവന്നു. ഉപാദാനങ്ങളുടെ പരിമിതികൾ പഠനത്തെ ബാധിച്ചിട്ടുണ്ട്. കപ്പൽ നിർമ്മാണമോ അനുബന്ധ മേഖലയോ പ്രതിപാതിക്കപ്പെടുന്ന സ്രോതസ്സുകൾ ഇല്ല എന്നുതന്നെ പറയാം. നാടൻ പാട്ടുകളിലും മറ്റും പ്രതിപാതിക്കപ്പെടുന്നവയെ നിർദ്ധാരണം ചെയ്തും കപ്പൽ നിർമ്മാണ മേഖലകൾ സന്ദർശിച്ചും ലഭിക്കുന്ന വിവരങ്ങളാണ് പഠനത്തിന് പ്രധാന പിന്തുണയേകിയത്. മധ്യകാല രേഖാ ശേഖരണങ്ങൾ ലഭ്യമാവുന്ന നിലക്ക് നിലവിലെ പഠനത്തെ കൂടുതൽ മെച്ചപ്പെടുത്തതാക്കാം.

കീ വാക്കുകൾ- മലബാർ, കപ്പൽ, കപ്പൽ നിർമ്മാണം, സമുദ്ര വ്യാപാരം, ഓടയിസ്, ഖലാസീസ്,കമ്മാലികൾ.

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INTRODUCTION

In ancient times, many watercraft were made to travel in rivers, canals, seas, etc. Several types of watercraft emerge based on different environmental, geographical, social, and economic conditions in other parts of the country. A ship is constructed for transport. The basic qualities of a ship, capacity to float and systematic movements in a controlled manner, are checked by the needs of its function. People's multiple skills and hard work represent ships' types and functions. They are good examples of art and craftsmanship. Ships also helped with the development of trade and communications in the early times. It is an important part of a country's progress through transporting man and goods to other countries. Coastal regions of the country have to depend greatly on their maritime commerce for their economy. The coastal and ship-related society has peculiar customs, rituals, beliefs, and ways of working. These small societies are organized in a hierarchized structure.

The development of shipping and shipbuilding Crafts in India are based on several factors. Ancient Indians were skilled watercraft builders who could cross the sea. They built different ships and set voyages to distant lands across high seas. The reasons for developing shipping in the country are knowledge about shipbuilding technology, availability of skilled persons relating to ships, and adventurous mariners. Other reasons, that encouraged this industry, are geographical conditions like the sea on three sides, many navigable rivers, availability of suitable materials for construction, etc. India's long and broad rivers played a great role in its

development. The past's great cities developed from small human habitation units that sprang up along their fertile river banks. The Indian rivers are very useful for inland navigation, connecting the cities. These rivers have been one of the most important inland trade and communication channels.

Ancient India had different and wide varieties of watercraft in different parts of the country for different purposes depending geographically and chronologically. The antiquity of shipping is much older than any written history. Primitive watercrafts had developed into ships, suitable for bringing passengers and considerable loads with a suitable degree of reliability between coasts to another. India greatly participated in the maritime world because it was surrounded by the sea on its three shores. From the beginning of history, the Indian Ocean has been a regular highway of commerce. India carried on extended, large-scale trading and pioneer connections with the East and West. India has its own culture and also has enhanced other countries' cultures with its contacts. These exchanges made it possible to develop ideas in the field of shipbuilding. Archaeological evidence of India has proved that the ancient Indians had trade and contacts with Southeast Asian countries on one side and Western Asia, Africa, and Europe on the other.[1]

The only important evidence about ancient Indian ships are portrayals in ancient art and references in literature. *Yuktikalpataru* of Bhoja is one of the important works related to ancient ships and shipbuilding. The literary work describes shipbuilding in detail. *Yuktikalpataru* provides valuable information about

[1] C D Dillian and Carolyn L White, *Trade and Exchange: Archaeological studies from History & Pre History*, University of Nevade, 2010, p.28.

the technological part of ancient Indian ships. From the 12th century onwards, some representations in the art and descriptions in literature became available and valuable paintings in manuscripts provided more information about the sea vessels. These sources help to reconstruct the maritime history of India to some extent.

The origin of the watercraft has been depicted in the Upper Paleolithic or Mesolithic period, based on archaeological evidence and depictions found in ancient art and tools. Early watercraft, such as dugout canoes and rafts, were likely developed by humans for fishing, transport and exploration across waterways. These primitive vessels were often constructed from hollowed-out tree trunks or bundles of reeds and are considered some of the earliest technological innovations for travel on water.[2] Fishing and transport were the main purposes of the early boats. Archaeological evidence points out that the Harappan people were used to sailing ships. So, the direct and indirect supports prove the maritime activities of the Harappans.

Religious and secular ancient Indian literature is filled with references to the ships and maritime activities, which justify that the ancient Indians openly used the ocean as the main route of international connections. Brahmanical literature like the *Rigveda, Atharva Veda, Vajasaneha Samhita, the Sutra and Smritis, Vriksha-Ayurveda, Ramayana and Mahabharata, Markandeya Purana, Dharmasastra of Manu* explain important information about ancient shipping and seafaring. The idea about sea, ships, boats and sea voyages, which continued for several days and

[2] Paul Johnstone.,*The Sea-Craft of Prehistory*. Harvard University Press, Cambridge,1980, p.5.

nights, are explained in Rigveda. The other Vedic and later Vedic texts also contain references to sea voyages. Several pieces of information regarding ships and sea voyages are contained in Buddhist literature like *Maha Ummagga Jataka, Mahajanaka Jataka, Sanka Jataka, Samudra Vanijja Jataka, Jatakamala of Arya-Sura, Baveru Jataka, Rajvansa, Dipavamsa, Divyavadana, Avadana sataka, Mahavagga, Mahavastu, Milinda Panha, Samyuttamyaka, Sutta Pitaka, Vinaya Pitaka etc.*. Several foreign scholars and travellers such as Greek, Chinese, Arab and Europeans have also explained ancient Indian shipping and shipbuilding. Several inscriptions also help us to collect information about sea voyages and naval sciences. All these sources are useful for reconstructing the origin and growth of shipping and shipbuilding in India for about last two thousand years.

Another important source to learn about ancient shipping and shipbuilding is the vast amount of literature in the regional languages of different parts of the country. Most of these types of literature are unexplored and the remains have not received more attention. Some European scholars like James Hornell, a seafaring ethnographer, made copies of traditional Indian ships and boats in the second half of the 19th century and the first half of the 20th century.[3] A monumental work of Radhakumud Mookerji[4] is another valuable work on Ancient Indian Shipping. The work documented information about the construction technology, materials used, designs and usages of Indian ships.

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[3] James Hornell, *Water Transport: Origins and Early Evolution*, Cambridge University Press, 1946, p.125.

[4] Radha Kumud Mookerji, *A History of Indian shipping*, Longmans, Bombay, 1912, p. 102.

Ancient Indian art in sculpture, painting, terracotta models, seals, engravings and coins represent different ship models. The importance of ships in Indian seafaring is represented in these arts. It is also more useful and reliable evidence of the studies related to seafaring in India.

Comparisons and differences between various types of traditional ships in India are examined with evidence of ancient Indian ships in the art and literature. The study of traditional vessels is helpful in understanding ancient Indian technologies, shipping and the availability of materials. Most of the traditional ships are identified by the works of skilled persons related to this area and their lives. These traditions have been identified in distant past cultures to envisage ancient seafaring and shipbuilding technology. The Indian traditional shipbuilding industry was developed with various favorable factors such as easily available raw materials for shipbuilding, courageous mariners and high standards of Indian products, whichwere in great demand elsewhere.

The nature of Ecology, availability of materials, varied purposes, etc., the people of Kerala introduced different types of crafts. The geographical peculiarity of Kerala made them introduce different means of communication to maintain contact with the neighbouring areas and for transportation and fishing. The early man might have used wood logs to cross the water bodies. Later, they might have learned to hew the tree trunk to make a dug-out canoe. Kerala has a continuous chain of lagoons and backwaters that run parallel to the sea coast. This geographical peculiaritynecessitated the use of boats for contact with neighbouring places.

References to the chiefs of *Kayamkulam* (also called Odanad) are found in

the 13th, 14th and 15th centuries inscriptions and regional literary texts like *Unnunilisandesam* of the 14th century A.D, it has an extensive principality with a long sea-coast, backwaters, lakes and rivers.

While Malabar directly traded with the Greeks and Romans in the old days, it concentrated on exchanges with the Middle Eastern ports in medieval times. This exchange of goods also resulted in the transfer of people from their abodes. While it is mentioned that Malabari was found along African ports and even Egypt, it was mostly Arabs who migrated to the Malabar coasts, mainly to administer, control and conduct trade with their brethren in Yemen, Basra and Egyptian ports. Beypore was a virtually free port with only an export-import duty imposed by the ruling Zamorins. The intermediaries between the Arabs and the *Nairs* were the *Moplahs* (a community started by intermingling Arab men and local women from ancient times). Also, the southeast Malay ports sent ships to Malabar for the cloth from Kerala until British cloth took its place later in the 19th century. A deep network of lakes, canals, estuaries and wetlands runs through the Beypore Village. Rich and vast carpentry skills are seen in the boat building of Beypore. Technical skill, know-how and design of the crafts built at Beypore are recognized as the best even today. All categories of crafts are built here.

The crafts of North Malabar Coast are used for different purposes like fishing, transporting cargo and passengers and warfare. Many stories related to *Marakkalath Amma* in *Theyyam* are a popular ritual form of dance worship in North Malabar. *Marakkala pattu* and *poorakkali pattu* mentions about the myth of

Marakkalath Amma.[5] The women, such as Brahmins and Muslims, came from other places like Gujarat to Kolathunadu by sea voyages in wooden watercraft and settled here and became deities for particular tribes. The story behind *'Shulakadhari Amma'* is that a Brahmin woman who came to *Kannanur* in North Malabar with her family from the coast of Gujarat for trading purposes settled here and became a goddess. The myth of *Nellikathuruthy Kazhakam Poomala Bagavathi* is about another goddess who came with her father for trade. The devotees believed that the *Aryappokkani* and other gods and goddesses came in *Marakkalam* or *paykkappal* and landed in *Oriyara kavu*. From there, Goddess saw *Kulangat mala* and, attracted by the beauty of the hill, selected the place hill as a resting abode place.[6] The *Theyyam* family has gods with a Muslim trading background. Girls of the Muslim community come here with their families for business purposes and to win the hearts of people in those areas. *'Arya Poonkunji'* came to Matayi in North Malabar along with "*Baporan Mappila*" and became the favorite deity of the 'Marahis'.[7]

Tottam Pattukal[8] in *'Devaknyavu*' explained a story related to the connection of sea voyages in North Malabar. A merchant named *'Thammappan Thiruvadi'* from Kolathunadu went to Tiruvalathur with his boat for trading purposes. There he married a Brahmin woman and gave birth to a baby girl named *Devaknyavu.* Finally, he took his family and started his journey to Kolathunadu. At last, *'Devaknyavu'*

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5 Nandakumar K, *Culture polity and hegemonic arrangements in the Theyyam performance of North Malabar*, Kannur University, 2019, p.139.

6 *ibid*, p.139.

7 Interview with K Nandakumar, Professor of Nehru College, Kanhangad in 12.12.2019.

8 *Tottam* is the myths and narrative lore-texts, which means hymn or religious poems.

became the Goddess of Kolathunadu. *Tottam* Songs in *'Devaknyavu'* describe the ancient sea voyages, trade practices, how it was built in those days, different items used for trade and areas of trade.

THE RESEARCH PROBLEM

The social history of shipbuilding in Malabar is the social life and traditional experiences of groups related to traditional shipbuilding in the region. Social history deals with the structures of societies and social change, social movements and groups and classes, work conditions and ways of life, families, households, local communities, urbanization, mobility, ethnic groups, etc[9] In his *Social History of England*, G M Trevelyan has defined social history: "It is the history with the politics left out". He also says that social history describes the daily life of the land's inhabitants in past ages. Social history challenged dominant narratives constructed around the history of politics and the state or the history of ideas by stressing social change instead as a core dimension around which historical synthesis and diagnosis of the contemporary world should be organized.

The objectives of social and Anthropological studies in India, the study by men of different races and religions of the customs and manners of one another can help promote mutual amity and knit ever more closely the bonds of unity among them. The present study of shipbuilding's social history in Malabar is conducted in this manner.

A comprehensive social history of Kerala is not available. Most of the works

[9] Raphael Samuel, “what is social history”, in History today vol-35, issue 3, March 1985.

of Kerala history commonly focus on Kerala's cultural and political aspects. Cultural and political aspects of Kerala are commonly seen in the works of Kerala history. Some historians write about the social and historical works based on the temple-oriented wetl and agrarian community. They do not pay much attention to the coastal economy. As such, their study is a partial item of Kerala history.

The present study attempts to compensate for the limitations in the historical knowledge about Kerala. The study aims to study the history of shipbuilding in Malabar to draw the social history of maritime technologies. The study focused on the growth of shipbuilding in the region of Malabar from the perspective of social history.

This is all the more important because a serious study about Malabar from the social and historical perspective has not been undertaken yet. This study is an attempt to explore various problems of shipbuilding and its outcomes. It investigates where the skill of shipbuilding originated, how it transferred to local artisans of the Malabar Coast and how it transformed them as a unique ethnic group. The researcher would like to analyze the traditional skills of Malabar, paying special attention to the social and technological aspects of shipbuilding. The social life and skills of expert groups related to traditional shipbuilding in the region are examined through an in-depth study focusing on their historical and social evolutions.

REVIEW OF EARLIER RESEARCH

Many literary works became a part of the study and gave a basic idea about this topic. Some literary works for general readers pointing and reflecting on the

shipbuilding in Malabar such as Parappil Mammad Koya's *'Kozhikotte Muslimkalude Charitram'* (1994) and Sulaiman Nadvi's *'Arabikalude Kappalottam'* (1992). Thus, these literary works included most of the knowledge in this area.

Sulaiman Nadvi's *'Arabikalude Kappalottam'* comparatively describes the history of shipbuilding in Malabar. The work refers to longships, small boats and different names of sea-going vessels. The travellers and workers in the ships and travelling stories explained the work.

The work *'Kozhikotte Muslimkalude Charitram'* includes the history of Calicut, Beypore port, its history, the history of uru making, different construction companies and the role of the Barami family in ship's construction. Also explainsthe various models of Urus that were built at Beypore and the maritime history of Beypore.

Dionisius A Agius' works' *Sea Faring in the Arabian Gulf and Oman The People of Dhow'* (2005), *'Classic ships of Islam from Mesopotamia to the Indian Ocean'* (2008*) and' In The Wake of the Dhow- The Arabian Gulf and Oman'* (2002) focus on Maritime culture and ethnography of material culture of Western Indian Ocean. The traditional sailing watercraft, the sea people and their activities, folklore beliefs and practices, resources and trade are touched in these works.

'Seafaring in the Arabian Gulf and Oman the people of Dhow' explains the Indian Ocean maritime life and the shipbuilding technologies of India. The work analyses the ships' cultural, Physical and Mercantile importance, their significance in the day-to-day life of Coastal communities and their interactions with Seafaring tradition. Making a variety of watercraft in Oman and the Arabian Gulf and

maritime interaction between the Western Indian Ocean and Arabian Gulf regions are presented in the work.

'Classic ships of Islam from Mesopotamia to the Indian Ocean' refers to the maritime contacts and the sailor, Khalasi. This work regards the multi-dimensional explanations of Indian Ocean trade, material culture and navigational Principles. But they are also almost silent over the maritime culture's social and historical approach and shipbuilding.

'The Wake of the Dhow- The Arabian Gulf and Oman' gives a comprehensive account of the characteristic features of the Arabian Dhow or ship, a variety of dhows such as Cargo dhows, pearling dhows, fighting dhows and slaving dhows and the usefulness of such watercraft. The work analyzed 'how the maritime communities interacted with the dhow world?' From the 16th to 18th century, maritime trade flourished with the help of Cargo vessels and the period of 19th and 20th-century pearling industry connected with Pearling dhows. The work explains the technical and documentation of the dhow as an important element in the prosperity of the Arabian Gulf and Oman before the discovery of oil. Also, the historical and linguistic background of different types of dhows, the geographical condition of the region and the life pattern of seamen connected with these dhows are touched on in the work.

'Arab seafaring in the Indian Ocean in Ancient and Early Medieval times' (1951) byGeorge F Hourani deals with the history of maritime contact of the Arabs in the Indian Ocean. The origin of maritime trade before Christ extended into the 9th and 10th centuries. The story of Arab trade routes and the ships from the earliest

times to the Middle Ages is also explained in this work. Arab seafaring in the Indian Ocean and its tributaries, the pre-Islamic trade route, trade under the Caliphate and the technicalfeatures of the ships are discussed in the work.

In the 9th and 10th centuries, the Indian Ocean trade in Goa and how the gains from its sea-born trade were connected to politics in the region. Pius Melekandathil's work *'Maritime India- Trade, Religion and Polity in the Indian Ocean'* (2010) discussed how India's socio-economic and political activities are influenced in the Indian Ocean coastal regions and their impacts from early medieval to early modern times. The nature of the Maritime contacts of the Sassanids with India, especially in trade relations, the settlements of foreign merchant groups in India and their social process linked with here, also focused in the work. The book discusses the Ottoman and Portuguese commercial expansions on the traditional Muslim merchants of Coastal India, especially the Kerala region.

'Maritime Traditions of Medieval Malabar' (2020) by Kunhali V examines the rich shipbuilding heritage of the Malabar coast during the medieval period. It focuses on the *Marakkars*, renowned for their shipbuilding skills and naval prowess, highlighting their contributions to the region's maritime legacy. The book touches upon the rituals and cultural life of the communities engaged in traditional shipbuilding, along with the types of ships they constructed, which ranged from small coastal vessels to larger ocean-going ships. It also explores the social and economic impacts of maritime activities on the region. However, the work falls short of providing detailed descriptions of the shipbuilding techniques or an in-depth look at the daily lives and social structures of the shipbuilding communities. Despite

these limitations, the book is a valuable resource for understanding the broader maritime traditions of Malabar.

'Rival Empires of Trade in the Orient, 1600 1800' (1976) by Holden Furber is an exhaustive introduction to the history of the societies linked by maritime activity in the Indian Ocean. The work focuses on the European expansion in Asia in the seventeenth and eighteenth centuries. It explains the details of the rivalries of the East India companies and the growth of British maritime dominance in the Indian Ocean. It also describes the history of the decline of Asian trade. Another work related to 'Maritime India' is Sinnappah Arasaratnam's *Maritime India in the seventeenth century* (1994), which contains the geographical features of the Indian Ocean, its climate and ports. The work gives an account of the Indian Ocean world before the arrival of Europeans. *The Indian Ocean: A History of People and The Sea (1992)* by Kenneth Mc Pherson provides an idea about the Indian Ocean economy constituted by the trade links and commercial networks of the medieval period. The information helped assess the relationship between merchant communities of the medieval period. These three studies establish the existence of the Indian Ocean world and provide an excellent history of the Indian Ocean world, the main arena of medieval Arab trade.

B Arunachalam's work *'Maritime Heritage of Southern Peninsular India'* (2010), emerges from the relations and interaction with the sea, reflecting cultural, social and technological traits of the southern Indian peninsula's maritime heritage. The work examines various aspects of the region's maritime heritage as reflected in the languages, living practices, tools and traditions with the support of

maps, line drawings and photographs. The author collected from the sources of archaeology, epigraphy, numismatics, classical Tamil literature, overseas voyage accounts, regional folklore, ballad and folk traditions, living practices, sculptures and paintings, seamen's accounts in their sea dialects, customs, traditions and sea trade in the extreme southern location in the sub-continent. The region surrounded by the seas has ensured a degree of isolation and segregation that permitted the people to evolve a distinctive socio-cultural ethos over millennia. The sea–l and relations have engaged in a zone of intense human activity linked with the sea and impacts from beyond the sea on all sides. Many *nagarams* and *pattinams* on the coast have ensuredthe region's strong external impulses for its urban development.

'Maritime History of India' (1965) by K. Sridharan is a work related to the maritime history of India from ancient times to the 1960s, which is an interesting and authentic historical survey of India's maritime activities and achievements from the earliest times to the present day. The work mainly focuses on the common public**,** Indian Naval, Merchant and the persons engaged with Maritime Affairs.

The present study is related to scholarly essays and documents collected in the edited work *"Ships and the Development of Maritime Technology in the Indian Ocean*"(2002) by David Parkin and Ruth Barmes. The book deals with the role of shipping communities and created technologies, the types of ships, methods of navigation and modes of maritime trade in the Indian Ocean region. Ranbir Chakravarti analyses the historical outline of Indian maritime life and India's role in the Indian Ocean before the 7th century to the arrival of Portuguese at the turn of the

15th century in hisessay *'Seafaring, Ships and Shipowners: India and Indian Ocean (AD 700 – 1500)'*(1999*).*

'A *History of Seafaring Based on Underwater Archaeology'* (1972) by George F. Bass is more for scholarly use than general knowledge. Bass developments in the mapping, measuring, photographing, excavating and conservation of underwater sites, revolutionizing our understanding of ancient maritime history. The work has a good reference on the history of seafaring in the Old and New Worlds.

Another work based on maritime history is *'Our seafaring into Indian Ocean'* (1975) by O.K. Nambiar. The book explains the historical perspective of Indian Ocean Seafaring and Indian shipping progress from past to present since Independence. Ancient and Medieval navigations like Indian, Persian, Greek, Phoenician, Chinese and Arab navigation systems, South Indian Navigation in the time of Europeans, the development of the Indian shipping Industry and the works of Merchant ships are also explained in this study.

K.S. Mathew's book talks about the traditions of wooden shipbuilding in India, indigenous navigation and the study of the Portuguese period. Some works give importance to the technological aspects of shipbuilding, such as '*Shipbuilding and navigation in the Indian Ocean region AD 1400 – 1800'* by K.S. Mathew (ed.) and K K N Kurup's *'Beypore: Prithruka Kappal Nirmana Kendram'*. K K N Kurup's writings related to shipbuilding in *the* Beypore region of Malabar. The work explains the importance and varieties of ship construction in this region, the technological aspects of Beypore ships and the traditional identity of the ships.

Another edited work, *"Malabar"* by EKG Nambiar. This work includes an article related to this study, the construction of Indian vessels in the 10th century in Malabar by V. Kunjali, which includes a detailed description of the construction of Uru, the different parts of Uru, the timbers used for arts construction, varieties of vessels which are making at Malabar. The *odayis* and *Khalasis* became part of this article. This article has included basic information regarding this area.

Sebastian R Prange's *Monsoon Islam: Trade and Faith on the Medieval Malabar Coast* (2018) focusing Indian Ocean historiography and trading network based on Monsoon in the medieval period. The work accounts for medieval Malabar merchant communities and social, economic and political history between the 12th and 16th Century Malabar. The narration of the early conversion to Islam might be a legend; Prange calls 'Monsoon Islam' a "story world of myth into the realm of history", reflective of prevailing patterns of religion, trade and rule in the Indian Ocean world.The tale of Kerala ruler *Cheraman Perumal* and his traveling to Mecca then converted to Islam and the Islamic emergence of Kerala is contained in the book. Prange rightly pointed to the importance of pepper in the Indian Ocean world and the control of the pepper trade network in Malabar locally by Muslims, that is until that shifted to the Portuguese. He points out the rise of Calicut from the fourteenth Century as the prominent port of Malabar made the wealthiest activities of Muslim merchants and influenced Islam and Muslims in this Hindu kingdom ruled by Zamorin controlled place.

Another work, *Indian Shipping (1957) by Radha Kumud Mukherjee, includes the history of Indian shipping from the civilizations period onwards. It gives the*

history of Indian shipping through every period of Indian history. The text also describes the timbers and their classification.

The edited work' *Malabar in the Indian Ocean- Cosmopolitanism in a Maritime Historical Region'* (2021) by Mahmood Kooria and Michael Naylor Pearson is a collective study related to the Maritime involvement of pre-colonial Malabar in the Indian Ocean World. The studies emphasize maritime Malabar's social, religious and cultural landscapes and extra-local features within a micro-region. Malabar region has included different communities such as Hindus, Muslims, Christians and Jews with diverse languages from Malayalam, Arabic, Syriac, Persian, Dutch, French, Hebrew, Latin and Portuguese. The studies of this book also focus on the region's role in the broader picture of the Indian Ocean world with historical records; it includes indigenous and European textual sources as well as the local extra-textual materials, archaeological, epigraphic, or architectural significance of pre-modern Malabar. One work demonstrates the Arabic inscriptions such as Kollam, Calicut and Cochin from the 13th to 15th centuries found in Malabar, maritime interactions and historical influence in different localities of the Muslims of Malabar.[10] Another chapter explains the initial parts related to ship-making from this almost 4,000-line translation of *Tottam* songs of Goddess *Marakkalattamma,* one of the rarest indigenous lores directly related to the oceanic realm. It narrates an eventful story of the mother goddess (amma) who lived and reigned over high-standing ocean-going wooden sailing ships or *marakkalam.* The

[10] Mehrdad Shokoohy, "Sources for Malabar Muslim Inscriptions", in Mahmood Kooria and Michael Naylor Pearson (Ed), '*Malabar in the Indian Ocean- Cosmopolitanism in a Maritime Historical Region',* Oxford University Press, New Delhi, India, 2018, pp.1-63.

writer has focused on many aspects with its secular contents, such as the Indian Ocean trade and travel and the whole narration of the process of wooden ship-building.[11]

An overview of the works reveals that social aspects of overseas and hinterland networks in Malabar during the medieval and early modern periods are given less research attention. This book is also linked with maritime history and studies on trans-oceanic exchanges in different areas of India. Some historians have not focused on South India's importance in intra-Asian trade during medieval and early modern periods. Scholars emphasize trade centres and Trade routes but have no clear idea about Malabar's maritime activities. On analysis, it can be stated that no exhaustive study has been undertaken in the case of the social history of seafaring groups, the importance of shipbuilding traditions and social aspects of shipbuilding in Malabar and maritime networks. It also implies that the maritime social history of Malabar has been neglected substantively. It is, in this context, the present study is relevant. It aims to reveal the social context of Malabar's maritime and mercantile activities in the respective period by objectively filling up the gap.

OBJECTIVES OF THE STUDY

1. To Sketch the maritime geography of Malabar.
2. To understand the traditional skills and techniques involved in the construction of ships in the study area.

[11] Abhilash Malayil, "Mother Goddess and the Wooden Ship: Tale and Trade in the Tōṯṯam of Marakkalattamma", in Mahmood Kooria and Michael Naylor Pearson (Ed), *ibid*, pp. 232-257.

3. To outline the trajectories of Maritime trade in Malabar.

4. To bring out the social dimensions of shipbuilding and the related labour.

5. To investigate whether the social changes have been reflected in the history and technology of shipbuilding.

METHODOLOGY

The major sources of the present study are coming from archival repositories, ethnographic field works, interviews and colonial documents in addition to the secondary work. Social history must consider the structures, events and institutions that govern and influence social life. The geographical part of the thesis is worked out utilizing the colonial reports and fieldwork data. Unstructured interviews are taken as a point for deep inquiries into the social world. In this way, the study drew strength from the methods and methodology of Local History and Microhistory.

The primary sources of this work consist of Archival documents and manuscripts, the accounts of Arab travellers and geographers, Travelogues of Explorers, adventurers, mariners and earlier Greeco-Roman accounts; European and Chinese accounts are also utilized for completing the research.

The information provided in the travel accounts helps to reconstruct the history of the medieval and modern periods based on their personal experiences and direct contact with informants. One significant feature of these accounts is the comprehensive and attending way of presenting facts incorporating reports and narratives of sailors and merchants. As these accounts deal with maritime geography

and relations, watercraft, trade and commerce of different countries, they are the most reliable source for studying maritime activities of different peoples of the medieval and modern periods.

Fieldwork and personal interviews are extensively used in selected study areas. To use E Gellner's metaphor, all aspiring professional social historians must go through this arduous initiation ritual of fieldwork as it is the exclusive technique employed to obtain information about the objective facts of culture and society. Ethnographical data was collected from creative interviews and participative observations.

Discussions with artisans and other personals associated with watercraft making are conducted in the Malabar areas, especially in Coastal regions and the nearest places.

RELEVANCE OF THE RESEARCH

This study attempts to understand the various facts of shipbuilding on the Malabar Coast and its impact on the popular Malabar area's social, technological and maritime advancement. It also tries to connect the West Coast's social and physical geography with its maritime trade in the background of creative ship-building techniques. So it is an addition to the emerging research investigating the ethnic and technical background of artisans in Malabar Coast. In the same way, this study explores various methods *Khalasis* used in shipbuilding that eventually help to understand the demands and trends of Malabar ships in the World market. Moreover, this investigation may be used by researchers from various streams to

understand the socio-ethnic background of ship-building artisans. This study explores shipbuilding skills and their knowledge transfer from generation to generation. It also helps explain a social segmentation that emerges in Kerala as a caste system. The study could help widen the knowledge of Kerala's social history by considering hitherto neglected areas. Moreover, this investigation starts to input fresh questions to study shipbuilding as an art that significantly contributes to regional cultural diversity.

SCOPE OF THE STUDY

Even though the scope of the present attempt is thus limited to that of a regional study, it should address problems of maritime trade, shipbuilding activities, the skilled groups' developments, their cultural development and so on. The study intends to bring the Malabar region under its purview. It includes districts such as Kannur, Kozhikode, Wayanad, Malappuram, Palakkad and Thrissur in the northern part of Kerala. And it also the period from the 9^{th} century to the 19^{th} century is intended to be brought under the scope of the study our endeavor here is to explain the regional experiences in the larger framework of the existing theories.

This study aims to describe the diversity of regional experience. Even a close examination of regional experiences could reveal interesting variants that present a picture of diversity.

There are several attempts to study and analyze maritime activities in Malabar, especially trade and commerce, shipbuilding techniques, geographical routes, etc. But so far, no serious study is available on the origin, growth, culture and

social aspects of shipbuilding and workers in this area. The attempts of this study include the evolutionary growth of shipbuilding in Malabar, the social history of the area's working communities and how far they supported the cause of Arabs in India.

This study also intends to analyze the social life of *Mappila Khalasis,* the distinct aspects that identify them from the rest of the people, their cultural life and contributions to the development of maritime activities in Malabar, the changes that have taken place to the shipbuilding during the European period and the present state of affairs.

SCHEME OF PRESENTATION

The Research study has seven chapters including the introduction and conclusion. The introductory chapter will deal with the sources, methodology, Relevance Scope and the study's objectives. The first chapter, titled *Maritime History of Malabar*, attempts to trace the history of Malabar with its maritime tradition, Human and Physical Geography of Malabar. The second chapter, titled *Maritime Contacts and Trade Relations of Malabar*, focuses on the growth of trading regions and trade contacts in the Indian Ocean. Indigenous and Foreign traders, ports and trading centres of Malabar are discussed in this chapter. The third chapter, titled *Society and Labour- The Shipbuilding of Malabar,* is devoted to studying the shipbuilding tradition of Malabar, the nature of recruitment of expert craftsmen, the means of collecting appropriate timber and the method by which orders were received, etc., etc. The social history of *Khalasis,* their skills and their role in themaritime history of Malabar are also discussed in this chapter. The fourth

chapter, titled *Aspects of Shipbuilding Techniques of Malabar*, focuses on the techniques involved in the shipbuilding process, types of Watercrafts, different kinds of ships constructed and Raw materials used for shipbuilding. The fifth chapter, titled *SocialLife and Shipbuilding*, focuses on the social aspects and Collection of raw materialsof the shipbuilding process of Malabar. The problems and prospects of social aspects of shipbuilding in Malabar are discussed in the concluding chapter.

CHAPTER 1
MARITIME HISTORY OF MALABAR

The entire coastal region of Kerala has been referred to by the name 'Malabar' earlier, but during the colonial period, it came to be applied to British Malabar. Malabar played a vital role in the trading activities of the ancient and medieval world. The Maritime importance of Malabar ports was famous all over the world. According to Sardar K M Panikkar, traders from different parts of Arabia often visited the Malabar Coast.[1]

Malabar Coast played an essential role in India's Maritime history. Malabar's landscape is rich in natural resources, mainly pepper, cardamom, timber and iron. The long Coastal line has provided a naval tradition for Malabar with its many natural ports. One to Malabar's Coastline, natural harbors and rich hinterland, Malabar had a vibrant Maritime past. Many ports were developed in the Malabar region during the Sangam period. The early Sangam literature refers to the voyage of Malabar's people to foreign countries. In the 6th part of *Pathittupatu*, the poet *Kakkai Pattiniyar* refers to the Chera ships playing in the ocean to procure wealth from foreign countries.[2] Classical writers like Pliny, the anonymous author of the Periplus and Ptolemy give detailed accounts of seaports through which Malabar kept up her commercial and cultural contacts with foreign countries in the early centuries of the Christian era. The most important among these were Muchiri, which the

1 K. M. Panikker, *A History of Kerala*, D C Books, Kottayam, 2008, p.8.

2 G. Vaidyanatha Ayyar, *Pathittupatu (Malayalam Translation)*, Kerala Sahithya Accadamy, Trissur, 1961, p.154.

Greeks called '*Muciri*' and identified as Kodungallur, North Paravur area, on the banks of the river Periyar. The port town was crowded with Greek and Arabian vessels. *Tindis*, *Nelcynda* and *Barace* were well-known and notable ancient ports[3]

The west coast of India was known as Malabar to the Arabs. Alberuni appears to have been to call this area by its proper name, Malabar.[4] Before him, Cosmas Indicopleustus mentions "a port named Male, where the pepper grows, on the west coast of India", which, he says, "was frequented on account of its extensive trade in spices."[5] This port is identified with Malabar.

Malabar is a compound word consisting of two words from Dravidic and Persian. The ordinary Dravidian word *Mala* and the Arabic word *'Barr'* meaning Hill or Mountain and Continent, respectively. The word Malabar is a foreign-origin word, as Arabs used it first. So the name Malabar is a contribution of Arab Persian sailors and merchants.

Some native historians say that Malabar comes from *Malaiwad*, a Sanskrit word for the country of mountains. This area was widely called Malabar after the fifth century of *Hijra*. The first Arabian historian and geographer to call it Malabar was Sharif Idrisi.[6]

Arabs had used many names to denote this area other than Malabar. *BiladAl*

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3 John Ochanthuruthu, "New Light on the Maritime History of Kerala", in *C.U. News*, April- June 2004.

4 C.A. Innes , *Madras District Gazetteer – Malabar Vol 1,* in F.B. Evans(ed.), Government press, Madras, 1908, p. 2.

5 K. P. Padmanabha Menon, *A History of Kerala*, Asian Educational Services, 2003,p.1.

6 Shamsullah Qadiri, *Pracheena Malabar*, Other Books, 2012 ,p. 22.

Fulful (country of pepper) and *Madin Al Tamful* are famous names used by Arabs for the Malabar area.

According to Thani Nayagam, “The name Malabar comes from the Arabic *Malaya-bar,* which in turn derives from the Sanskrit *Malaya-vara,* mountain country and Tamil *Malainadu. Malayadvipa* means mountain island continent and, if the name Malaya was transferred, as is suggested, from Malabar to Sumatra, nothing could be more natural”.[7]

The land of Malabar covers the contracted coastal strip surrounded by the Western Ghats on the East and the Arabian Sea on the West in the southern part of the Indian Peninsula. Its gifted geographical setting and atypical features have provided a marked distinctiveness to the region and were also a blessing to ensure the acceleration of its wide-ranging trade and vibrant contacts with the countries of the outside world. But according to Sardar K.M.Panikkar, "....ancient Malabar extended from Mount Eli or Mount Deli (*Ezhimala)* to Cape Comorin (Kanyakumari). It forms a single geographical and ethnical component, preserving in many ways a singularity of customs and social organization that mark it as a separate entity in the Indian sub-continent". [8]

Malabar means the area between the South Canara in the north, the Cochin Territory in the south, the Western Ghats in the east and the Arabian Sea in the West. In other words, the territories of Zamorin of Calicut and the *Kolathiri* of

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[7] X.S. Thani Nayagam, *Tamil Culture and Civilization,* Asia Publishing House,Delhi,1971, p. 168.

[8] A. Sreedhara Menon., *A Survey of Kerala History,* National Book Stall, Kottayam,1967, p. 1

Kolathunadu, i.e. Kannur district of present Kerala. Paolino da San Bartolomeo mentioned that Malabar Rivers generally take their names from the places they flow past. As localities do not uncommonly change their names, many of the rivers have come to be known.[9]

Geographical features or people's relationship with regions related to the emergence of many place names in Malabar. The place name evidence is of great help in knowing ancient human and l landlord customs that came into existence over here based on the unique Geography of Malabar. Likewise, the same place name evidence can be effectively used to understand social factors of each ancient period and collect ideas based on social formation. The custom of naming labour groups existed. Many of the places share certain standard features. For example, in Malabar, we have many places having a typical ending in their names Eg: *Cheruvathur, Maniyur, Azhiyur, Elayavoor, Aroor, Mavoor, Tirur, Vadakara, Edakkara, Kanjikulam, Kunnamkulam,* etc. there are many words like *Kulams, Kara, Ooru,* which are commonly used in the ending of the names of places. Examples are given below *Kara, (Ramanattukara) Chery (Valanchery) Puzha (Panapuzha) Kadu (Kakkadu) Nadu (Chemmad), Palli (Villiappalli) Thura (Thurakkal), Puram (Malappuram), Paramba (Koothuparamba).*

Many of these endings are similar in Dravidian languages, especially in Tamil. The names of eminent personalities and people having local importance are also seen in the names of places. Certain names show the commercial or industrial.

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[9] Jacob Canter Visscher., *Letters from Malabar*, Gantz Brothers, Madras, 1862, p.25.

Importance of a particular area of the preserve or historical importance. When we doa minute study, we can understand that most of the places' names are related to the geographical structure of Malabar. Many streams *(Aruvikal, Thodukal*), forests *(kadu*), Lakes (*Kayal),* Mountains (*mala*), Hills (*Kunnu*) and Valleys *(Thadam)* same other places are named after specific historical incidents or memorials. *Kottakkal, Kottakkadavu, Kottakkunnu, Kottapuram* and *Hosdurg* are places have fort. *Porkalam* and *Padanilam* were places where fights or wars were held in part. *Sulthan battery* is where this fort of Tipu Sulthan and his army activities were held. The name *'Petta'* is a commonly used name that indicates a commercial Hub. Ferokepetta is a version of the same name. A major type of names of places reflects the aspects of animal and their habitat the following examples like *Muriyad, Pattikkad Kuthiravattam, etc. Peruvanam* (thick forest) is similar to *Perumanna* and *Mannarkkad,* known as the surrounding of a forest.

Many places like *Azheekal, Azheekode, Chettuva, Kallayi, Karappuram* and *Kadalundy* are examples of place names derived from the proximity of the sea. *Karuvanthuruthi* and *Kakathuruthi* are places formulated from the sea. *Thamarassery, Kuttikkattur, Paruthippara Amballur, Pookaitha, Mavilayi, Mullassery and Thirunelly* are related to certain plants' names and flowers.

Over time the names derived from '*Ainthinas'* got mixed. The emergence of new urban and suburban areas resulted in a new contribution of names. When the people of Malappuram came to *Marutham tinai* from a new community, they tried to retain their old name. They accepted many names irrespective of the 'Thina' like mankind, the names of places may disappear and become damaged. Over time such

names may remain as the name of a family or group. In some instances, the names of some families may get greater acceptance and become the name of a place or a wider locality because in certain cases the name of a place may be used as the name of a family. Those who get shifted to a new locality use the name of the earlier settlement (native place) as their family name. Geographical features of memory of important incidents influence the names of places.

During the transition from *Chentamil* languages to Malayalam, the word *'Paramba'* was degraded. Names of certain countries and places were reduced to be used nearly as the names of objects or families.

The change of place name of the object brought changes in the meaning of the word *Prambu.* Highl and, Upper area without irrigation facilities, *Thottam, Valappu,* l and allotted to poor *'Cherumans'* and 'Player' are the categories. The word *'Vayal'*, one of the names among *'Maruthathina'*, became a modern Malayalam word. With the arrival of 'Aryans' under the influence of Sanskrit, the word got two synonyms *'Padam'* and *'K andam'*. However, with Tamil words, *Nilam* and *Vayal* exist even now. Like the words Nilam and Vayal, their followers 'Padam' and *'K andam'* have contributed several place names in the history of Malabar. *'Velupadam*' and *'Punnak andam'* are examples. The origin of the word Mala or Kurunji included in the category of Malayalam, *Malayali and* Kurunji is the word *'Malai'*.

The argument that the word Malayalam is a contribution of two Sanskrit words, *'Malai'* and *'Alam*', can be true. *'Kadaloranadu', 'Oruvallam'* and *'Kadal'* names referring to the sea and surroundings are related to the Tamil words

'Alam' and *'Malai'*. Mountains being essential geographical features of Kerala, people referred to places and people in connection with them. Even many place names in Kerala reflect the influence and presence of 'Mountains' and Hills, especially in 'Kurunji' lands like mountains, ponds and rivers, the word 'Kudi' means home, also used as a place name. It is a *Chentamil* word settled in Malayalam. When the Tamillanguage left Kerala, the word *Kudi* was renamed here. The meaning of the word is home.

The origin of the word *Madam* is '*Mullai thina'*. To keep the wild animals away from the agricultural fields, people erect watch towers over the branches of trees. The watch tower is called '*Erumadams'*. These madams were later used to refer to multiple-storied houses/mansions.

The name *Kuzhi* refers to a place with plenty of water. The *'Kavus'* and '*Mazjids*' ('*Palli*' in Malayalam word), which are common in Kerala, remind us of the mountain of 'Dravidian' and Buddhist culture. These two things have contributed much to the terminology of Kerala localities. Almost all the Sangam literature refers to '*Kavu'* and '*Mazjid's.* Names with the suffixes '*Kodu'* and '*Kodi*' are prevalent nowadays. 'Kozhikode' is a typical example.

Ancient culture and traditions are reflected in many names. The word names 'Sea' and 'Seashore' in the coastal areas we have many places with using the word. The sound '*Kara'* is a basis for many names of places.

'Palli' (Mazjid), 'Ambalam' (Temple) and *'Kotta'* (Fort) and the names of Buddhist and Jain places of worship have created many names for places

like *Pallikkunnu, Pantheerankavu, Kavumpuram, Mankavu* etc. . When we examine the names of any locality, we can conclude that the majority of these are related to the various landscapes (Geographical features) of the locality. Some others originated from the names of plants and trees. Even in *Chentamil,* we have several such names, Eg: *Pookode, Panamkavu, Palakkadu, Ayanikkode, Vellerimala Pulloot and Nelluvayi* Names related to vegetables like lady's finger (*Venda*) *Nelli Elavan,* Mango tree are also seen.

Certain other names are related to birds and animals. We have several names like *'Anangadi', 'Anayarangadi', 'Anakkayam' Erumappetti, Pannicode, Pattikkad, Meruvambai, Kakkatheruthi and Kakkayoor*. All these names are relevant even now and most of these are around 2000 years older than the development of modern Tamil, Malayalam, Kannada and Telugu it was in those ancient years that the agriculturally developed areas were formed and the head of such *'Oors'* were honored by the title *'Ooran'*. Agricultural lands are divided into '*Nilam*' and *'Paramba'* depending on the type of agriculture, i.e. paddy fields and fruit-bearing trees. *Chala, kuzhi, Paramba, Muri, Thara, Chira, Kunnu, Thuruthe, Kanam, Mala, Vazhi, Varamba andMiyal* are included in this category.

Human inhabitation on l and started gradually. Till then, the l and spread miles and miles unoccupied by anyone. Several *Oors* appeared based on the destiny of the area. They were known as *'Cheriya Oor' (Cheroor*) and *'Periya Oore' (Peroor, Chittoor).* The history of place names has affected the meaning of places. These are the main points related to the names of places in Malabar, Kerala and some other States in India.

GEOGRAPHICAL FEATURES OF MALABAR

The Malabar province, situated on the western coast of India, extends from 10° 15' to 12° 18' North Latitude and between the parallels of 75° 14' and 76° 15' East Longitude and stretches along the shores of Arabian Sea for a distance of 150 miles.[10] It is bounded on the north by the province of Canara, on the east by those of Coorg and Mysore, to the south- East by Coimbatore and on the south by the small province of Cochin.[11] Malabar proper is made up of the nine taluks of Chirakkal, Kottayam, Kurumbranad, Calicut, Wynaad, Ernad, Ponnani and Palaghat. Cochin tIt includes the present districts of Palakkad, Malappuram, Kozhikode, Wayanad, Kannur, Kasaragod and parts of Thrissur district. Cochin taluk, also a part of the district, includes the town of British Cochin and 17 *Pattams* or small isolated estates situated within the boundaries of Cochin states.

The landscape of the region is varied. The natural opening or pass in the Western Ghats is part of the Palakkad district, the mountainous regions like Wayanad and the beaches and midlands of Kozhikode, Kannur and Ponnani.

Malabar Coast is strategically located facing West Asia and North African ports. Besides, its pleasant climate was a factor that attracted migrants and maritime agencies. Calicut (Kozhikkode), Pantalayini Kollam and Mangalore were the major medieval ports of the Malabar Coast, besides the smaller ports such as Cumbala, Kasaragod, Nileshwar, Eli, Baliapatnam, Dharmapatam, Chombaye, Badagara,

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[10] C A Innes, *Malabar- Gazetteer*, F B Evans (Ed), Kerala Gazetteer Department, Government of Kerala, Thiruvananthapuram, 1908, p.1.

[11] Ward & Conner, *A Descriptive memoir of Malabar*, Government of Kerala, Thiruvananthapuram, 1906, p.1.

Pantalayini Kollam, Parappanangadi and Ponnani.[12] A few specialized centres, e.g. Beypore, which served as a major shipbuilding centre in the late historical period, also perhaps existed in the medieval period. The smaller ports and the hinterland settlements also had an essential role in the economic system and supported the larger ports. The larger ports-cum- political-commercial centres developed due to the resource concentration, external demand for commodities and the nature of the organization of local politics.

Till the 12th century, Malabar was part of the Kingdom of the Cheras. With the fall of the Chera kingdom, various local rulers proclaimed independence and the region came to be mainly under three rulers – the *Kolathiris* of North Malabar, the *Zamorins* of Calicut and the *Valluvakonathiris* of Valluvanad. In medieval times, Malabar became prominent and prosperous with intense trade with the Chinese, the Arabs and others.

The Malabar area Kasargod name is derived from the word *'Kusirakood'* meaning Nux vomica forests (*Kanjirakuttom)*.[13] The Ancient Tamil Works of Sangam Age records that the area Kasargod covering the district was part of Poozhinad which comprises the coastal belt from Calicut to Mangalore.

The people's social life connects to the essential evergreen forests of Malabar, rivers, beaches, hills, port towns, etc. Physiographical, the district can be

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[12] K. K. N., Kurup, " Indigenous Navigation and Shipbuilding on the Malabar Coast" in K. S. Mathew (Ed.), *Shipbuilding and Navigation in the Indian Ocean Region AD 1400-1800*, Munishiram Manoharlal Pvt. Ltd, New Delhi, 1997,pp. 20-25.

[13] Balakrishnan.,K, *Ground Water Information Booklet of Kasargod District, Kerala State*, Government of India- Ministry of Water Resources Central Ground Water Board, Thiruvananthapuram, December 2013, p.1.

divided into three units, the coastal plains, the midlands and the eastern highland regions. The coastal plains with an elevation of fewer than 10m occur as a narrow belt of alluvial deposits parallel to the coast. The coastal plain is characterized by secondary soils, which are sandy and sterile with poor water-holding capacity. The midland region is characterized by rugged topography formed by small hillocks separated by deep-cut valleys to the east of the coastal belt. Brown hydromorphic soil is confined to the valleys between undulating topography in the Midlands and the low-lying coastal strip areas. The midland regions show a general slope towards the western coast. To its east is the highland region. The midland and hill ranges of the district present a rugged and rolling topography with hills and valleys. The hills are mostly laterite along the midlands and valley-fill deposits cover the valley. The valley fill deposits are composed of colluviums and alluvium. The alluvial soil is seen in the western coastal tract of the district. Forest loamy soil is found in the district's eastern hilly areas and is characterized by a surface layer rich in organic matter.[14]

The region is enjoying a tropical to subtropical climate. Generally, the west coast experiences a seasonal reversal of wind circulation, which constitutes the monsoon. The climate condition can be divided into four seasons. Winter – January to February, Hot weather – March to May, Southwest Monsoon – June to September and Northeast Monsoon – October to November.[15] [15] This type of climate enjoys the maritime traffic and overseas trade of the Indian Ocean region. Many Arab travellers

[14] *ibid*, pp. 10-11.

[15] *Kasargod- Directorate of Industry and Commerce, op.cit*, p. 3.

came to Kerala between the 9th and 14th centuries A.D., visiting Kasaragod as it was an important trade centre. They called this area Harkwillia. Barbose, the Portuguese traveller, who visited Kumbla near Kasaragod in 1514, had recorded that rice was exported to Male Isl and; hence coir was imported.[16]

Politically the area was part of the Ezhimala Kingdom, with its Capital at Ezhimala. The most famous King of Ezhimala was Nannan, whose Kingdom extended up to Gudalur and northern parts of Coimbatore. The *Mooshaka* Kings were considered descendants of Nannan. By the 14th century, *Mooshaka* Kingdom was known as *Kolathirinad* and the Rulers as *Kolathiris*. The Kolathunad Kingdom, at the peak of its power, reportedly extended from Kasaragod in the north to *Korapuzha* in the south, with the Arabian Sea on the west and *Kutakumala* on the eastern boundary.[16]

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16 *ibid*, p.3.

17 *District Census Handbook-Kasaragod*, Directorate of Census of Operations, Kerala,2011, p.9.

The magnificent Bekal Fort, situated on the seashore in *Pallikara* village of Kasaragod District, with its circular laterite structure of about 130 feet, is the district's most prominent and best-preserved fort. The Bekal Fort overlooking the Arabian Sea is of great historical and archaeological interest and was built 300 years ago. The Bekal beach is 1 Km away from the Bekal Fort, which covers backwaters, beaches and a hill station.[18]

Kasaragod district is unique in its linguistic culture, also known as *Sapthabhasha Sangamabhoomi,* as seven major languages are spoken here. Malayalam is the administrative language. Other languages are Kannada, Tulu, Konkani, Marathi, Urdu and Beary.[19]

Flora of Kasaragod is similar to tropical flora and is rich in bio-diversity. Natural vegetation, except in coastal regions, consists of different types of forests. Shola evergreen and mangrove forests also exist here. Some time back, estuaries were abundant with mangrove forests.[20] The population is mainly agricultural; the significant crops raised are coconut, arecanut, cashew, rubber, paddy, pepper, etc. Kasargod district has cash crops as its mainstay compared to food crops. Coconut is the single largest crop in the district.[21] Jack fruit, mango tree, banana plantations etc., are other crops cultivated. Paddy cultivation is gradually vanishing. In the hilly

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18 *ibid*, p. 5.

19 *Kasargod- Directorate of Industry and Commerce, op.cit,* pp. 2,7.

20 *ibid,* pp. 2,7.

21 Balakrishnan.,K, *op. cit,* p 7.

areas, rubber and cashews are the main crops. The coastal communities mainly depend on fishing for their livelihood.[22]

Agriculture plays a vital role in the economy of the Kasaragod district. Most of the district's population depends directly or indirectly on farming for their livelihood. A wide range of crops and cropping patterns exist in the district in tune with the varied agro-climatic zones. Kasaragod receives the highest amount of rainfall in the State. The annual average rainfall of the district is 3500 mm, the lion's share of which is received during the South West monsoon period from June to August.[23] Animal husbandry plays a vital role in improving the economic status of the people. It provides immense opportunities for gainful employment. It also helps to increase milk, meat, egg, wool, bone, skin, hide and manure production.[24]

Fourteen rivers flow through the district. The longest is Ch andragir i(105km). Other major rivers are *Kariangode (64km), Nileshwaram (46km), Shiriya (60km) and Uppala (50km). Mogral (34km), Chithari (25km), Kavvayi, Manjeshwar (16km), Kumbla (10km), Bekal and Kalanad* are other smaller rivers forming independent drainage basins but are tiny ones. Two more very smaller rivers are there in the district. They are *Arayi puzha* and Kumbla River. Major rivers originate from the Western Ghats and flow towards the west to the Lakshadweep Sea.[25] The only port in the district is Kasaragod on the eastern banks of the backwater formed by the Chandragiri River, which is separated from the sea by a

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22 *Kasargod- Directorate of Industry and Commerce, op.cit,* pp. 2,7..

23 *ibid,* p. 6.

24 *ibid,* p.10.

25 *ibid,,* pp.2-3.

small sand pit. It is a tidal port which remains closed for shipping during the southwest monsoon period. The other nearest port is Mangalore port which is 50 km on the border of Karnataka State.[26]

Kannur (Cannanore) district is one of the northern maritime districts of Kerala. Kolkanachary was a place praised by the poets of the 'Sangam' period as the city of pearl and crown. As a result of the emergence of Aryans, temples were established Temples in the places of *'Kavu* ' and *'Thara'*. This became Payyannur,Kannur. The author of '*Keralolpathi* has also described Payyannur as a village whichwas the resting place of Brahmins by *Parasurama*.[27]

According to Sangam Literature, the present Kannur District formed from part of Poozhinad, which extended from Kozhikode to Kasaragod and Karkanad, which covered the Wayanad-Gudalore area. During the Sangam Age, this region was administered by the Ezhimala Kings, with Ezhimala as the Capital of the Kingdom. Of the rulers of the Ezhimala Kingdom, Nannan was the most illustrious ruler under whom it reached the zenith of glory. He brought Wayanad, Gudalore and northern parts of Coimbatore under his control. He was killed by *Narmudicheral*, a Chera ruler, in the Battle of *Vakaiperumthurai*. With this, Poozhinad came under the sway of Cheras. When Cheras re-established their political power in Kerala early in the ninth century, the South-East part of the Kannur District formed a part of the Chera Empire. The remaining portion of the district was under Mushaka Dynasty.

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[26] *ibid,* p. 21.

[27] Santhana Subramani.,M, *Ground Water Information Booklet of Kannur District, Kerala State*, Government of India- Ministry of Water Resources Central Ground Water Board, Thiruvananthapuram, December 2013, p. 100.

King Sreekantha of the Mushaka Dynasty ruled this region towards the end of the 11th century.[28]

By the fourteenth century, the Mushaka Kingdom took Kolathunad and its ruler was named *Kolathiri*. The earliest reference to this Kingdom is seen in the Travelogues of Marco Polo, who visited Kerala towards the end of the 13th century. He describes the Kingdom of Eli, which is identical to Kolathunad. The jurisdiction of the Kingdom extended from the Chandragiri River in the north to the Korappuzha in the south and from *Kutakumala* in the East to the Lakshadweep Sea in the west. At one time, the principalities of Kumbla, Nileshwaram, Kottayam and Kadathanad formed part of Kolathunad. At that time, Kannur town and adjoining areas were under the control of *Arakkal Rajas*. The *Kolathiris* had to accept the suzerainty of the Zamorin of Kozhikode, consequent on the incident, which led to the love, elopement and matrimonial alliance of a prince of Kolathunad with a princess of the royal family of Zamorins. In the period of *Kolathiris*, *Kottayam Rajas* acquired supremacy over the territory on the southeastern tract of the present district. This royal house was divided into three branches, the eastern, the southern and the western. Of these, the first two branches had their seat at Kottayam.[29]

The voyage of Vasco Da Gama, the famous Portuguese Navigator during the close of the 15th century, is an essential landmark in the history of Kerala. His contact with the *Kolathiris* in August 1498 at the latter's invitation made it possible for him to have informal agreements on trade with Portugal. In 1505, the Portuguese

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[28] *District Census Handbook-Kannur*, Directorate of Census of Operations, Kerala,2011, p.9.

[29] *ibid*, pp. 9-10.

established Kannur Fort and called it St. Angelo's Fort. The Portuguese could not sustain their influence for more than 150 years. The following foreign power that entered the political field was the Dutch. They captured Fort St. Angelo's from the Portuguese in February 1663 and signed a treaty with *Kolathiris* on 20th March 1663. The Dutch followed a policy of religious tolerance. The Mysorean invasion was another important event in the history of Kannur. In 1766 Haider Ali's Forces attacked the palace of *Kolathiri* at Chirakkal and took possession of it. Later Haider appointed Prince Regent of Kolathunad as his representative to rule North Malabar.

The present Kannur District became a part of British Territory by the end of the 18th century. Politically Malabar was divided into Northern and Southern administrative divisions and the headquarters of the northern division was established at Thalassery.[30]

Theyyam or Theyyattam, also known as "*Kaliyattam*", is a popular ritual dance in Northern parts of Kerala, especially the Kannur District. The evolution of the Hindu religion from its primitive form can be traced to this dance form. The word '*Theyyam'* is a corrupt form of the Malayalam word "*Deivam",* meaning God. It is a rare combination of dance and music and reflects important features of tribal culture. According to the legendary "*Keralolpathy*", *Parasurama* sanctioned the festivals like 'Kaliyattam', 'Deviyattam' or 'Theyyatam' to the people of Kerala. The dances are traditionally performed by indigenous communities like Panan, Velan, Vannan, Malayan, Mavilan, Pulayan, and Koppalan, considered depressed

[30] *ibid*, p. 10.

castes.[31] This l and was blessed with the activities of cultural heroes such as Veera Pazhassi, Thacholi Othenan and Payyamballi Chandu. This was the starting place or point of 'Attakhadha', the formulation for 'Kathakali', Kerala's Art.

The district has been divided into three geographical regions - highlands, midlands and lowlands. The highland region comprises mainly mountains. This area includes major plantations like coffee, rubber, tea, cardamom and other spices. Timber trees like teak, Veetty, etc., are grown plenty in this region. The midland region, lying between the mountains and the lowlands, is made up of undulating hills & valleys. This is an area of intense agricultural activity. Coconut and areca nuts are the primary agricultural products that come from this region. The lowland is comparatively narrow and comprises rivers, deltas and seashore. This is a region of coconut and paddy cultivation.[32]

Historians have recorded that Kannur, which has the fragrance of Cardamom plantation, possessed a considerable place in Kerala's trade and industrial history. The *Arakkal* Dynasty had a significant role in both the sector of trade and industry. Its prosperity owed much to the trade deals with countries like Egypt, Africa and Arabia and the islands like Lakshadweep and Minicoy. Kannur stood high in the exports of pepper, coffee, cardamom, betel leaf, areca nut, woods, coir products, etc. When British colonizers settled here, the natives felt interested in their new lifestyles and the prevailing traditional industries of the land and miserably declined.The seashore resources also get diminished and the 'fishing' becomes name

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[31] *ibid*, p.1.

[32] *ibid*, p.78

relativelyless. Gradually Kannur's frame expanded to the Handloom sector. Though Kannur stands superior to many other towns in the industrial sector, a severe defect to be pointed out is that the town lacks that sort of industry which has the possibility of further static developments according to the modem technical system.[33]

Kannur district has a long coast (152km), which is about one-fourth of the coastline in the State. Fishery plays an essential role in this district. The district has 31 fish landing centres, of which Tellicherry, Kannur, Mattool, Madai, Cheruvathur, Kanhangad, Kasaragod and Manjeshwar are significant. *Mopla Bay* and Valapattanam is the two fishing harbours in the district. Kannur district is endowed with an exemplary river system. With a length of 110 km., the Valapattanam River, which originates from the Western Ghats, is the longest in the district. The main tributaries of the river are *Valiapuzha* and *Aralampuzha*. *Kuppam River* originates from reserve forests and has an area of 539 sq. km. The length of the river is 82 km. The other rivers in the district are Mahe (54 km.), Anjarakandi (48 km.), Thalassery (28 km.), Ramapuram (19 km.) and Perumba (51 km.) Most of the rivers are navigable. The Valapattanam River has the most extended navigable length, followed by Anjarakandy. [34]

There are four major soil types encountered in the district. They are Lateritic Soil, Brown Hydromorphic Soil, Coastal and river alluvium and Forest Loam. The predominant soil in the district is lateritic soil, which is the weathered product derived under humid tropical conditions. It occurs mainly in the midland and hilly

[33] *ibid*, pp.84-85

[34] *ibid*, pp.79, 81.

areas characterized by rugged topography. They range from sandy loam to red loam. Brown hydromorphic soils are confined to the valleys between undulating topography in the Midlands and the low-lying areas of the coastal strip in the district. These soils are brown and the surface texture varies from sandy loam to clay. They have been formed as a result of transportation and deposition of materials from adjoining hill slopes and also through deposition by rivers. The coastal alluvium is seen in the western coastal tract of the district. The coastal plain is characterized by secondary soils, which are sandy and sterile with poor water-holding capacity. The width of the zone is more in the central part, that is, in the Kannur area is almost narrow in both the northern and southern areas of the district. The marshy soil in the coastal plain supports mangrove vegetation and is found at the estuaries and backwaters, extending inland along their courses. The soil is composed of recent, predominantly marine deposits with some fluvial sediment along the coastline. These soils are immature with high s and content. River alluviumis found along river valleys cutting across the expansive lateritic soils. The soil is intense, with surface texture ranging from sandy loam to clay. It is fertile, has a water-holding capacity and regularly replenishes plant nutrients during floods. Forest Loamy soils are found in the eastern hilly areas of the district and are characterized by a surface layer rich in organic matter. They are generally acidic and are dark reddish brown to black with a loam to silt loam texture.[35]

The prominent landmarks and important testimonials in the eventful history of Kannur, like the Thalassery Fort. Built-in 1708 by the East India Company, the

[35] Santhana Subramani.,M, *op.cit*, p. 5.

fort is situated by the seaside. Yet another seaside attraction is the pier, built in 1910 to facilitate transporting goods from deep sea to l and. The *Illikunnu* Bungalow in Thalassery is another place of significance, as this is where Mr Herman Gundert, who arrived in Kerala in 1839, lived and prepared the first dictionary of the Malayalam language. The first English medium school in North Malabar was the

B.G.M school, started by the Basel German Mission on 1st March 1856.[36] The name Wayanad is found in the inscription of the Hoysala chief. Wayanad is one of the astonishing mountain stations of Kerala and is 76 km from Calicut. It lies at a height of 700-1200 m above sea level in the Northern part of Kerala. Wayanad, as the name indicates, is the land of forests. The exact name is 'Vananad' (forest country) which, as time passed, is now pronounced '*Vayanad'* or Wayanad, as it is now spelt.[37] It is a hilly region with a general area of 2000 to 4000 feet ranges of hills, some peaks over 7000 feet high. Its West and South are the lowlands of Malabar; to the east, it spreads into the Nilgiris hills; to the North -East lies Mysore, while to the North- West, the chain of Western Ghats stretches its way into the province of Coorg. Some have opined that the name Wayanad emanates from the words '*Vayal-nad'*, which means the l and of paddy fields. Wayanad is al and of mountains. Some of the mountains are more than a thousand feet high.[38]

Most of the reserve forests of the State are in the Wayanad district. A significant portion of the 20864 hectares of the reserve forest is teak plantation. The

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[36] *ibid*, pp. 91- 92

[37] John., K, "Early man in Wayanad", in *Kerala studies Vol II part II*, Thiruvananthapuram, 1975, p. 126.

[38] The height of Vavumala or Camels Hump is 7677 feet, the highest peak in Wayanad.

composition of the population is different from the common society of Malabar. Wayanad is considered the largest tribal-occupied district among the other of Kerala. As per the 2001 census, the major communities in Wayanad are *Paniyas* (44.77 percent), *Mullu Kuruman* (17.51 percent), *Kurichya* (17.38 percent), *Kattunaickan* (9.93 percent), *Adiyan* (7.10 percent), *Urali Kuruman* (2.69 percent) and others (0.61 percent). The first record of a ruling family in Kerala existed inWayanad in the shape of a rock inscription in the Edakkal cave that lies four milessouthwest of Sulthan Bathery. The walls of the caves are full of "rude fanciful drawings". The Edakkal caves are situated at Ambukuthimala near Ambalavayal. It is a pre-historic rock shelter formed naturally out of three huge boulders, one resting on the other two. The exotic ancient carvings and scripts at Edakkal caves speak of acivilized society of the pre-historic age. The engravings st and out among the ancient archives and graphics signs worldwide. According to Fawcett, the carvings of human and animal figures on the rock walls are the work of *Kurumbas.* One of the rock inscriptions in Sanskrit on the walls of Edakkal Caves reveals that Sri Vishnuvarman was the earliest of eight kings of the *Kudumbiya* Family. Ptolemy mentioned that the limits of Kerala extended over the Western Ghats, including portions of the Mysore Plateau, now known as Wayanad. Sangam Works reveal that Karkanad comprising of Wayanad- Gudallur Area, including part of Coorg, formed part of the Kingdom of Ezhimala. Some Ancient Tamil Works throw light on the early history of the district. It is said that during the 5^{th} century A.D., Nannan, an illustrious king of Poozhinad, had to take refuge in the Wayanad Hills when Cheras defeated him and he was killed in the famous Battle of Vakaiperumthurai.

During the colonial period, Wayanad was part of the Malabar district of the Madras Presidency, directly under British rule. For administration, Wayanad was divided into small units known as 'Nadu' and Each Nadu was under the control of Nair and Nambiar Chieftains. The present district of Wayanad was formed by merging parts of the Calicut and Canannore districts on 1st November 1980 as the 12th district of Kerala.

From the oral tradition, it is evident that there were trade routes to Wayanad in the pre-colonial period and that the thick forests of Wayanad supplied part of the timber for the sea trade from Calicut port.[39] The entry of the East India Company into Wayanad stands out as the most significant part of the onset of modern civilisation. Wayanad was used for raising plantations and large-scale cultivation of cash crops such as tea, coffee, pepper and cardamom. This district is one of the biggest foreign exchange earners of the State in India due to its cash crops. The complaint is that it is not given the consideration and attention it deserves by the powers at the centre and state levels in various development programmes.[40]

In Wayanad, there are four types of soil, viz. Laterite soil, Brown hydromorphic soil, Forest loam and Riverine alluvium. Laterite soil in some areas of Wayanad is reddish brown, formed under a tropical monsoonal climate with alternate wet and dry seasons. The soil's organic matter is much less, with moderate nitrogen, phosphorous and potash. Forest soil is found in Mananthawady, Kalpetta and Sulthan Bathery blocks. They are rich in organic matter, nitrogen and humus.

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[39] Cherian.,P.J, *Perspectives on Kerala History : The Second Millennium*, Kerala State Gazetteer, 1999, p. 234.

[40] *ibid*.

Forest loam is dark reddish brown formed by weathering under forest cover with a loamy to silty loam texture. Brown hydromorphic soil is mainly seen between undulating topography in the Wayanad district. It is very deep brownish with a sandy loam to clayey texture. The transportation and sedimentation of material from it form hill slopes. Alluvial soils are found along Kabani, Chaliyar and its tributaries. Riverine alluvium is very deep with sandy loam to clayey loam texture. The majority of the area under riverine alluvium was once occupied by paddy. Those areas are now utilized to cultivate various crops, especially plantain. The riverine alluvium contains moderate organic matter, nitrogen, phosphorous and potash.[41]

Calicut is Malabar's most important coastal city, the north region of the State of Kerala. The city is situated on the right bank of the river Kallayi at its mouth adjoining it and is not marked off by any natural boundaries. It stretched into the fertile hinterland of Polanadu and linked to Ernadu[42], cut off from the sea by the Kingdom of Valluvanadu. Earlier, Calicut was also a Tamil–speaking region. Malayalam emerged as a different language after the 9th century A.D. It is now a l and of the Malayalam-speaking people. The district is bounded north by the Tellicherry taluk of Kannur District and Mysore, on the East by Mananthavady and Vythiri taluks of Wayanadu District and Nilgiris, on the south by Ernadu and Tirur taluks of the Malappuram District and the west by the Arabian Sea.[43]

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41 *District Survey Report of Minor Minerals- Wayanad District*, Department of Mining and Geology, Thiruvananthapuram, 2016, p.10.

42 Ernadu is a separate taluk that consisted of Vajerry, Edookoor, Nandoor, Killimoorg, Karikadu, Iryelly, Chezana, Nediripoo and Eleady.

43 A. Sreedhara Menon, *Gazetteer of India – Kerala – Kozhikode*, Trivandrum, 1962, p.2.

The modern Calicut District (Kozhikode or *Kallikkottai*) came into being on 1st January 1957. The District lies between 10° 47' and11° 52' in the north latitude and between 75° 32' and 76° 33' in the east longitude.[44] It covers an area of 2344 square km, which indicates 6.03 per cent of the total area of the State.[45]

In late Medieval Kerala was partitioned among three rulers, the *Zamorin* of Calicut, the Raja of Cochin and the Maha Raja of Travancore. As said earlier, the term rose from the Tamil terms Koil (temple) and Kotha (fort). The term *Zamorin* was derived from the Malayalam word *Samutiri*, abbreviated into Samuri, derived from the Malayalam word Swami-Sri, "the Lordmaster."[46] *Samuri* refers to military chiefs related to sea, ship and merchandise. The *Zamorins*, the hereditary rulers of this Kingdom, soon developed Calicut into a major seaport on the Kerala Coast.[46] *Samuri* refers to military chiefs related to sea, ship and merchandise. The *Zamorins*, the hereditary rulers of this Kingdom, soon developed Calicut into a major seaport on the Kerala Coast.[47]

Many historians follow the traditional theories about the origin of the name. According to K.V. Krishna Ayyar, the term was derived from *Kozhikotu or Koilkotta,* the 'fortified palace' of the *Zamorins.*[48] A similar explanation is given by K.M. Panikkar too. The original name of Kozhikode was Vikramapuram.[49] There is

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44 *ibid*, pp.2-3.

45 S.C. Bhatt, *The Encyclopaedia District Gazetteers of India*, New Delhi, 1997, p.800.

46 Jean Baptiste Tavernier, *Travels in India*, Vol. I, (2nd ed.), London, 1925, p. 189.

47 M.J.Koshy, *Encyclopaedia of India – Kerala*, Vol.XX, New Delhi, 1994, p. 44.

48 K.V. Krishna Ayyar, *The Zamorins of Calicut*, Calicut, 1938, p.83.

49 K.M. Panikkar, *A History of Kerala, op cit.*, pp. 7 – 8.

another version that the 'land within the range of cock-crow' is said to have belonged to the *Zamorin*.[50] The noted historians Visscher and Gundert suggest that the term means "so much land as the sound of a cock crowing for its perch could be heard over".[51] The term "Calico" was first applied to *Calicut cotton (*cloth).[52] Moreover, Calicut was famous for its Calico cloth after the Portuguese trade.

Several travellers speak about the natural beauty of Calicut. The city was elegant in the plains of the mighty Western Ghats. These Ghats have the appearance of changing colours, and their peak stands as a sentinel over this beautiful city of Kerala. The rich vegetation in Calicut triggered its economic activities, and the restless waves of the sea attracted foreigners to trade with the natives.[53] In Calicut, most of the rivers originate from the Western Ghats. These are primarily used for irrigation, navigation and transport of timber. Most of the rivers of Calicut drain into the Arabian Sea.

The Mahe River, also called the *Mayyazhipuzha*, originates from the forests on the western slopes of *Wayanadu* hills and falls into the French settlement of Mahe after a course of about 34 miles. It is navigable for country crafts of small size for boats as far as the *Parakadavu* River.[54] Kuttiady, also known as river *Murad*, originates from the *Narikota* ranges on the western slopes of *Wayanadu* hills, a part of the Western Ghats. This river flows through the *Vadakara* and *Quilandy* taluks of

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50 *ibid*, p.2.

51 Maclean, *Glossary of the Madras Presidency*, New Delhi, 1982, p.117.

52 A. Sreedhara Menon, *Cultural Heritage of Kerala – An Introduction*, Cochin, 1978, p.253.

53 Malabar Collectorate Reocords, Vol. 5156A, G.No. 25677, p. 1.

54 William Logan, *Malabar Vol 1*, Charitram Publications, Trivandrum, 1981, p.15.

Calicut. It empties itself into the Arabian Sea, seven miles south of *Vadakara*. This river is also used for navigation.[55]

The river *Korapuzha* is formed by the confluence of the two streams, the *Punnurpuzha* and *Agalapuzha*. Of the two, the latter connects all the important industrial towns. The upper reaches of *Punnurpuzha* are mainly used for floating timber.[56] The Kallai River originates in the middle of cherukkulathur village in Kozhikode district.[57] It is connected with the chaliyar and korapuzha by artificial canals even though the river is very small. The river, after its origin, passes through cherukulathur, kovur, olavanna, kallaiand, finally joins the Arabian Sea after travelling a total distance of 14 miles.[58] Kallai is one of the biggest timber centres and the world's second-largest timber yard.[59] The Beypore, or Chaliyar River, is one of the major rivers in Kerala. It originates from the Ellambileri hills in Gudalur Taluk of Nilgiri district in Tamil Nadu at an elevation of 2066 m above mean sea level. The Chaliyar River flows through Nilambur, Mampad, Edavana, Areacode, Vazhakkad and Feroke before it joins the Arabian Sea through the Beypore estuary. It has a drainage area of 2923 km, of which 388 km is in Tamil Nadu. The important tributaries which join the mainstream are *Chalipuzha, Punnapuzha, Pandiyar,*

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55 S.C. Bhatt, *The Encyclopaedia District Gazetteers of India Vol. II*, New Delhi, 1997, pp.800 – 801.

56 *District Hand Book of Kerala*, Kozhicode, Department of Public Relations, Government of Kerala, 1997, pp.8-9.

57 Laila. P, "Kozhikkotte Sthalapperukalude Verukal", in P.B. Salim, *et al, Malabar: Paitrukavum Prathapavum*, Mathrubhoomi Books, Calicut, 2011, p.342.

58 *ibid.*

59 K. Narayanan, *Census of India – 1971, Kerala – Administrative Atlas, Series 9*, Part. IXA, p.7.

Karimpuzha, Cherupuzha, Kanhirampuzha, Kurumbanpuzha, Vadapurampuzha, Irinjipuzha and *Iruthillipuzha.*[60]

Calicut became a commercial centre from early times. It was a leading trading centre for spices on the West Coast of India during the medieval period. The *Zamorins* followed the tolerance policy and contributed significantly to the steady growth of the place as a commercially vital centre. The friendly attitude of the *Zamorins* to all foreign traders, their religious tolerance good administration and the proper security according to the traders made Calicut the chief centre of trade in Malabar.[61] The city earned names like "*a noble city*" with "*a noble emporium*" of all India fame from the travellers Varthema and Nicolo-de-Conti.[62] During the reign of Manavikrama Samoory, the sea-Coast of Calicut was converted into a mighty seaport.

Later, it became an important trading centre for the Arabs and the Chinese, where they met to exchange the products of the west with those of the east.[63] Since the 13th century, Calicut has attained a position of eminence in the trade of pepper and other spices.

During the Sangam age, the Calicut District formed part of the Chera Empire. It played a leading part in fostering trade relations between Kerala and the outside world. *B*eypore, on the Coast of Chaliyar River near Calicut, known for its

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60 V. Aravinthaxan, *Paristhithivijyanakosham*, State Institute of Encyclopaedia Publications, Trivandrum , 2000, p.192.

61 *The Travel of Abbe Carre*, The Hakluyt Society, Vol. III, London, 1948, p.693.

62 Sir Harry Johnson, *Great Travellers and Explorers*, London, 1987, p.71.

63 K.V. Krishna Ayyar, *op.cit.*, p.80.

gold sand, became famous because of its geographical features. Chaliyar River otherwise called Beypore River acts as the pulse of Beypore and has the significant geographical feature of deep river shores, helping the boats with their movements. Beypore is one of the oldest port towns developed in Kerala which was a trading outlet to West Asia throughout the middle ages. It maintained trade connections also with Europe, Arabia and the ports on the Indian Ocean Coast.

As a result of the waterway between Beypore and Nilambur, woods were brought to Beypore through the river, and small canoes and boats were built in Beypore cheaply and profitable. It was mainly through the Beypore River woods that were brought to Kallai, one of the famous timber trade centres of the world. This place was very much convenient for workshops and lifting the boats up to the shore. Elephants were used for carrying teak woods and between 2000 and 3000 teak woods were brought Beypore every year in this manner.

Beypore also has a historical background in trading Malabar Pepper and Spices of about 2000 years of Sea trade relations.[64]

According to the Bible, Israel had trade relations with Malabar during Prophets like David and Salomon. Salomon, during his reign, had sent two ships to Ophir.[65] King Yahosafath also had arranged to send ten ships, one group to Tarshish and the other to *Ophir*. But before they departed from the shore, they faced a typhoon and were destroyed. Servants of Huram and Salomon were brought from

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64 Parappil Mammed Koya, *Kozhikkotte Muslimkalude Charitram*, Focus Publications, Calicut, 1994, p.78.

65 *Holy Bible* (Malayalam translation), C.R.L. Society, Edamattam, 1993, pp.531 - 532.

Ophir.[66] Historians' opinion that '*Ophir*' is the Hebrew terminology of the Beypore in Malabar.

There is historical proof for the import of ships with ivory, peacock, gold, silver, monkeys etc., to Beypore and returning with copper, spices, teak etc., in the palace of King Salomon, who ruled the great Jerusalem in 970 BC. The historical studies quote that the 'Bapher' coast mentioned in Toroth is the same Beypore.[67] The ruins of the Chandra mosque in Oor and the palace in Barseem Rude of King Nebukes Nebser (BC 604-562) were of teak. The only region where teak was available was Nilambur in Malabar and the Waynad districts. And the only way to export was through Beypore. It is clearly understood that the importance of the old port, which exported gold and good teak, was much before the Christian era.[68]

Malappuram District was formed in 1969 by taking backward taluks from Palakkad and Kozhikode districts. Malappuram is bounded on the north by Kozhikode taluk of Kozhikode district and Vythiri taluk of Wynad district, on the east by Gudallur and Oottacamand taluks of Nilgiris district of Tamil Nadu, on the south by Mannarkad and Ottappalam taluks of Palakkad district and Talappilly and Chavakad taluks of Trichur district and on the west by the Arabian Sea. The district has an area of about 3548 sq. Kms (9.1 per cent of the State) and the population was divided into Muslims, Hindus and Christians but dominated by the Muslim population.

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66 *ibid*, p.532.

67 Shafi Kadalundi, *Kadalundi – Ithihasangalude Nadu*, Haritham Books, Calicut, 2011, pp. 12 - 13.

68 Parappil Mammad Koya, *op.cit*, pp.78, 79.

Literally, "Malappuram" means hilly area. The word Malappuram is the integration of two words - *Mala* (hill) and *Puram* (place). As the very name suggests, Malappuram is a hilly terraced tract. The midland region is fertile, while the hilly area has dense forests and extensive teak plantations. Many streams that pass through these hills reach the beautiful sea coast. In many places these streams are linked with back waters which facilitate a network of inland waterways.

Kozhikode was a major trading centre for Arabs in the middle Ages, and Malappuram contains some of the oldest Indian Muslims in Kerala. These people are known as Mappilas and are concentrated in Malappuram, Kozhikode and parts of the Trichur and Palakkad districts. During the British era, Malappuram was a minuscule part of the Malabar district of Madras Province, and this area was famous for the Mappila movement for independence against British rule.

The district is divided into six taluks, Ernadu, Nilambur, Tirur, Perinthalmanna, Tirurangadi and Ponnani. There are 14 development blocks in the district. They are Areekkode, Kondotty, Kuttippurarn, Malappuram, Mankada, Perinthalmanna, Ponnani, Perumpadappu, Tanur, Tirur, Tirurangadi, Vangara, Wandoor and Nilambur. The district is divided into 100 Panchayaths, 5 Municipalities and 122 Revenue Villages. The northeastern portions of the district are Vayutmala (2339.73mts.), Vellarimala (2335.58mts.), Chakkumala hills (600.46mts.), Urothmala (477.6mts.) and Pandallur hills (610.2mts.).[69]

[69] *District Census Handbook-Malappuram*, Directorate of Census of Operations, Kerala,2011, p. 13.

The important rivers of the district are Chaliyar, Kadalundi, Purapparamba, Tirur River, Bharathapuzha and Thoothapuzha. Kadalundi River, oruvampurampuzha, starts from the Silent Valley reserve forests. Olipuzha and Velliarpuzha are its important tributaries. The river passes through Karuvarkundu, Pandikkad, Vettikatiri, Pandalur, Anakkayam, Malappuram, Urakam, Edappatta, Melattur, Keezhattur, Koottilangadi, Kodur, Othukkungal, Parappur, Vengara, Thennala, Thiruvangadi, Koduvayoor, Moonniyoor, Parappanangadi, Ariyallur and Thenhippalam villages before it falls into the sea at Kadalundi.

Purapparamba, a small river of 8 Km., originates from the tail end of Purapparamba cut. It flows in the western direction and crosses the Madras Mangalore railway line between Tanur and Parappanangadi stations. Tirur River, starting from the Athavanad village of Tirur taluk, passes through Ananthavur, Thirunavaya, Tahalakkad, Valavannur, Cheriyamundam, Tirur, Valleri and Purathur villages. It has a length of 48 Kms.

Bharathapuzha or *Neelanadi* has its origin in the Anamalai hills. After flowing through the Coimbatore district, it enters the Palakkad district of Kerala. During its way, it forms the boundary between Palakkad and Trichur districts. It then enters Malappuram district. It enters into the sea at Ponnani, the longest river in the State, with a total length of 251 km. Bharathapuzha or Ponnani River is called 'Ponvani' as the river looks golden at sunset. Mamamkam festival is celebrated once in 12 years at Thirunavaya, on the banks of the Barathapuzha. Thirunavaya is an important place for Bali.[70] The Thuthapuzha originating from Mannarkkad Taluk

[70] *ibid*, p.16.

lies as the boundary between Perintalmanna and Ottappalam taluks. It Joins the Bharathapuzha at the tri-junction of Irimbiliyam, Parudur and Anakkara villages. The district's Tile River villages are Aliparamba, Anamangad, Elamkulam Pulamanthole, Moorkkanad, Edayoor and Irimbiliyam.

We can see both deciduous forests and evergreen forests in the district. The valuable trees found in the district are *teak, rose-wood, maruthu*, etc.; forests are located in Vazhikkadavu, Edakkara, Moothedam Pothukkallu, Karulai, Kalikavu, Karuvarkundu, Nilambur, Mampad, Urungattiri, Perakamanna, areas of Nilambur Taluk in large expanse and Mankada, Vettathur, Kariavattum and Arakkuparamba of Perinthalmanna Taluk. The oldest teak plantation in the world, known as 'Conolly's Plot', is situated in Nilambur.[71]

The district's coastline constitutes about 11.86 per cent of the total state coastline. The sea coast of the district extends to 70 Kms with a minor port at Ponnani. The port is tidal. Since it is very shallow, most vessels must be anchored in the sea. There is a large number of fishing centres on this coastline.

Ponnani is one of the ancient ports, the second capital and naval head quarters of the Zamorins of Calicut and a Muslim centre of learning and culture in particular. Historians, native or foreign, have so far made no serious and detailed study of this period, even though there are references to Ponnani in the records of the Chera kingdom and the Greek work 'Periplus of the Erythrean Sea' by an unknown author belonging to the first century A.D. Ponnani is the southernmost region of Malabar proper and is situated at the confluence of the Arabian Sea and the

[71] *ibid*, p.15.

Bharathapuzha. This unique geographical configuration gave a separate entity to Ponnani, quite different from the other parts of South India.

Historians differ widely on the origin of the place's name. Of the different views more authentic is that it was from *'Pon-nanayam*[72]called *'Arabikasu*'[73] , which was first circulated in Ponnani by the Arab and Persian merchants, that the name originated.[74] In his Malabar Manual, William Logan agrees with this view. Some attribute the origin to *'Ponvani'*[75] , the name of the Ponnani River. As the river looks golden at sunset, it got the name *'Ponvani*'. The word '*vani'* in Tamil means river. So probably from *Pon-vani* originated the name Ponnani. Another version with regard to the derivation of the name is related to Azhavancherry Lord's *'Pon-ana'*.[76]

Calicut and Ponnani were the foremost trading centres of Zamorins.[77] Dr. Irfan Habib mentions Ponnani of the 15th and 16th centuries as a flourishing port in his work, *'An Atlas of the Mughal Empire*.[78] In his *'World Atlas'*, Hammond Medallion also refers to Ponnani.[79] There was also a minor port in Ponnani at Marakkadavu and Timber export was the main business carried on here. The name

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72 *Pon-nanayam' means gold coin.*

73 *'Arabikasu = Gold coin circulated by the Arab merchants.*

74 *Pon-nanayam' or 'Arabikasu' was first circulated in the ports of Ponnani by the Arab and Persian merchants who possessed the right to trade between India and the west before the discovery of the sea route to India by the Portuguese. William Logan, Malabar manual, Vol.II Madras (l 957).*

75 *Ponvani' means golden river*

76 *'Pon-ana' means golden elephant*

77 Das Gupta. A, *Malabar* W *in Asian Trade P 740-1800,* Cambridge University, 1 9671, p. 14.

78 Irfan Habib, *An Atlas of the Mughal Empire,* Delhi, 1982, p. 16,(A&B).

79 Hammond Medallian *'World Atlas',* New York, 1996, p.68.

Marakkadavu was attributed to this place because of the timber yard attached to the port. Marakkadavu still retains the name.

Thirumanasseri Raja was the ruler of Ponnani. When Valluvakkonathiri attacked his dominions, Perumpadappu Chief Thirumansseri Raja requested the help of the *Zamorin,* promising to cede Ponnani to the *Zamorin.* His enemies were defeated and Ponnani came under the control of the *Zamorin*. The *Zamorin* made Ponnani his second capital and naval headquarters. Gradually, the *Zamorin*'s territory extended from Cannanore to Quilon in the 13th century A.D.27**.**[80] This had far-reaching consequences on the future history of Ponnani.

The advent of Islam forms another phase in the history of Ponnani and is closely related to the socioeconomic and cultural aspects. Before the coming of Islam in Malabar, the Arab merchants married Malabar women and stayed here waiting for the monsoon. The spice trade became the monopoly of the Arabs during the 6th century A.D., and the Arabs succeeded in developing a strong commercial bond with Malabar.[81] Cranganore, Ponnani and Beypore were the important ports during this period. Ponnani was the most closely cultivated and thickly populated tract in Malabar. As many as 40 percent of the inhabitants were Mappilas. There were more Namboodiri '*Illams*' than in any other parts of Malabar and the Christian Church was well established by the time Islam reached Ponnani. The advent of Islam in the western part of Ponnani became one of the prominent Islamic cultural centres. Ponnani even won the title 'little Mecca' or 'the Mecca of Malabar'.

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80 Panikkar. K,M, *Malabar and Portuguese,* Bombay,1929, p. 11.

81 Hourani. G.F. *Arab Sea faring in Indian Ocean,* Princeton, 1951, p.61.

The *Zamorins* had wide trade relations with Arabia and other West Asian countries. The greatness of the *Zamorins* was mainly due to the sea-borne commerce of his Kingdom.[82] Ponnani being one of the ten important ports of Malabar, a considerable portion of the trade was carried through Ponnani. The coming of the Portuguese adversely affected the Muslim traders who had held the monopoly of trade on Malabar. As a result of the coming of the Portuguese, the trade between the *Zamorins* and the Arabs received a setback.

The district's soil is classified as sandy, laterite and hilly or forests; in the coastal belt, the soil from east to west changes from laterite to lateritic loam and gradually into sandy loam and pure sand. A layer of organic matter characterises the hilly soil. The hilly slopes and the coastal belt usually undergo fresh accumulation of sand and silt from the interior portion due to the transformation of tile soil by erosion. These laterite soils of low natural fertility are deficient in plant nutrients, requiring more manure.

Agriculture is the largest and the most important sector of the district economy of Malappuram, and about 70 per cent of the population depends directly or indirectly on agriculture for their livelihood. The main crops raised in the district are paddy, coconut, tapioca, areca nut, cashew nut, pepper, ginger, pulses, banana and rubber. Most people living in the coastal areas depend on fishing as their livelihood. The district has a coastal line of 70 km, and the three important fishing centres are Ponnani, Tanur and Parappanangadi. The other fishing centres are Palapetty, Veliyancode, Puthuponnani, Koottayi, Paravanna and

[82] Krishna Iyer K.V., *The Zamorins of Calicut,* Calicut, 1938 p.291.

Puthiyakadappuram. The important types of fishes found in the district are Chemba, Soil fish, Oil Sardina, Silverbelly, Shark, Catfish, Mackerel, Skate, Seafish etc. Mechanised and non-mechanised boats are used for fishing. There is no fishing harbour in the district. Marine development blocks are functioning at Ponnani, Tanur and Parappanangadi,

Palakkad district is situated on the South West Coast of India. The district is bounded by the East by Coimbatore district of Tamilnadu, in the west by Thrissur & Malappuram districts, in the north by Malappuram district, and in the South by Thrissur district. The district can be divided into two regions, the low land comprising the midland and the high land formed by the hilly portion. The forest covers an area of 136257 Ha, which is 25% of the total geographical area of the district. The district's forest is spread over the northeastern portion of the district. The district's forest area is administered by the Circle Office of the Forest Department at Olavakkode. There are three forest divisions in the district, viz. Palakkad, Mannarkad and Nemmara. The major forest produce in this district is timber. Teakwood, Jack, Anjali, etc., are some of the important species available in the district. Other forest produce includes Bamboo, Reed, Eucalyptus, etc. the district has been divided into 2 Revenue Divisions viz. Palakkad and Ottappalam. There are 5 Taluks and 156 villages in the district. There are 13 Development Blocks, 91 Panchayats and 4 Municipalities in the district.[83]

Several scholars opined that the name Palakkad originated from the physiographic term *Pala* or *palai*, which denotes the barren and rocky regions

[83] *Brief Industrial Profile of Palakkad District*, MSME -Development Institute, Government of India,2011, pp.3-4

combined with the word Kadu or forest, meaning thereby the land covered by rocky regions and forests. Considering the fertile plains of the district and other physical features, it seems that Palakkad can never come under the traditional classification of the Pala region. A more sensible argument is that the whole of Palakkad and its suburbs were once covered by thick forests of *Pala [Alsteria Scholaris]* trees; hence the words *Pala + Kadu* came to be known as Palakkad.[84]

The East India Company's records mention a Jain temple in a place named Palakkad. The name 'Palakkad' might have originated from the Jains settlement of this area. From their traditions and language Pali, palighat might be spelt to denote the *Ghat* or place where the language 'Pali' was spoken. Anyhow, no authentic record is forthcoming to say clearly the derivation of the name Palakkad.[85]

The earliest dynasty known to have ruled over Palakkad region was the Nedumpurayur Swarupam. The story is as follows, Palakkad was termed In Tamil as *paranad* and *parakkad* because of the granite hills covered with thick forest all over the district. It is from this term the name Palakkad was derived. The name *Nedumporaiyur* was mentioned in the royal grants of *Goda Ravi Varman* and other *Chera* emperors. These records call them *Naduvazhi* or *Nadu Udayuvars. Nedumparaiyur* is situated near Palakkad, where there is an ancient temple with many inscriptions.

The Palakkad District was formed on 1st January 1957, taking regions from the erstwhile Malabar and Thrissur Districts. The formation of Malappuram District

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[84] C K Kareem , *Kerala District Gazetteer –Palghat,* Government of Kerala, Trivandrum,l976, p.1.

[85] *ibid*, p.3.

in 1969 had effected some changes in the boundaries of the erstwhile Perinthalmanna, Ottapalam and Ponnani Taluks of the District.

This gap greatly influences the district's climate, enabling the northeast winds to blow, spreading its wings right up to the coast throughout the breadth of the gap. Since the district gets the benefit of southwest and northeast winds, rainfall is heavy in both seasons and consequently.

Agriculture is the backbone of the economy of the district. More than half of the population in the district is engaged in agriculture in order to earn their livelihood. Palakkad district has vast paddy fields and is suitably known as the *granary of Kerala* and is a vast expanse of luxuriant plains interrupted with hills, rivers, mountains, streams and forests. Forests occupy around 30.5 % of the total geographical area of the Palakkad district. The eastern region of the district has high mountains, extensive ravines and dense forests. In the southern part, there are several estates to the west of this region, the plains broken here and there by forming some isolated hills. There is no lowland region in this district.

Palakkad district being the granary of the State has rice as the most important commodity manufactured. Sugarcane, another important crop, is cultivated on a large scale in Chittur *taluk,* Mangoes, banana, and plantains are the important fresh fruits cultivated in this district. Coconut, areca nut, cashew nut, coffee, tea, cardamom, pepper and rubber are also cultivated in the Palakkad district.

Bharathapuzha, the longest river in the state, traverses through the Pollachi taluk of the Coimbatore district of Tamilnadu before entering the Palakkad district.

The main river passes through Palakkad and Ottappalam *taluk,* and finally, it empties into the sea at Ponnani in Malappuram.

Bhavani River rises from the Kunda Mountains near Bhawaniar Betta in Nilgiris After flowing circuitously for about 18 km. Through the Attappady valley, it takes a northeastern direction and enters Tamil Nadu.

Siruvani is an important tributary of the Bhavani River; it originates from the hills on the northern edge of the Palakkad gap and flows Into a deep and legendary lake called Muthukulam.

In the Palakkad district, soils are dominated by lateritic soils and alluvial loams. The district soils are grouped into four broad groups. These are the Laterite soils, Virgin forest soils, Black cotton soils, and alluvial soils. Laterite soils are the most predominant soil types in the midland and the gap areas. Virgin Forest Soils are in Mannarkkad block and the forest areas. They are rich in humus and organic matter. Black Cotton Soils are found in Chittur and Attappady Valley of the Mannarkad Taluk, used to cultivate cotton. They exhibit mud cracks and have high water retaining power. Alluvial soils are found along the banks of the Bharathapuzha and its tributaries.[86]

The district has several centres of attraction which allures many travellers from different parts of the country as well as the world. Palakkad Fort, also known as Tippu's Fort is an ancient granite Fort situated in the heart of Palakkad Town. Elsewhere Forts are generally shields against fighting the enemy. Here it was for

[86] Anil Chand, A.D., *Ground Water Information Booklet of Palakkad District*, Kerala,2013, p.4.

communication between Palakkad and Coimbatore. Haider Ali of Mysore built it in 1766. The fort was taken over and modified by the British in 1790. The Archaeological Survey of India now preserves it. Malampuzha dam garden, located on the western ghats of the Bharatapuzha River, is a reservoir. Silent Valley National Park, situated 80 km from Palakkad town, is a thick rain forest with many rare species since it was declared a National Park. This park is also popularly called the "Evergreen Forest". Pothundi Dam in the district is the second earth dam in India. This dam is in the valley of Nelliyampathy hills, and the natural scenery of this valley is very mesmerising. Some other notable places of interest in the district are Killikkurussimangalam, Nelliyampathi, Attappady, Walayar Dam, Chulanur, Jainimedu Jain temple, etc.

With its rich history, cultural heritage and archaeological wealth, Thrissur is called the cultural capital of Kerala. From ancient times, this district has played a significant role in the political history of South India. Many megalithic sites in Thrissur district, such as Cheremanganad, Porkkulam, Kakkad, Eyyal, Kattakambal, Chowannur, Ariyannoor, Kandanassery, Machad, Mangad, Thiruvilvamala, Vellarakkad, Varandharappilly, Ramavarmapuram etc.[87]

Thrissur District is in the central region of Kerala State, lying between 10º10' and 10º46' north latitude and 75º57' and 76 º 54' east longitudes. It has Ponnani taluk of Thrissur district and Ottappalam taluk of Palakkad district on the north and Devikulam taluk of Idukki district and Kunnathunad, Aluva and Paravur taluks of Ernakulam district on the south. Alathur taluk of Palakkad district and Pollachi taluk

[87] Valsa .M.A, **"**Megalithic Monuments in Thrissur in Historical Perspective" in *Rural South Asian Studies,* Vol. 1, No.1, 2015, p.61.

of Coimbatore district of Tamil Nadu are on its eastern boundary, while the Lakshadweep Sea is on the west**.** [88] The District is divided into three natural regions, viz. Low land, midland and High land regions. Kodungallur, Thalikkulam Mathilakam and Chavakkad Blocks belong to the lowland region, Irinjalakuda, Cherpu, Anthikkad, Thrissur, Puzhakkal, Mullassery, Kunnamkulam, Chowannur Blocks belong to the mid-land region and Chalakudy, Ollukkara, Kodakara and Pazhayannur Blocks belong to High Land regions.[89]

Thrissur District has played a significant role in the history of South India from the pre-historic period to modern times. The district got its name from the headquarters town. The word 'TRICHUR' is the anglicised version of Thrissur, which again is the abbreviated form of 'Thrissivaperur', meaning Lord Siva's abode. Scholars assign the age of the megalithic monuments found in various parts of the district to a period ranging from the third century B.C. to the first century A.D. or even earlier.[90]

The district significantly fostered trade relations between Kerala and the outside world in the ancient and medieval periods. The district also helped to pave the foundation for a composite culture in this part of the country. The seaport of Muziris of the Sangam age is the modern Kodungallur of the Thrissur district. It had the unique distinction of being 'Prime Emporium India'. Hippalos, a Roman Yavana Navigator (A.D. 30 to 50) and an Apostle, St.Thomas (A.D 52), landed in

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88 *Brief Industrial Profile of Thrissur District 2015-16*, MSME – Development Institute, Thrissur,2016, p. 5.

89 *ibid.*

90 *District Census Handbook –Thrissur*, Directorate of Census Operations, Kerala, 2011, p.9.

Kodungallur with an object of trade relations.[91] Following them, Jews (A.D.68) also landed here. The Arabs who settled in Kodungallur established a separate colony in a part of the town. Arab traders introduced their religion which had a relatively slow growth in the seventh or eighth century A.D. It hosted the three communities of Christians, Jews and Muslims who contributed to the prosperity of "Malabar". It attracted traders from all over the world, viz. Assyrians, Babylonians, Phoenicians, Egyptians, Greeks, Romans, Chinese and Arabs. As a result of the heavy floods of 1341 A.D., the harbour at Kodungallur got silted entirely, and the port became unfit for trade.

Salt planning was an important economic activity of the area's coastal regions, probably from ancient times. The Kollur Mattam plates refer to the income from the residential areas of the salt makers in the form of salt. The grant of Viraraghava Chakravarthi (1225 A.D.) to the merchant Iravi Korttan includes, among several other privileges, the monopoly right to make salt in Kodungallur area.[92]

Thalasserry, Mahe, Koyilandy, Calicut, Beypore, Ponnani, Kodungallur etc were the main ports. The ports of Malabar were not only famous for spices but also for timber all over the world. Malabar possessed rich natural resources like plentiful river water supply, thick forests, comfortable climate and transportation, etc. The development of transport facilities is closely related to the area's topography,

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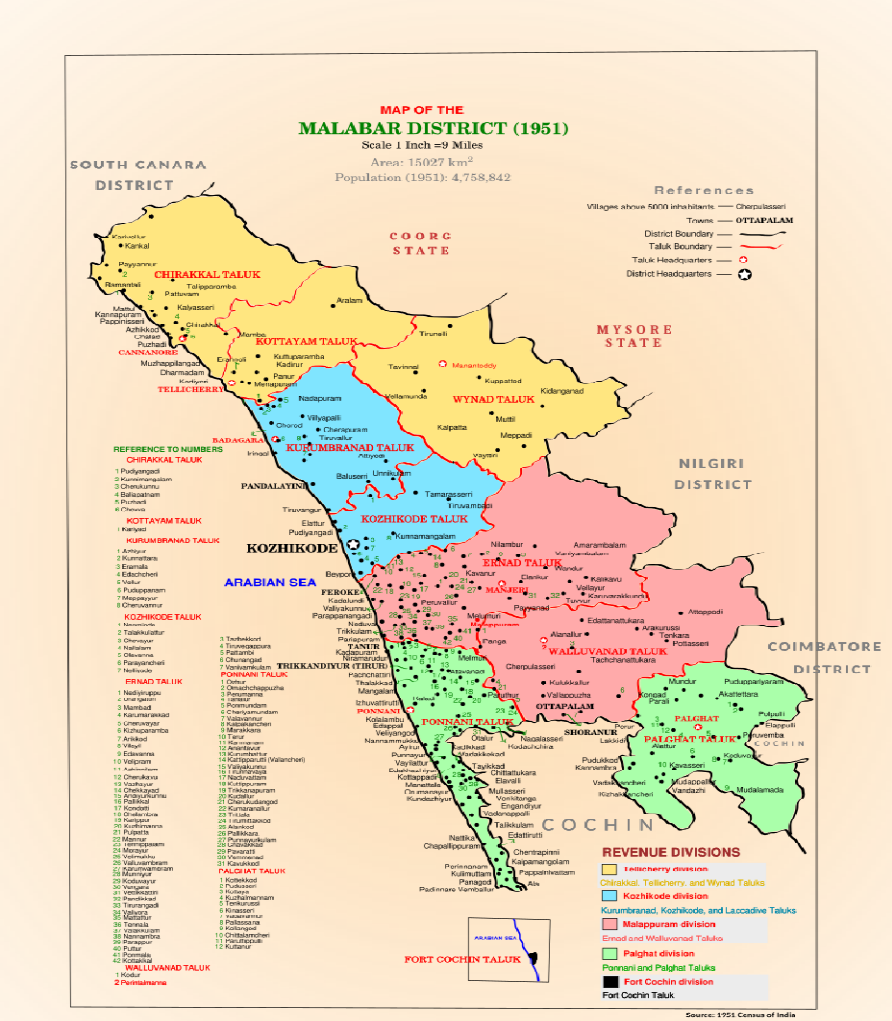
91 Sreedhara Menon A.,*A Survey of Kerala History*, V.Viswanathan, Pvt.,Ltd, Madras, 1984, p.84.

92 "The Vira Raghava Copper Plates of Cochin (1225 A.D.)", in Vankayya (Ed), *Epigraphia Indica*, Vol. IV, No. 41, 1892, 1990, pp. 290- 297.

geographical peculiarities, settlement pattern, growth of trade towns and markets, distribution of resources, etc. Forest resources have been important items of overseas trade for centuries. Among these timbers, incense, honey, ivory etc., were the foremost. Trees like teak, Blackwood, wild jack tree, rosewood, ebony etc., were of commercial importance apart from their wide use for construction purposes within the region. Of these, teak was the most desired one. The rare quality of teak is its resistance to white ants, and its durability. Malabar was economically important to the Arabs because of the availability of teakwood.[93]

The geographical peculiarities of the coastal areas of Malabar are much favourable for developing an extensive network of waterways. Different types of boats and ships, big and small, were used for transportation on the Inland waterways and also for coastal navigation.

[93] Vijayalakshmi. M., *Trade and trading centres in Kerala (AD 800 -1500)*, Ph.D Thesis , University of Calicut , 1997 , pp. 67-68.

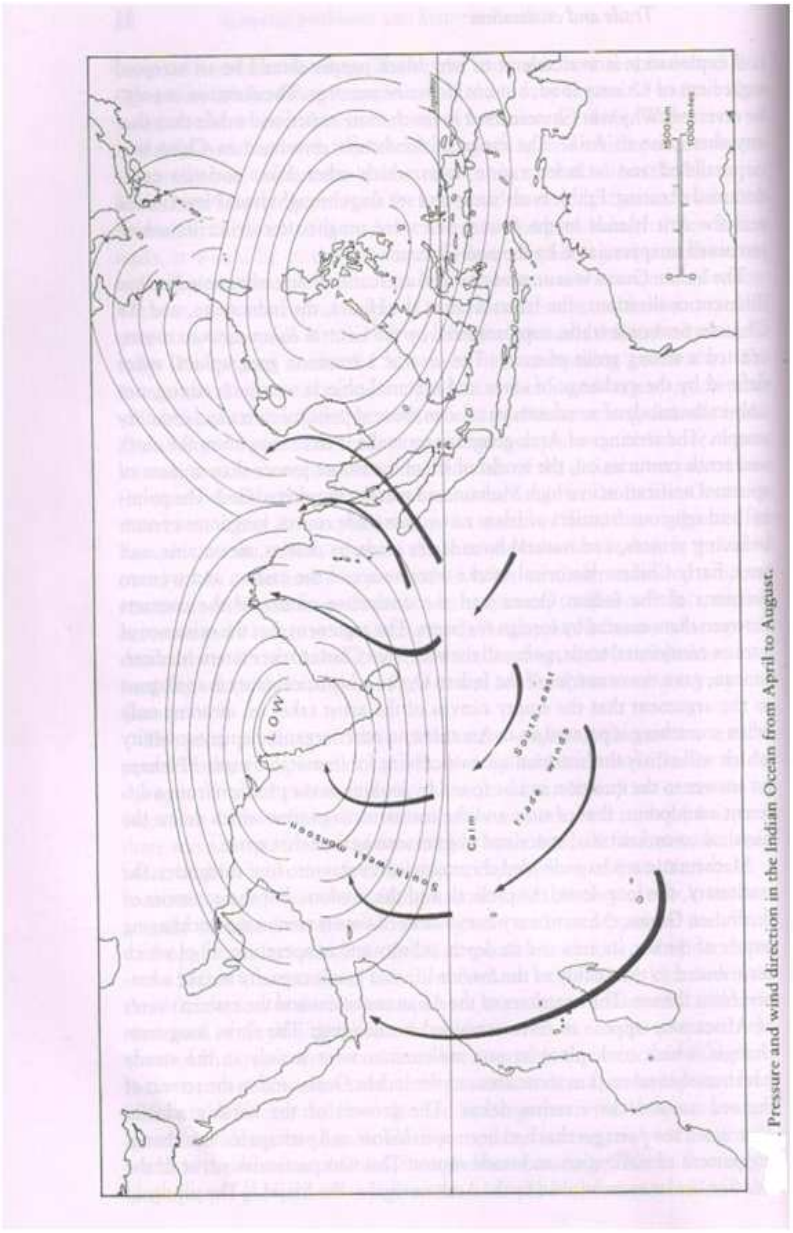


Map of Malabar (Census of India- 1951)

MONSOON WINDS

The wind- system or monsoons influence an area's sailing seasons and global connections. The sailing season in the Indian Ocean was fixed with the prevailing winds' timing, which experienced sailors could predict with near certainty. The monsoons were a cyclical component of time. The solar year was the period of a

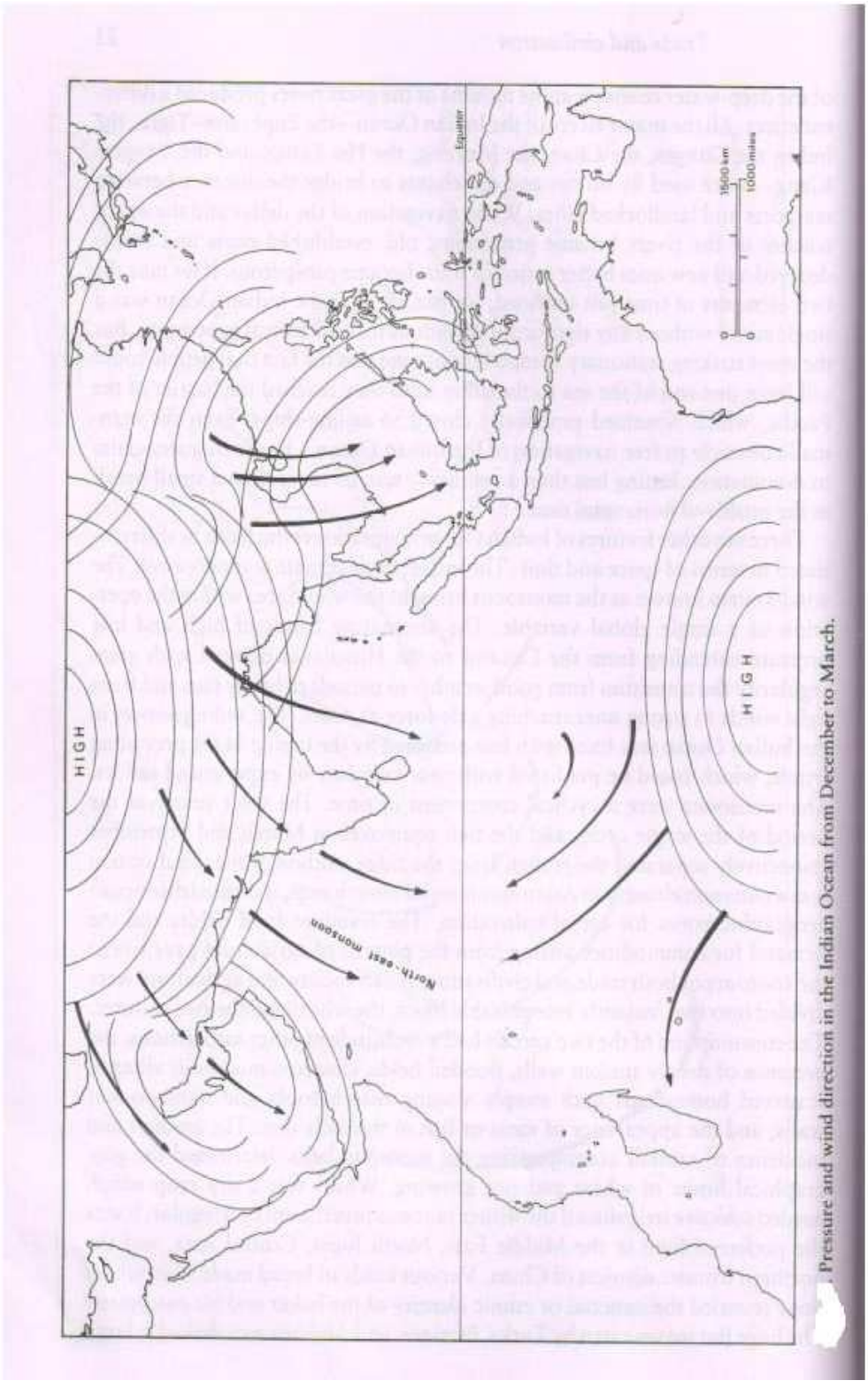
single cycle, and the two equinoxes in March and September separated the trough from the ridge.[94]



Pressure and wind direction in the Indian Ocean from April to August.

(K.N. Chaudhuri, *Trade and Civilisation in the Indian Ocean- An Economic History from the Rise of Islam to 1750*, p. 22)

[94] K.N. Chaudhuri, *Trade and Civilisation in the Indian Ocean- An Economic History from the Rise of Islam to 1750*, Cambridge University Press, New York, 1985, p.23.



. Pressure and wind direction in the Indian Ocean from December to March.

(K.N. Chaudhuri, *Trade and Civilisation in the Indian Ocean- An Economic History from the Rise of Islam to 1750*, p. 24)

The geographical location of Malabar has brought her within the ambit of the monsoon winds, both the southwest and northeast, which set the rhythm of maritime traffic and overseas trade of the Indian Ocean region for centuries. Between June and September, the southwest monsoon (*Edavapathi*) discharges a seemingly endless amount of rainfall over the Kerala coastal plain and slopes of the Western Ghats, which in the northern parts can easily exceed two metres in the span of just a few weeks. As a result, Kerala's landscape is luxuriantly lush, providing in the uplands for the cultivation of pepper or "King of Spices", cardamom, cloves, cinnamon, ginger, nutmeg and other spices. [95] The season for travelling to India from Arabia was the south-western monsoon that began in March on the East African coast and reached Malabar in late May. The other primary sailing season was the northeastern monsoon, a longer and calmer season during which a ship could travel from Malacca to the Red Sea; on the Indian coast, it began in late October and lasted until February or March. There were a few other, more limited sailing opportunities and several regional variations. Still, altogether these seasons defined the rhythm and pattern of marine life in the Indian Ocean, both facilitating and constraining human movement.[96]

Malabar's trade with the Arabs and other nations of the west was monsoon oriented. The distance from the Persian Gulf to Malabar, 1600 statute miles, was formidable for vessels dependent on wind power. It was, to a great extent, due to the

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[95] Sebastian R. Prange, *Monsoon Islam: Trade and faith on the Medieval Malabar Coast*, Cambridge University Press, Delhi, 2018, p.12.

[96] D.A. Agius, *Seafaring in the Arabian Gulf and Oman: People of the Dhow* , Routledge, New York ,2005, pp.193– 199.

facilities offered by the monsoon winds that trade developed over a region of this magnitude.[97]

Numerous channels, swamps, streams and mountains made land contact extremely difficult. Water navigation, therefore, remained more important than anything else. Sea remained equally crucial for all the states, whether insular or peninsular. It developed the navigational skills of the people. It acted as a unifying force. It brought the economic interests of different states on one common platform: foreign trade. But the prosperous maritime trade benefited the whole region, which continued to participate in the maritime trade of the Indian Ocean in one way or another.

The geographical position was critical in determining the trade's success and peninsular India, especially the Malabar Coast, which became the centre of the East-west maritime trading networks. All Europeans whom began commerce and later conquest on western coast were competing each other for suitable sites to establish factories and fortresses at various advantageous positions on shores of rivers and backwaters. The waterways provided the most accessible and cheapest mode for carrying traffic. This backwater system exercised considerable influence on Kerala's political, industrial and commercial development.

Kochi, for its deep land-locked harbour, afforded safe anchorage to large ships and allowed the best water transportation facilities with deep inside hinterlands. Thus the Portuguese and, after them, the Dutch, established their

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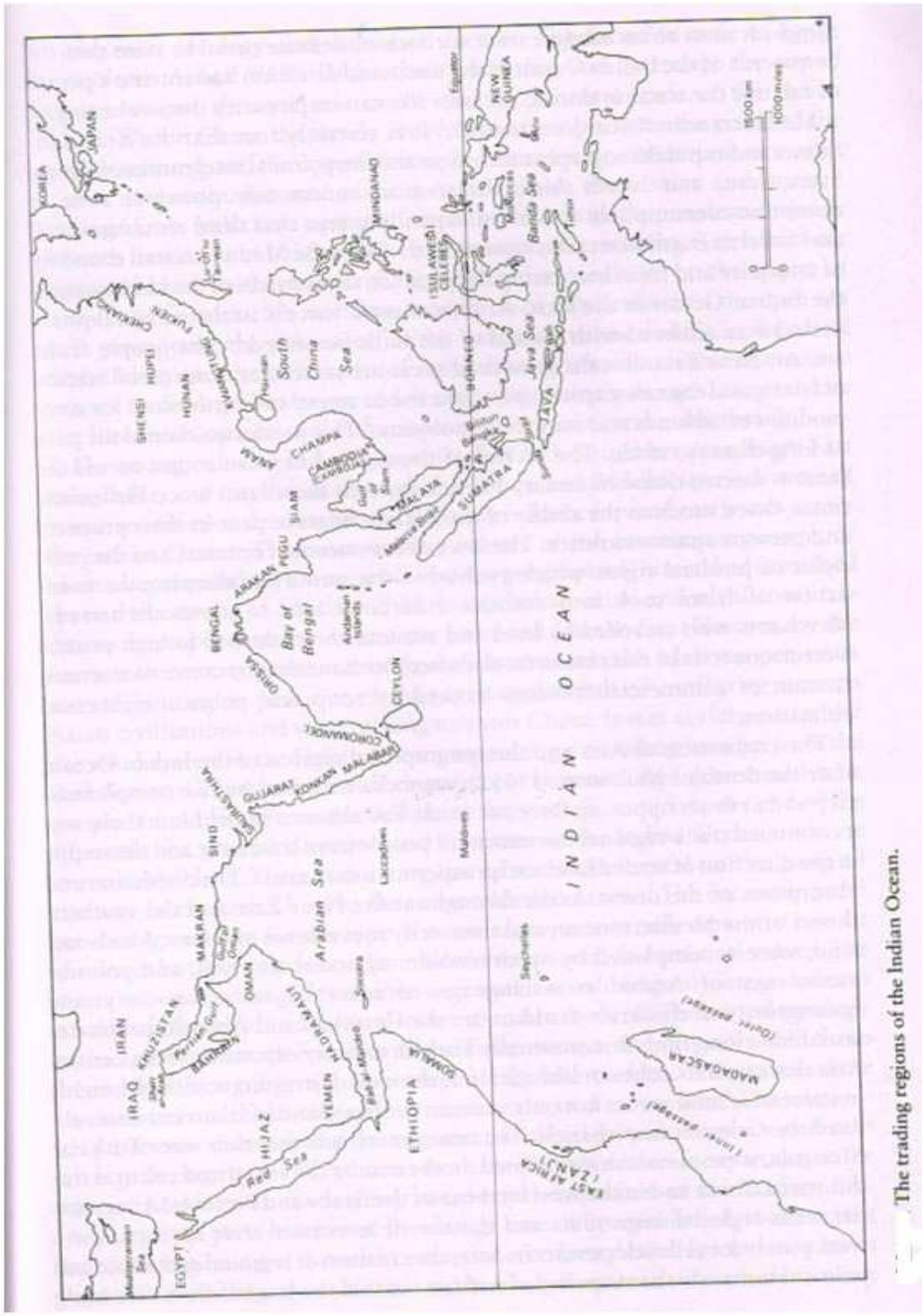
[97] Gerald Roe Crone, *The Discovery of the East*, Hamilton, London, 1972, p.1.

factories at Cannanore (Kannur) along with an outpost at Mt. D‟Ely (Ezhimala Hill) which commanded the river navigation of North Malabar. Meanwhile English established their factory at Tellicherry (Thalassery) and an outpost at Dharmapattanam Island, it is purpose was to dominate pepper trade in the locality and was extensive. Similarly French established themselves in Mahe; the Danish established their factory at Edava which stood at head of water communication in the southern Kerala. The Dutch, the Portuguese and the English fought for the possession of Chettuva because it stood at the mouth of a broad river and an extensive backwater system on the north.

CHAPTER II

MARITIME CONTACTS AND TRADE RELATIONS OF MALABAR

Indian Ocean connections mainly focus on the trade relations between West and East countries. Pacific, Atlantic and Arctic seas are connected with the Indian Ocean. It included the Arabian Sea, Red Sea and the Mediterranean Sea in the West, which linked Europe, Africa and Asia. Thousands of islands east of the Strait of Malacca, the area between Southeast Asia and Australia that leads to the Pacific regions in the east. The Chinese traded with the Western countries and opened an important trade route, called as Silk Road. Ruling elites of the Western part of the Indian Ocean desired the luxuries of Asian Countries like Chinese silk, African Gold, Indian teak, sandalwood, Black pepper etc. The Medieval trade of Asia was created on the economic and social acceptance of these products of Eastern civilization. The long-distance overseas trade brought knowledge of regular marketing facilities and commercial activities in Indian Ocean regions.



The trading regions of the Indian Ocean.

(K.N. Chaudhuri, *Trade and Civilisation in the Indian Ocean- An Economic History from the Rise of Islam to 1750*, p. 35)

The trade relation of an area is mainly related to its geographical conditions, Climatic peculiarities, Soil features, agricultural varieties and nature of settlements. The fertile agricultural fields, thick forest systems and abundant coastal plains are essential features of the economic system of Malabar. Malabar's Brahmin and non-Brahmin settlements are mainly located in the fertile river valleys. So the agricultural and non-agrarian products are exchanged in their paddy fields and *Parambu* uplands. This was the background of the beginning of trade and exchange in these areas. Malabar had trade contacts with foreign countries from ancient times

The Arabs, Greeks, Romans, Persians, Chinese and others visited the western coast of India, especially Malabar, for an extended period. India, 'the mother of gems' as Pliny called it, provided various items to the people who came into contact with this country.[1] Malabar gave prime importance to producing a variety of spices, woods, perfumes etc. The hinterlands of Malabar had a variety of animals and birds, especially elephants, peacocks, etc. Forest resources of Malabar have been important items of overseas trade through centuries, such as timber, incense, honey, ivory etc. Besides, ivory was an important item procured from the forest.[2] Trees like teak, Blackwood, wild jack tree, rosewood, ebony, etc., were of commercial importance apart from their wide use for construction purposes within the region. Of these, Malabar teak was the most desired one. The rare quality of teak is its resistance to white ants and its durability. It is noted for its strength and beauty also. So it was mainly used for the making of watercraft. According to Masudi, ships

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1 Baldeo Sahai, *Indian Shipping a Historical Survey*, Publication Division Ministry of Information and Broadcasting Government of India, New Delhi, 1996, p.3.

2 *ibid.*

of the Indian Ocean were built of teak.[3] Malabar was economically important to the Arabs because of the availability of teak.[4] Several species of plants and shrubs were peculiar to the thick forests of Malabar.

One Arab poet wrote, 'the Indian rivers are pearls, its mountains rubies, its trees perfumes.'[5] This is not an exaggeration because the men and women of the West, even before the coming of the Arabs, used Indian perfumes, spices, precious stones and other items in their day-to-day life.[6] Various kinds of nuts, cinnamon, wax etc., were items marketed. The wonderful medicinal properties of the herbs and roots are evident from the Hortus Malabaricus.[7] There is a corresponding variety in the fauna, and items like ivory have been valuables of export from very early times. Thus the nature of climate coupled with geographical peculiarities has been conducive to the growth of variegated forest resources.

India's trade relations with foreign countries had great antiquity. It sometimes existed before the Harappan civilisation and flourished during that civilisation. The Indus valley people had established trade connections with those from Afghanistan, Turkmenia, and the Persian Gulf regions. They carried their goods through elaborate trade routes connecting the Indian trade centres in the north-western regions with foreign countries. Archaeologically, Sutkagendor and

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3 G.F. Hourani, *Arab Seafaring in Indian Ocean in Ancient and Medieval Times*, Princeton University Press, New York, 1973, pp.89-90.

4 *ibid*, p.71.

5 Baldeo Sahai, *op.cit*,p.3.

6 *ibid.*

7 Vijayalekshmy. M, *Trade and trading centres in Kerala (A.D 800-1500),* Un published Thesis. Department of History, University of Calicut, 1997, p.68.

sotka-koh on the Makran coast have been credited with being ports of the Indus civilisation's maritime links with the Gulf region and Mesopotamia[8]. A boat with a high prow and stern suitable for halting at steep river banks appears on a Mohanjo-daro seal impression.[9] Lothal, the area between the Bhogavo and Sabarmati rivers of Gujarat, a clay boat model has a socket for the base of the mast, and the form of a sailing boat with two yards is sketched on a pot.[10] Taking into account the trading nature, maritime skills and resource needs of the Harappan culture and the abundant natural wealth of the Malabar Coast, it can be presumed that the Harappans were aware of the Kerala coast.[11] H. Heras pointed out that the traders from Mohenjodaro made a trade connection with Malabar.[12]

We have allusions to sea voyages in the Rig-Veda. The Indian literature (Buddhist) refers to the long distance sea voyages, where sailors going far into the sea made use of shore sighting birds. Before the early Christian centuries, foreign countries discovered many land or sea routes to the eastern countries, especially India. It was the Indian traders who used to carry cargo for overseas trade initially. Later, the Greek sailors' discovery of monsoon winds for navigational purposes turned the picture upside down.

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8 Dilip K. Chakrabarthi, *INDIA- An Archaeological History Palaeolithic Beginnings to Early Historic Foundations,* Oxford University Press, New Delhi, 1999. p.153.

9 Shereen Ratnagar, *Understanding Harappa- Civilization in the Greater Indus valley*, Tulika, New Delhi, 2001, p. 57.

10 *ibid*, p.57.

11 V Selvakumar, "Maritime Archaeological Heritage of Kerala: A Study", Ajith Kumar(Ed), *Archaeology in Kerala: Emerging Trends*, Department of Archaeology, University of Kerala, Thiruvananthapuram, 2011, pp. 40-41.

12 Henry Heras, *Studies in Proto-Indo Mediterranean culture, Vol. I*, Indian Historical Research Institute, 1953, pp. 98-110.

Early Tamil Sangam refers to the different trade relations in early Kerala. The Sangam poems explain the oceanic relations and trade in that period. It also explains the port towns, importing and exporting items, traders groups, workers of ships, ship builders etc. The poems also refer to making small boats for short-distance travelling and fishing. It does not explain the making of the big vessels but refers to the uses of big vessels, trading with the help of these ships and the relations of the ocean by kings.

Bible and early Greek-Roman records testify to this. King Solomon built a fleet of ships.[13] Hiran sent his servants with the fleet, sailors familiar with the sea, together with the servants of Solomon. The arrival of the ships is validated in *Akananuru* also:

Chera's great river Culli splashes with white foam
Where Greeks in their ships
From prosperous Muciri
Reverberating with the ocean
Arriving with gold and carrying off pepper ...[14]

Malabar Coast had contacts with West Asia during the time of King Solomon around 1000 BC, and there is a contention that teakwood was imported from the Malabar Coast to build King Solomon's palace. Referring to Solomon's period the Old Testament says that gold was obtained from *Ophir* and once in three

[13] *The Holy Bible* (Malayalam translation), C.R.L. Society, Edamattam, 1993, pp. 9, 17-18, 26.

[14] A. Dakshinamurthy, *Akananuru: The Akam Four Hundred*, Bharathidasan University, Thiruchirapalli, 1999, pp. 7-11.

years came the navy of Thashis bringing gold, silver, ivory, apes and peacocks. All these objects, except gold, were products of Malabar and the Hebrew lines for the last two objects, Kapin and Tukin are obviously the Tamil Kavi and Thikai.[15]

For these types of sea contacts, man invented sea vessels according to his ability. After a long year of effort, men reached this era of modern technologies in making ships. The ancient men started voyages by making crafts by tying wooden pieces. Man learned to use the different types of water vessels for sea travel.

Kerala also had attained knowledge about the making of these water vessels. It is clear from the words of Periplus, who visited Muciris, that Malabar could make ships of her home. Hundreds of domestic ships anchored in Muciris at all times.[16]

The trade relations with foreigners through the sea helped develops shipbuilding in the port areas. Yachts and boats like *Pathemaris, Manchu, Odam, Odi, kettuvallam, chundanvallam, Terappam, Vanchi etc.,* were made here. The availability of wood, expert architects, and labours played an important role in making Malabar a prominent shipbuilding centre and has been very active in the present century. [17]

The shipbuilding tradition of Malabar and the trade and commerce through the sea have always attracted travellers. The famous traveller Al Beruni had

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[15] William Logan, *Malabar Vol I & II*, The Charithram Publications, Trivandrum, 1981, p. 245.

[16] V.H. Dirar, "Beypoorile Uru nirmanam", T.T. Sreekumar(Ed), *Kadalarivukal*, D.C Books, Kottayam, 2004, p.60.

[17] K.M. Bahavuddin, *Kozhikkotte Kappal Nirmanam* in *Kerala Muslimkal: Cheruthunilpinte Charitram*, Islamic Publishing House, Calicut, 1995, p. 270.

remarkably mentioned the shipbuilding of Kozhikode and how it was sold to foreigners. *Kottia, Pathemari, Sambook, Donki, Bahala, Toothukudi, Manglore Padav etc.*, were the local names of ships built in Kerala.[18]

INDIGENOUS AND FOREIGN TRADERS

The widely spread coastline and the availability of spices attracted foreign merchants to the Malabar Coast from very early times. Malabar, stretched from Kasargod in the north to Cape Comorin in the south, produced a large quantity of pepper. The best quality pepper was grown in the hinterland of Cannanor in Malabar.[19] Besides, many products grew, like cardamom, Cherry plums, bamboo and zedoary.[20] The inhabitants of Kerala exist to a large degree on rice and coconut cultivation while also producing crops which for centuries were some of the most coveted commodities in international trade: ginger, cardamom, pepper, aromatic woods, and hardwoods. The precious Indian commodities like timber, aromatic spices, sandal wood, ivory and fine muslin were primarily found on Malabar Coast, and they had wide demand in the West.[21]

Graeco- Romans

In Ancient and Medieval times, many foreign communities are engaged in the trade activities of the Malabar Coast. By the middle of the First century A.D.,

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18 *ibid.*

19 Duarte Barbosa, *A Description of the Coasts of East Africa and Malabar in the Beginning of the Sixteenth Century*, H. E. J. Stanley(trans.), AES Reprint, London, 1995, p. 151.

20 *ibid.*

21 Baldeo Sahai, *op. cit*, p.17.

Hippalus discovered the secrets of monsoon winds regularly blowing across the Indian Ocean. With the help of these monsoon winds, Roman ships reached Muciris and other ports in south India.[22]

Pattanam in the Ernakulam district of Kerala, which is hypothesised as ancient Muciri, is an important Early Historic trade site with a wide range of material remains related to Indo- Roman trade. The archaeology of the area between the Palar and Vaigai- Tamraparni Rivers has hitherto been dominated by Roman trade, as evidenced at Arikamedu near Pondichery. The antiquity of the Roman trade with the region has been pushed back to the last two centuries B.C., with its peak between 50 B.C. and A.D. 50 based on excavations at Arikamedu.[23] The main branch of the Periyar takes a southeast- northwest course close to the coast and meets the Arabian Sea near Azhikodu, about 5 km northwest of Pattanam.[24] The name 'Pattanam' also suggests the historical significance of the site. In Tamil, it means a 'coastal town or port town. Initially, this term referred to towns on the coast and later to any urban settlement.[25]

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[22] Rosa Maria Cimino (Ed), *Ancient Rome and India: Commercial and Cultural Contacts between the Roman world and India,* Munshiram Manoharlal Publishers, New Delhi, 1998, p.26.

[23] K P Shajan, R. Tomber, et al., "Locating the Ancient Port of Muziris:Fresh findings from Pattanam", in *Journal of Roman Archaeology 17*, Cambridge University press, New Delhi, 2004, pp. 312-320.

[24] K P Shajan and V. Selvakumar, "Pattanam: The first Iron Age – Early Historic Settlement in Kerala", in M R Manmathan(Ed), *Archaeology in Kerala - Past and Present*, Farook College Publication Division, Calicut, 2007, p. 31.

[25] *ibid*, p. 35.

Ptolemy writing in the second century A.D. refers to Roman vessels conducting trade with the region between *Ariake* (Ariavartam) and *Lymrike* (Malabar) and the region *Tyndis* (Ponnani).[26]

One important westerly trade route connected India, and the Roman Empire went from *Muciri* to Red Sea Coast.[27] The ship from Muciri went directly to Berenice or Quseir al Qadhim on the Red Sea Coast, crossing the Arabian Sea. From these ports, caravans took goods across the Eastern desert of Egypt to Coptos on the Nile River. These routes in the eastern desert have been explored, and several important archaeological remains have been discovered in the eastern desert area.[28] From Coptos, the commodities were shipped on the Nile boats to Alexandria, and then they were distributed to the different parts of the Roman Empire. Strabo mentions that about 120 ships sailed yearly from these ports around 21 A.D. This suggests the popularity of this trade.[29]

Berenice of Egypt has abundant archaeological and botanical evidence and a few textual materials for contacts with India in general and Malabar Coast in particular. In the year 2004, excavations of Pattanam, great quantities of Roman pottery were found here, similar to the pottery excavated in Red Sea port, Myos Hormos and Berenice. The finding of 7.5 kg of pepper in a jar and potsherd with

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[26] Thomas Glazebrook Rylands, *The Grography of Ptolemy*, Dublin Printed, University of Toronto, 1893, p.7.

[27] S Sidabotham, "Contacts between the Kerala Coast of India and Early Roman ports on the Red Sea Coast of Egypt", in *Aadharam 1,2006* ,pp. 60- 67.

[28] S E Sidabotham and Zitterkofe, "Routes through the Eastern Desert of Egypt", in *Expedition 37(2),* 1995, pp. 39- 52.

[29] V Selvakumar, *op.cit,* p. 49.

Tamil Brahmi inscription, coconut shell fragments and teak wood remains are important in this regard.[30]

Quseir al Qadhim lies a little north of Berenice have been reported two herds of Pottery with Tamil Brahmi inscriptions reading "*kanan*" and "*caattan"* and another shred with a post-firing graffito reading "*panai Ori".*[31] This site produced printed cotton cloths of the medieval period, most probably imported from the Gujarat region of India.[32]

H. P. Ray states that the Graeco- Roman Vessels were used on the sea routes to India and emphasised the quality of Indian and Arabian ships. These ships' rigging was suitable for the harsh weather of the Indian Ocean. [33] According to L. Casson, the ships used by Graeco –Roman traders were the same type of vessels used in the Mediterranean.[34] These ships crossed the Indian Ocean in the summer months when the southwestern monsoon reached the peak of its power.[35]

Kolathunad, the kingdom of Kolathiri, had trade contacts with the Graeco-Roman and South East Asian countries. It had a great port city called *Marahi*, near

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30 K.P. Shajan, R. Tomber. et al., "Locating the ancient port of Muziris: fresh findings from Pattanam", in *Journal of Roman Archaeology*, Cambridge University press, New Delhi, 2005, p.236.

31 *ibid.*

32 V Selvakumar, *op.cit*, pp. 49-50.

33 H.P. Ray, *The Winds of change: Buddhism and the Maritime links of Early South Asia*, OUP India, Delhi, 1994, p.54

34 *The Periplus of the Erythraean Sea*, in Wilfred H. Schoff (Trans), Longmans, New York, 1912, pp.284-285.

35 L. Casson, "Ancient naval technology and the route to India", in M.V. Begley and R.D. de Puma (eds), *Rome and India: The Ancient sea trade*, Madison, Ireland, 1991, p.10.

the confluence of the river Killa with the Arabian Sea. Many sea-going ships from Minocoy, Laccadive and many other places were anchored there before their journey to other parts of the world.[36] The large estuary of the port was reasonably sufficient to harbour several large ships at a time. Therefore, many big foreign ships anchored at the port for many days on their way to other countries.[37] The network of four rivers, Kavai and Ezhimala in the north and Taliparamba and Valarpattanam in the south, watered the region. Peddling traders brought products from the hinterland by using these river networks.

The similarity between the Greek names of rice *(orizi),* ginger *(zinziber),* cinnamon *(karpion)* and the Malayalam *ari, inji* and *karpooram* indicates that trade existed in these articles between Greece and Malabar, the only part of India where all these products grow in abundance.[38]

Arabs

The Arabs were other important trade partners of Malabar. According to Sardar K M Panikkar, traders from different parts of Arabia often visited the Malabar Coast.[39] The famous poet Imrul Kaise connected the dropping of the calf to pepper

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36 N.P. Unni, *A History of Mushiks Vamsa,* Kerala Historical Society, Trivandrum, 1980, pp. 160-61.

37 V. Joy, Cannanore *on the Malabar Coast and the Maritime Trade of India: 1500- 1600 AD,* Unpublished M.Phil thesis, Pondicherry University, October 1990, p. 24.

38 K.M. Bahaudhin, *Kerala Muslingal: Poraattathinte* Charitram,(Malayalam) , Islamic Publishing House, Calicut, 1995, p.28.

39 K. M. Panikker, *A History of Kerala,* DC Books, Kottayam, 2008, p.8.

pods.[40] This signifies that Arabs were available with pepper even before the emergence of Islam.

From the early centuries of the Christian era, countries like Babylon, Assyria, and Arabia had sea trade relations with Kerala. Arabs also reached Malabar Coast before the 8th century A.D. for trade purposes. Arab navigation and trade significantly developed in the 8th century A.D., and during the period of the Abbasid Caliphate, many Arab traders travelled to Malabar Coast also.

'Malabar was the chief centre of Arabic trading activities right from 4th century A.D. and by about 7th century A.D., several Arab had taken permanent residence in some port cities of Malabar'.[41] From the dawn of history, Arabian cargo ships came to Indian ports carrying various commodities to the ports of Bahrain, Oman, Yemen, and Muscat. From there, Arab traders carried these commodities through the land to Hijaz and Egypt and Syria by the Red Sea. From there, these commodities used are sent to Europe through the Mediterranean Sea.[42]

Ships from Arabia regularly sailed up to Malabar and Ceylon to obtain spices. The Periplus records that the ports of *Muciri* (Crangnore) abounded with ships sent there with cargoes from Arabia and by the Greeks. Similarly, Pliny refers to a large

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40 K. M. Muhammed, *Arabhi Sahityathinu Keralathinta Sambavana*, Ashrafi Books, Calicut, 2005, p.9.

41 George F Hourani, *Arab Seafaring in the Indian Ocean in Ancient and Early Medieval Times*, Princeton University Press, New Jercy, 1951, p.61.

42 Ahmad Amin. *Fajr ul- lslam* , Itimad Press, Cairo, 1928, p.53

number of Arab settlers in Malabar.[43] The Arab trader was attracted to the best quality spices like pepper, cloves, cardamom etc., produced in Kerala, and numerous pieces of evidence are available for the coming of fleets of ships to Kerala ports only for trade purposes even before Christian era.[44] The Arab merchants "sent large ships to these market towns because of the great quantity and bulk of pepper and *Malabathrum*".[45] Sreedhara Menon states that the Arab traders introduced cloves to Persian during the reign of Emperor Solomon. Arabs had termed Kerala 'Bilad-ul-phulphul' (the land of pepper).[46]

Herodotus, the historian of antiquity, attested that the Arabs would carry the goods from Kerala up to Athens in small ships. It was sold to traders from all over the world, including Finnish and Egyptians.[47]According to Shamsulla Quadiri, "the middlemen in the trade relations of Kerala with Greek and Rome were Arabs, the people from Syria and Egypt and the chief trade centre in this deal was the city 'Lafaar' in the coast of 'Halar-ul-Mouth' in Yemen".[48] The words of Arabian traveller Abu Said in the 9th A.D. clearly define the relations Kerala had with Arabia and the shipbuilding techniques. "Oman Arabs went to the land of coconut with the

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43 Andre Wink, *Al-Hind: The Making of the Indo-lslamic World: Early Medieval India and the expansion of Islam 7th – 11th Centuries Vol. I*, Brill Publication, Leiden, 1991, p. 68.

44 K M.Panikkar, *Keralathile Swathantrya Samaram (Mal.)*,Prabhatam Publishing Co, Thiruvananthapuram, 1957,p.1

45 Kusuman. K.K., *A History of trade and commerce in Travancore-1600-1805*, Mittal Publications, New Delhi, 1987, p.34.

46 A.Sreedhara Menon,*Cultural Heritage of Kerala: An Introduction*, East-West Publications, Kerala,1978,p.20.

47 Elamkulam P. N. Kunjan Pillai, *Studies in Kerala History*,Mathrubhumi Books,Kottayam,1969, p.40.

48 Shamsulla Quadiri, *Ancient Malabar*, other Books, Calicut, 1933, p.11

carpenter's tool box, and then they cut the coconut trees at first and made them dry. The dried once were made to planks. Ropes were made from fibers and those fibers used to tie the planks to make *Urus*. Masts were also made from the same tree. The sails are made of fibres. After the boat was ready, coconuts were dumped into it, and they started back to Oman. They got high profit in this trade".[49]

The Arab Geographer Ibn Rustah (900 AD) says that before Islam, Indian ships used to sail up the Tigris as far as Al-Madain".[50] Thus, it is clear that even before the rise of Islam in Arabia in the 7th century A.D., Arabs had close commercial relations with Western India Ports, especially with Kerala Ports, as the spices and other products of Kerala were in great demand in the markets of Western Asia and Europe.

Much evidence is available from the Arabic language and literature for the ancient trade relation between Arabs and Kerala. Arabic words like '*narajeel'* (coconut) and '*arus'* (rice) are derived from Malayalam, which is found in very ancient Arabic literature. It is the Arabs and Persians named Kerala 'Malabar', which was formed as a combination Malayalam word *'Mala'* (hills) and the Arabic word *'Baar'* (the region). The ancient Arab poet 'Imr-ul-Khais', in one of his famous poems, compares deer's excretions with the pepper that was available only inKerala.

Ibn Batuta mentions his journey through backwaters from Calicut to Quilon (the last city of Malabar Coast) during the early years of the 14th century and he

[49] K. M. Muhammed, *op.cit*, p.11.

[50] *ibid.*

completed his journey in 10 days. In the middle of his journey, they reached a place called *Kanjirakkara,* which stood on top of a hill and was inhabited by Jews and was governed by an Emir who paid tribute to the king of Quilon.Ibn Batuta mentions that on the river shores, there were Cinnamon trees, which were also fuel for burning to prepare food, etc., and spice. He also mentions the presence of many Arab merchants in Kollam, where the king is an infidel.[51]

Ibn Battuta tells about Calicut

> "In all the lands of Mulaybar, except in this one land alone, it is the custom that whenever a ship is wrecked all that is taken from it belongs to the treasury. At Calicut, however it is retained by its owners and for that reason Calicut has become a flourishing city and attracts large number of merchants".[52]

Battuta calls *Kawlam* (Quilon) one of the finest towns in the Mulaybar lands, with fine bazaars and cathedral mosques. As the city is the nearest of the Mulaybar towns to China, most of the merchants (from China) came to it. [53]

A great part of Ma Huan's book is about the port of Calicut (ku-li in Chinese) in south India. By the time Ma Huan came to Calicut in 1414, the port had grown as he called it 'the country of Western Ocean' Admiral Zheng He too had a great liking for Calicut that he had visited Ku-li in almost all of his expeditions.

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51 Samuel Lee(Ed), *Travels of Ibn Batuta in the Near East, Asia & Africa 1325-1354,* Dover publication Inc, New York, 2004, p.169.

52 H.A.R Gibb and C.F Beckingham (trans.)., *Travels of Ibn Battuta-AD 1325-1354 Vol-IV*, Routledge, England, 1994, p. 235

53 *ibid.*

"Ma's praise for Calicut might be because of the strong Islamic leanings of a town which had more than twenty mosques and a settled Muslim population of 30,000". Ma Huan also included folklore and stories such as that of Moses and the Golden calf at Calicut, as well as descriptions of unusual objects like jackfruit, rhinoceros, zebra, giraffe, etc.[54]

The king asked the *Qadi* to announce on a Friday prayer the arrival of Abdurrazak and requested Abdurrazak to talk about him in the envoy's country Persia. Abdurrazak gets excited while describing Calicut (*kalikot).* He says it is a perfectly safe city like that of Hormuz. The Hindu-Muslim unity of the city marvelled him. There were cathedral mosques in which Friday prayers were held.

> "Men of kalikot are bold navigators and are known by the name 'sons of China'. Pirates of the sea do not molest the ships of Kalikot and everything is procurable in that port, with the sole exception that you cannot kill cows and eat their flesh". [55]

Abdurrazak presents in his book a charming description of betel leaves, which the people of the country used to chew.

> "This masticatory lightens up the countenance and excites an intoxication like that caused by wine. It relieves hunger, stimulates the organs of digestion, disinfects the breathe and strengthens the teeth. It is impossible

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54 *ibid*, p.87.

55 Henry Miers Elliot and John Dowson,*The History Of India as told by Its Own Historians:The Muhammadan Period,Vol.1V,* LowPrice Publications, Delhi, 1990, p.103.

to describe and delicacy forbids me to expatiate on its invigorating and aphrodisiac virtues".[56]

Muslim merchants dealt with all kinds of commodities. Their merchandise ranged from costly pearls and others luxuries to staples like black rice and dates. In fact, traders in the Indian Ocean always favoured the division of their merchandise into luxuries and staples. The Mapillas of Malabar were reputed intermediaries and were instrumental in arranging the supply of spices and pepper. Many rivers connected the interior part of Kerala with the seaport, making it easy to carry products like spices to the Ports.

For centuries, the ports in the northern part of Kerala, like Kodungallur, Calicut, Kannur and Kollam, had enjoyed the monopoly of the spice trade with Arabs. Cannanore, the commercial capital of the Kolathiri Raja, was a great emporium of the trade in horses between the Persian Gulf region and South India.[57] Cannanore was a gateway for the import and sale of horses from Arabia, Ormuz, Syria and Turkey. The Vijayanagara rulers brought Arabian and Persian horses to their country through Kolathunad.[57]

The Kings and Chieftains always maintained a friendly relationship with the Arab traders, which was essential for the country's economic security. "Zamorin of Calicut even made an order that one or two members from the Fisherman community should adopt Islam with an aim to maintain a cordial relationship with

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[56] *ibid*. p.114.

[57] K. S. Mathew, "Kannur and the Portuguese- A Study of Trade and Urban Growth in the Sixteenth Century," in M. O. Koshy, ed., *Cannnore in the Maritime History of India*, Kannur University, 2002, p. 12

the Arabs and also to strengthen the Navy of the country".[58] The Arab traders were mostly related to the people of coastal regions. So the older Muslim colonies and mosques were situated in coastal Malabar around Ponnani, Chaliyam, Calicut, Kodungallloor, Thalasseri, Kasaragode etc. The kings and chieftains of these areas extended all the support to establish mosques, religious and commercial centres.

Christians and Jews

The Jews and Christians reached the Malabar Coast early for trade. The Kottayam plates that Maruvan Sapir Iso, more probably an ecclesiastical dignitary who had headed a colony of immigrant Christian merchants to the west coast towards the second quarter of the 9th century A D, erected a church called Tarisappalli at Kurakkeni- Kollam or the modern Quilon, and obtained from then ruling king certain privileges to his community and certain gifts of land for the upkeep of the church.[59]

The Jewish Copper Plates and the Veera Raghava Pattayam have been the trade charters and deal with the medieval trading centre of Kodungallur, revealing its form and functions. The Jewish Copper Plates were granted to Joseph Rabban, the chief of the Jewish merchants, by Bhaskara Ravi Varman, the Perumal of Mahodayapuram, in AD 1000. The grant conferred on the merchant various rights and privileges. The Jewish Copper Plates were silent about the urban centre but

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58 Madhavan Nair, *Malabar Kalapam*, Mathrubumi Books, Calicut, 1971, p.55.

59 A. S Ramanatha Ayyar, *Travancore Archaeological Series Vol. 7*, Department of cultural publications, Government of Kerala, Trivandrum, 1930, p.73.

revealed urbanism in the trading centre.[60] A Jewish inscription of 1263 AD is installed in front of the Chennamangalam synagogue.[61] It is not clear where exactly the inscription was initially found. It indicates Jewish occupation in this region. The Veera Raghava Pattayam was granted to Iravi Cortan, a merchant chief of Kodungallur, by Veera Raghava Chakravarthy. The Veera Raghava Pattayam point to one such merchant Iravi Cortan called Nagarattuku Kartava (Chief of the city), who was granted the title *Ceramanloka Perumcetti.* The state was eager to please the merchant chief. The record also testifies to the ruling authority's active interferences in the trade mechanism.[62]

Pantalayani Kollam and Matayi had important Jewish settlements in the Malabar area, and they must have been a connection in the Jewish trade between Malabar and the West. The Jewish sources reveal the import of copper and allied metals and the export of iron from the port of Malabar.[63]

Chinese

The Chinese were other important medieval trade partners of Malabar. The medieval period saw increasing trade interactions with East Asia in the Indian Ocean region and the Roman Empire's decline in the Early Historic period. Indigenous,

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60 M Vijayalekshmy, "Eloquent Inscription", M R Manmathan(Ed), *Archaeology in Kerala - Past and Present*, Farook College Publication Division, Calicut, 2007, pp. 189-190.

61 V Selvakumar, "Maritime Archaeological Heritage of Kerala: A Study", Ajith Kumar(Ed), *Archaeology in Kerala: Emerging Trends*, Department of Archaeology, University of Kerala, Thiruvananthapuram, 2011, p.53.

62 *ibid*, p.192.

63 S.D. Goitein, *From Aden to India*, JESHO, vol xxiii, Part I & II, 1980, pp. 58-63.

Arab and Chinese sources have a lot of references to Kerala's medieval maritime contacts.[64] There is very little archaeological evidence for trade in the early medieval period. The main archaeological evidence for this period has been only blue/ green glazed ceramics identified as Sassanian or West Asian pottery and some architectural remains at Pattanam. A wooden post from the wharf area of Pattanam had given a date of up to the 12th century A.D. as the lowermost range.[65]

From Pazhangadi near Madayi, some green glazed jars from the dugout area near the mosque.[66] The rock formations adjacent to the sea at *Balita*, modern Vizhinjam, indicate the well-shelved nature of the area and its suitability as a good mooring point on the maritime route. It is reported to be early medieval archaeological evidence.[67] Explorations at Dharmadam in Malabar revealed Chinese ceramics from the 13th-16th centuries A.D.[68] Panthalayinikollam was a medieval port town located to the north of Calicut and was a major centre of trade.[69]

Ibn Battuta, who began his journey in India on 11 September 1333 onwards,

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64 Stephan F Dale, "Communal relations in Pre-Modern India 16th Century Kerala", in *Journal of the Economic and Social History of the Orient 16(2/3)*, December 1973, pp. 319-327.

65 P J Cherian, V Selvakumar et al.,"Evidence for the Ancient port of Muciri" *op.cit*.

66 V Selvakumar, *opcit*, p. 52.

67 Ajith kumar, "An Appraisal of Vizinjam's History and Archaeology in the Wake of Recent Explorations", Charles Dias (Ed), *Kerala Spectrum Aspects of Cultural Inheritance*, Dr. K J John Felicitation volume, The Ido- Portuguese Cultural Institute, Cochin, 2006, pp.72- 80.

68 V Selvakumar, *opcit*, p. 53.

69 M G S Narayanan, *Calicut: The City of Truth Revisited*, Calicut University, Calicut, 2006, p.37.

reached Kerala (Mangalore) on 24 December 1342.[70] He visited the port of Kozhikode six times. He had to leave India for China and, therefore, embarked on a ship from Kozhikode. Unfortunately, the cyclones, which occurred during that month (July), destroyed the ship on which he was to travel.[71] So he cancelled his journey and stayed here for a considerable period, during which he undertook a tour of Kerala and the surrounding areas. His account has been considered a valuable source for reconstructing the history of medieval times. Later he boarded the ship in January 1347. He also recorded thirteen Chinese ships anchored at the harbours of Calicut and loaded and exported pepper and areca nut to China. Marco polo explained the types of Chinese ships and the trade contacts between China and Calicut. Sacks of pepper carried the Chinese ships.[72] According to Panikkar, "It was the Indian Ocean, specifically the lands washed by the Arabian Sea, which saw the first oceanic sailing activity." [73]

Rawari Nairs

At Pantalayani Kollam, there developed the trading community of Rawari Nairs. The foreign traders stayed along the Coastal towns, and there must have been itinerant traders to supply them with the products of the hinterland.[74]

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[70] Velayudhan Panikkassery, *Ibn Battuta Kanda India*, National Books, Kottayam, 2014,p. 4.

[71] *ibid.*

[72] A.C. Moule& Paul Pelliot, *The Description of the World I*, Ishi Press, New York, 2010, pp.354-357.

[73] Arun Prakash, ''At Sea about Naval History'' , The Sunday Tribune, Spectrum, 2 September 2007.

[74] Vijayalekshmy. M ,*Trade and trading centres in Kerala (A.D 800-1500), op.cit*, pp.111-112.

Europeans

The geographical discoveries of the 16th and 17th centuries witnessed the entry of many people, particularly from the coastal villages of Kerala, into the maritime space of the Indian Ocean. The Portuguese and the early European commercial companies maintained trade relations on the Malabar coast by discovering a direct sea route to India; the Portuguese ships arrived on the Malabar Coast, Kappad, in 1498, starting the trade with these areas. The arrival of the Portuguese on the coast of Malabar started a new epoch in the maritime history of Kerala. At the time of their occupation and mercantile interactions, the chief rulers of Malabar- the Kolathiri, the Zamorin and the Raja of Cochin- had engaged themselves in wars and personal intrigues. It offered the Portuguese a chance to penetrate the internal affairs of Malabar. Portugal, a small and powerful country, had been essential in establishing and promoting trade in Malabar. The first major goal of the Portuguese was to establish a strong eastern empire in India by establishing a monopoly over Indian trade and then propagating their religion in the newly conquered land.[75]

The Portuguese and the Dutch came to India during the 15th century, mainly intending to monopolise the spices trade from Kerala. Geologists have established that gold was extracted from the soil of Waynad in the olden days. The gates of the

[75] James John, "Portuguese Maritime Endeavour in India: For God or Mammon?" in G. J. Sudhakar, ed., *South Indian History Congress Twenty Seventh Session Proceedings*, 2007, p. 372.

city of Carthage, says historian Bosworth Smith, were made of sandalwood from Kerala.[76]

During the Portuguese period, Cardomom worth amounted to hundred *ducats* per *kandy*. Its demand was a fluctuating one.[77] It was sold from 20,000 to 30,000 lbs in Europe every year.[78]Portugal was the first foreign power that established the foundation of modern shipbuilding as we know it today.

With the mercantile expansion, the Portuguese took control over the strategic and commercial centres in the Indian Ocean region like Goa, Ormuz and Malacca. The Portuguese overthrew the Arab monopoly in the horse trade and managed to import horses from Ormuz to Cannanore.

The advent of the Portuguese had practically destroyed the traditional mercantile system of Malabar. They looted the ships of native merchants, killed the crew members and burnt the vessels. These inhuman actions of the Portuguese provoked the native merchants. The Portuguese initially had their strongholds in Cochin, Cannanore, Cranganore and Quilon.[79] But later, they lost their trade monopoly and left those centres for the safety of their garrison in India. With the mediation of the Dutch and English, the Muslim traders could act against the will of the Portuguese.

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76 Kusuman. K.K., *op.cit*,p.54.

77 Abbe Raynal, *A Philosophical and Political History of the Settlements and Trade of the Europeans in the East and West Indies*, Vol. II, J. Mundell & Co, London, 1798 ,p.14.

78 *ibid*. pp. 156-57.

79 S. Arasaratnam, "India and the Indian Ocean in the Seventeenth Century", in Ashin Das Guptha and M. N. Pearson, ed., *India and The Indian Ocean 1500-1800*, Calcutta, Oxford University Press, New Delhi, 1987, p. 102.

At first, the Portuguese had trade in special products like pepper, cinnamon, dry ginger, etc., but later added clove, spices and many other products to the list. The trading items of the Muslims were confined to areca nuts, coconut and clothes. Their sea traffic was confined to Gujarat, Konkan and Cholamandalam.[80] In 1570 A.D., Arakkal Ali Raja wrote a letter to Adil Shah seeking his help to overthrow the Portuguese from Indian waters because the Muslim trades became poor and their trade collapsed. However, Adil Shah failed miserably and entered into a peace treaty with the Portuguese. Thus the Portuguese became powerful and established dominance over Malabar, particularly Kolathunad. Marakkars, the native traders, who acted as the intermediaries in the supply of spices from the hinterlands of Cochin and Cannanore, became free and started overseas trade with the help of a Portuguese private trading lobby in the beginning.[81]

In Malabar port, Albuquerque collected pepper and ginger from the South Indian Coast and formed an emporium for transhipment of the more precious spices like pepper, cinnamon, mace and cloves of the Malabar Coast and further East. He determined not only to bring under strict control the old trading marts of the Asiatic trade route on the Malabar littoral but also to concentrate their commerce at a Portuguese harbour further north. The Portuguese had factories in different ports on the Malabar Coast. They maintained weighing houses along with these factories. In Cannanore, also they had a weighing house. They collected valuable spices from the

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80 *S*. Muhammad Hussain Nainar, (trans.), *Tuhfat- al- Mujahideen – A Historical Epic of the 16th Century*, Other Books, Calicut, 2011, p. 81

81 Pius Malekandathil, "Making Power Visible: Portuguese Commercial and Military Strategies in the Indian Ocean with Special Reference to Kannur, 1500- 1550," in K. S. Mathew & Joy Varkey, eds., *Winds of Spices Essays on Portuguese Establishments in Medieval India with Special Reference to Kannur*, Tellicherry, IRISH, 2006, p. 8.

hinterlands of Kolathunad to these weighing houses. The collected items were passed through certain official formalities in their weighing houses, packed in sacks, and kept in the factory for shipping.[82] Till the capture of the Portuguese fortress at Cannanore in 1663 by the Dutch, they enjoyed all help and support from the rulers of Kolathunad. In the last quarter of the sixteenth century and early in the seventeenth century, the Portuguese shifted their trade to Canara, very close to their headquarters at Goa.[83] The internal conflict between the local rulers in Malabar was a notable reason for the shifting of the Portuguese centre from Malabar to Canara.

The local Muslim traders like the Marakkars and the Mappilas were initially looked upon as commercial collaborators and supporters of the Portuguese. They used to procure food materials for their settlements and cargo for their Lisbon-bound-bound vessels.

Even before the advent of the Portuguese, Malabar was a centre of native and foreign commercial activities, in which the Muslims had enjoyed a predominant position. Cannanore was always described as the city of Moors.[84]Later the situation changed. Portuguese became powerful in the Malabar region in the sixteenth century, especially in Kolathunadu. In 1500 *Zamorins* got sanctioned to establish a Portuguese factory at Calicut for the spice trade. In Kolathunad, the king was also

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82 Afzal Ahmad, *Indo-Portuguese Trade in Seventeenth Century (1600-1663)*, Gian Publishing House, New Delhi, 1991, p.12

83 S. Arsaratnam, *op. cit*, pp. 92 – 94.

84 K. K. N. Kurup, "Kannur- A Maritime Centre," in M. O. Koshy, ed., *Kannur in the Maritime History of India*, Kannur University, 2002, p.1.

permitted to establish a factory at Cannanore to collect sufficient cargo.[85] Thus the Portuguese could realise that there were plenty of trading places besides Calicut on the Malabar Seaboard. Kerala was the only source of pepper before the Dutch started to produce them in Java.[86]

The English entered a treaty with the Portuguese in 1635, on the Malabar Coast, at Cochin. As a result, pepper was exported by the English directly from Malabar for the first time.[87] At the same time, the Surat factory of English sent ships to Malabar to procure pepper and cardamom occasionally. In 1664, the Surat Council of English sent two persons, Charles Smeato and Robert Barber, to Calicut on the invitation of *Zamorin*.[88] After this visit, *Zamorin* permitted the English to construct a factory at Calicut. In 1699, he allowed the Company to reduce the duty of pepper from 10 fanam to 2½ fanam per candy.[89] After the reduction, the Zamorin showed special consideration towards the English and gave them more privileges. In 1669, they obtained permission to establish a trade centre at Kottakkunnu on the bank of the Valapattanam River, situated one mile away from the sea.

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85 K. S. Mathew, *Portuguese Trade with India in the Sixteenth Century*, Manohar, New Delhi 1983, p. 52

86 Elamkulam Kunjan Pillai, *Samskarathinte Nayikakallukal*, Sahithya Pravarthaka Sahakarana Sangham, Kottayam, 1964, p.81.

87 William Foster, *The English Factories in India 1634-1636*, Oxford, New Delhi,1911, p. 148

88 William Foster, *The English Factories in India 1661-1664*, Oxford, New Delhi,1923, p. 357.

89 William Logan (Ed.), *A Collection of Treaties, Engagements and Other Papers of Importance Relating to British Affairs in Malabar*, Calicut, 1879, No. II, p. 1.

During the time of Tippu Sultan, he introduced a monopoly over the spice trade from Malabar. He established warehouses at Calicut, Quilandy, Mahe and Vadakara for collecting the commodities and fixed the prices by the state. He was also compelled to buy the commodities for export from these warehouses for a fixed price.[90] The rulers of Malabar received protection from the English East India Company against Tippu Sultan. Finally, it led to an open conflict between the Company and Tippu, which was ended in 1792 by the treaty of Sreerangapattanam. After the treaty, the Company was involved in Malabar's economic and political matters. The English East India Company monopolised the pepper in Malabar and became the supreme authority of the pepper trade in Malabar.

On 13 September 1793, Malabar supervisor W.G Farmer withdrew the Company's monopolistic control over the spices trade in Malabar and allowed all persons to involve in the free trade of all articles like pepper, sandal, cardamom, etc. However, this new law created a free space for cultivating spices and trade in Malabar without barriers. The Company made the final agreement with different rajas in Malabar regarding collecting the revenue, abolishing extra collections, trading in pepper, and setting apart land for experimental cultivation of coffee, sugar, indigo etc. Granted allowances of the 10% of the collections and an understanding to allow "equitable and just proportion" of the production of their cultivators.[91]

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[90] A Sreedhara Menon , *A Survey of Kerala History*, D C Books, Kottayam, 2007, p.58.

[91] W Logan, *A Collection of Treaties, Engagements and other Papers of Importance Relating to the British Affaires inMalabar*, Trivandrum: Kerala Gazetteer Department, Trivandrum, 1998, p.259.

The forest of Malabar was vital for British affairs. It was not only for the local demands but also for the construction of the ships of war in the British Royal Navy. For this purpose, the Bombay government controls the Malabar forest administration. The British government started control over the forest in 1806 when a commission was appointed to inquire into the availability of teak in Malabar by the appointment of a conservator of forest. The forest regulation of Malabar was against the traditional system of the tribal people. The revenue officials of the Company tried to extract the arrears of tax by confiscating the property of the tribes, attacking their residences, looting their belongings and evicting them from their property which produced a strong spirited resistance and aggressive behaviour on the part of the people of Wayanad.[92]

PORTS AND TREADING CENTRES

Kerala ports had been frequently visited by merchant ships from the Red sea and the Persian Gulf in search of spices and valuable products from very early times.

In the Ancient Indian context, '*nagara*' was a commercial centre, '*pattina'*, a trading port and '*pura'*; a fortified town.[93] The term nagaram has much more connotations than its literal meaning, city. The terms nagara, pattina and pura have been used to mean a town. In the South Indian context, the nagaram was a

[92] Indira D, *Tribal and Anti-British Struggles in Wayanadu: 1800-1812*, unpublished M. Phil Thesis. University of Calicut, 2000, p. 53

[93] K.T.S. Sarao, *Urban centres and Urbanisation : An reflected in the Pali, Vinaya & Sutta pitakas,* Vidyanidhi, Delhi, 1990, pp. 40-41.

commercial centre distinct from an agricultural settlement.[94] Writing in 1935, Nilakanta Sastri observed that *nagaram* was primarily an assembly of merchants in trade centres where mercantile interest was dominant.[95] But nagaram was their settlement also. It was a separately designated area inhabited primarily by men of the trading community and others who earned their living largely by commercial and artisanal activities.[96] The corporate body of the nagaram was composed only of the merchants of the locality. It was mainly a marketing centre co-ordinating the exchange of the surplus in agriculture and locally available commodities.[97] Through the marketplace of the nagaram these goods could be sent to wider commercial networks. It was the meeting place of both the itinerant merchants and local traders. According to Burton Stein, nagaram is a trade settlement controlled by a merchant group.[98] Kenneth Hall considers a *nagaram* "as a self-governing institution which administers a nagaram and its marketplace", having more or less the duties assigned to modern municipal bodies.[99]

Later, *Angadis* or Markets developed as the centres for the transactions of small-scale producers. There developed two kinds of trade and traders at the Coastal settlements of Malabar- Small scale transactions by producers cum traders and large scale transactions by full time merchants. Morning and Evening markets are the

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94 Kenneth R.Hall, *Trade and State Craft in the Age of the Colas*, Abhinav Publications, New Delhi, 1980, pp. 51-104.

95 K.A. Nilakanta Sastri, -*The Colas*, University of Madras, Madras, 1935, p.503.

96 Kesavan Veluthat, *Political Structure of Early Medieval South India*, Orient Black Swan, New Delhi, 1993, p. 213.

97 *ibid*, p 215.

98 Burton Stein, *Peasant State and Society in Early Medieval South India*, Oxford India, New Delhi, 1980, p.282.

99 Kenneth Hall, *op.cit.* p.104.

main small scale transactions areas developed in Malabar like Pantalayani Kollam. The land merchant organisations had overseas connections. They must have bought goods from the market and the hinterland and stored and exported them to distant regions.

The major trading centres were along the coastline. They were located at nodal points of the water transport system. This facilitated the transport of goods to and from the markets through rivers, backwaters and canals.

The *Periplus* of the first century reports that *Muciri* "abounds in ships sent there with cargoes from Arabia and by the Greeks".[100] The hoards of Roman coins and West Asian ceramics excavated in this locale substantiate the impression that Kodungallur was an important emporium in the western Indian Ocean.[101]

The Tamil works contain beautiful descriptions of the place *Muciri* and *Tondi.* Tondi and Muciris are referred to in the Sangam poems like *Pathittupatu, Akananuru and Purananuru*. Line 8 of the 9th song of Pathittupathu and 60th poem of Akananuru explained the importance of *Tondi- "Tondi* that is filled with the ranching sound of shells fetching by the sea waves"[102]. 57th and 149th song of *Akananuru* refers to the city named *Muciri* and its prosperity.

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100 W.H. Schoff (trans.), *The Periplus of the Erythraean Sea: Travel and Trade in the Indian Ocean by a Merchant of the First Century*, Munshiram Manoharlal, New Delhi, 2001, p. 44.

101 Sebastian R. Prange, *Monsoon Islam Trade and faith on the Medieval Malabar coast*, Cambridge University Press, Delhi, 2018, p. 34.

102 V R Parameshwara Pilla, *Purananuru (Malayalam Translation),* Kerala Sahithya Accadamy, Trissur, 1961,p. 445.

Pāṇṭiya aracaṉ ceḻiyaṉ

cēraṉiṉ muciṟit tuṟaimukattaip kaippaṟṟiya pōril

puṇpaṭṭuk kiṭantavar pōla avaḷ aḻutukoṇṭiruppāḷ

(பாண்டிய அரசன் செழியன் சேரனின்

முசிறி[103]த் துறைமுகத்தைப் கைப்பற்றிய போரில்

புண்பட்டுக் கிடந்தவர் போல

அவள் அழுதுகொண்டிருப்பாள்)[104]

She would be crying like a wounded person in the battle of capturing the port of Musiri from the Pandya king Selian Cheran.[105]

Chulliam Periyattu ven narai Kalanga,

Yavanar Tanta Vinya Maan Nan Kalam,

poṉṉoṭu vantu kaṟiyoṭu peyarum

Vaḷam keḻu muciṟi ārppu eḻa vaḷai'I

(சுள்ளிஅம் பேரியாற்று வெண் நுரை கலங்க,

யவனர் தந்த வினை மாண் நன் கலம்[106]

பொன்னொடு வந்து கறியொடு பெயரும்

வளம் கெழு முசிறி[107] ஆர்ப்பு எழ வளைஇ)[108]

Yavanas sails boat in River Sulliyaru or Periyar River. They exchange pepper for their gold. Harbor Musiri was used for the commerce.[109]

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103 Muciri.

104 R Eragava Iyengar, *Akananuru: Moolamum Uraiyum*, Kambar Vilasam Rajagopala Iyengar printing, Milappur,1923, p.90.

105 Translated from Tamil (lines of Akananur song 57), *ibid.*

106 Boat.

107 Muciri.

108 R Eragava Iyengar, *op.cit*, p.190

Poem 343 of *Purananuru*, pointed out the importance of the *Muciri*. Sacks of pepper are brought from the houses to the market; the gold received from the ships, in exchange for articles sold, is brought on shore in barges at Muciri, where the music of the surging sea never ceases and where Kuttuvan (the Chera king) presents to visitors, the rare products of the seas and mountains,

Malaittāramum kaṭaltāramum
Talaippeytu varunarkkīyum
Puṉalaṅkaḷḷiṉ polantārk kuṭṭuvaṉ
Muḻaṅkukaṭal muḻaviṉ muciṟi yaṉṉa
(மலைத்தாரமும் கடல்தாரமும்
தலைப்பெய்து வருநர்க்கீயும்
புனலங்கள்ளின் பொலந்தார்க் குட்டுவன்
முழங்குகடல் முழவின் முசிறி[110] யன்ன)[111]

Kuttuvan is the giver of things in the sea and things in the mountains to all who attend. In his country there is a town called *Muciri*, which has a melody that sounds like the sea.[112]

Meeneduthu nerkuvai ee
Mee chaiyambiyil manaymarukunthu…
(மீன்நொடுத்து நெற்குவைஇ
மிசையம்பியின் மனைமறுக்குந்து)[113]

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[109] Translated from Tamil (lines of *Akananuru* poem 149), *ibid.*

[110] Muciri.

[111] Puliyur Kesikan, *Purananur: Moolamum Urayum*, Sharada Pathippakam,Chennai, 2010, p.331.

[112] Translated from Tamil (lines 7-10 of *Purananuru* poem 343), *ibid.*

Houses and big boats are covered by the big heap of rice and the more pepper sacks seen in the Muciri.[114]

Lines 15th and 16th of the 25th part of the Tamil work Manimekalai refer to the city named *Pukar*.

Kalathodum pokig

Kavirippadappainannakar puken[115]

(കലത്തോടും പോകിക്

കാവിരിപ്പടപ്പൈനന്നാകർ പുക്കേൻ)

War horses that came through the sea Bags of black pepper brought overland by cart Gems and gold from northern mountain Sandal and *Akil* wood from the western mountain Pearls of the southern and corals of the Eastern Sea. The products of the Ganga basin and Kaveri valley Foodstuffs from Ceylon and Luxuries from Kadaram... [116]

Kerala was, in fact, at the forefront of the oceanic commerce of South India. The Indian Ocean trade brought merchants and watercraft from different parts of the world to Kerala, which might have led to the hybridisation of boat-building technologies. Reference to "the well-crafted vessels given by the Yavanar" in Tamil

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113 Puliyur Kesikan,, *op.cit,* p.330.

114 Translation from Malayalam (line 1-2 of *Purananuru* poem 343) , V R Parameshwara Pilla, *op.cit,* p.459.

115 P Janardhanan Pilla, *Manimekalai(Malayalam Translation*), V R Parameswaran Pilla (Ed), Kerala Sahithya Accadamy, Trissur, 1961, p.439.

116 P. Narayanan Nair, *Chilappatikaram,* Kerala Sahitya Accademy, Thrissur, 1106 , pp. 104-112.

Akananuru poem 149 suggests that particular ships were Greco-Roman in origin[117]. The indigenous ships were also used in long-distance trade. Paranar, a great poet of the Sangam Age, refers to the huge ships of a chieftain named Veliyan going abroad to fetch gold.

Kalanthatha por paricham

Kayinthoniyar karai cherkunthu[118]

(കലന്തന്ത പൊർ പരിചം

കയിത്തോനിയാർ കരൈ ചെർകുന്തു)

In lines 16 and 17 of the 5th part of the first poem of the Pathittupatu, the poet Paranar refers to gifting horses taken as booty from the Oceanic wars by the king.[119]

Manpathai marula araju padakkadanthu

Munthuvinai yathirvara pperuthal kaniyar[120]

(മന്പതൈമാരുലാരജ്ജുപടക്കടന്തു

മുന്തുവിനൈയതിർവരപ്പെരുതൽകനിയർ)

This shows the presence of the horse trade in the Sangam period. The traders of the period were importing horses from foreign countries, especially central Asia.

The chiefs did control the trade and used ships for political and economic

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117 Kaviyur Murali, *Purananuru Oru Padanam*, D C Books, Kottayam, 1999, p.73.

118 V R Parameshwara Pilla, *op.cit*, p.445.

119 Translation from Malayalam (lines of *Akananuru* poem 149), *ibid*.

120 G Vaidyanatha Ayyar, *Pathittupatu(Malayalam Translation)*, Kerala Sahithya Academy, Trissur, 1961, p. 117.

benefits. A great poet of the Sangam Age Alludes to the unchallenged supremacy of the ships of the Chera in the western seas when the ships of other powers could not even think of peeping into those waters. In the 5th portion of the first poem of the Pathittupatu, the poet Paranar speaks about the piracy suppressed by King Cheran Chenguttavan[121]. This was materialised by large scale engagement of ships for operation. Lines 15 to 19 of the 5th portion of the first poem of the *Pathittupatu,*

Ontirandala pala kayinthuthinther

Vachayil nedunthakai kankuvanthi chine

Thavaluyyumo mattethavathu

Vanjina muditta onrumoyimaravar

Murachadaiperunjamatharaju padakadanthu[122]

(ഒന്ടിരന്ടല പല കയിന്തുതിന്തെർ

വച്ചയിൽനെടുന്തകൈകന്കുവന്തിചിനെ

തവലുയ്യുമോമാട്ടെതവത്

വന്ജിനമുടിട്ടോന്നുമോയിമാരവർ

മുരച്ചദൈപെരുഞ്ഞമാതരജുപടകടന്തു)

The Sangam work Manimekalai refers to sea voyages and traders. The word '*vanigar*' and '*Kambala Chetti'* denotes the traders in the poems. Line 7 0f the 11th poem, lines 73 and from 79 to 85 of the 14th poem, lines 181 and 182 of the 25th poem, from 7 to 12 of the 29th, etc.

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121 *ibid*, pp. 115-116.

122 *ibid*, p. 113.

Kambalachetti kalam vanthu eruppa

Angavan par chenru, avanthiram arinthu[123]

(കമ്പളച്ചെട്ടി കലംവന്തുഇരുപ്പ

അങ്കവൻപാർ ചെൻരു,അവന്തിരംഅറിന്തു)

In Medieval times, mainly trade and commerce were controlled by two merchant associations known as *Manigramam* (*māṇigraman*) and *Anjuvannam* (*añjuvaṇṇam*). While the former was a group of South Indian (predominantly Tamil) merchants who were especially active in the trade with Southeast Asia, the *Anjuvannam* was composed of a mixed demographic of merchants, including Christians, Jews, and Muslims.[124] It appears that Kollam's diverse merchant population was organised into two associations that reflected the main orientations of Kollam's seaborne trade. The *Manigraman* were engaged in the eastern trade with Southeast Asia and China, while the *Anjuvannam* represented the interests of the West Asian merchants who traded across the Arabian Sea.

In the medieval period, trade guilds like *Anjuvannam* and *Manigramam also* were prominent in Kolathunad. Specific sources, such as Sthanu Ravi's inscriptions, suggest that the *Manigramam* was associated with an elite ruling urban group at Quilon in the ninth century. Until the close of the thirteenth century, *Manigramam* merchants enjoyed a unique position compared to the other merchant guilds of the south.[125] The Narayan Kannur temple inscription from Kolathunad specially

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123 P Janardhanan Pilla, *op.cit*, p.459.

124 Meera Abraham, *Two Medieval Merchant Guilds of South India* , Manohar Publications, New Delhi ,1988, p.142.

125 *ibid*, pp. 34-35.

mentioned the role of *Manigramam* and their relation with the rulers of Kolathunad.[126] Some Christian traders also occupied an essential position in these guilds. *Manigramam* was a localised merchant body operating within a specific region. One of the fourteenth-century inscriptions of the *Manigramam* is located at Ramanthali in the Chirakkal Taluk of Cannanore district.[127]

Anjuvannam was an organisation of foreign merchants. They started their commercial activities on the Western Coast, especially in Malabar, during the eighth and ninth centuries and spread out to other parts of South India in the eleventh century A.D. They interacted with the local merchants and primarily engaged in the purchase and sale of the commodities like pepper, spices and incense.[128] The *Payyannur Pattu* also mentions the presence of this trade guild in Kolathunad.[129]

Valanjiyar and *Nanadeshikal* were other groups of merchants that prevailed in Kolathunad. Eramam inscription discovered from the area of Kolathunad gives information about these merchant guilds in Kolathunad. These mercantile groups helped administration of Jaina religious institutions like *Basti*. The kings of Kolathunad involved them even in the temple administration. These merchant groups of Kolathunad actively participated in trade activities with Persian Gulf and Arabian Sea regions. They directly participated in the rice distribution network that

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126 M. G. S. Narayanan, "Ezhimalayile Likithagal" (Mal), in Mathruboomi Weekly, 23 August, 1990, p.132.

127 Meera Abraham, *op.cit*, p.142.

128 R. Champakalakshmi, "The Medieval South Indian Guilds: Their Role in Trade and Urbannisation," in Ranabir Chakravarti, (Ed), *Themes in Indian History Trade in Early India*, Oxford University Press, New Delhi, 2001, pp. 326-343.

129 Sacaria Zacharia (Ed.), *Payyannur Pattu*, Current Books, Kottayam, 1994, paragraph-92, line 5-7, p. 28.

was at that time spread out in Kolathunad and Canara. They stored the rice in Cannanore and Dharmadam and supplied it directly to Calicut. In addition, they exported ordinary rice to Ormuz and Maldives in exchange for the local produce from these countries.[130]

If Kollam served as Malabar's gateway to the eastern Indian Ocean, Calicut would occupy a similar position in the region's western trade. And it was at Calicut that the dominance Muslims came to hold over Malabar's sea trade was most apparent. Ibn Battutah describes Calicut as one of the largest ports in the world that merchants from China, Java, Ceylon, the Maldives, Yemen, and Persia visited. He witnessed no fewer than thirteen enormous Chinese junks at the port, the largest of which carried a crew of more than a thousand men awaiting the north eastern monsoon for their return voyage.[131] Chaliyam, situated to the immediate south of Calicut on an island formed by the Beypore and Kadalundi rivers, was an essential site of Muslim trade. Still, it is best known for the fortress the Portuguese erected there in 1531, which put a stranglehold on Calicut's sea trade for the next forty years.[132] A final port of significance in the kingdom of Calicut is Pantalayani-Kollam, one of the most historic ports on the Malabar Coast. It is situated to the north of Calicut, close to the Kotta River. Pantalayani- Kollam is mentioned by all the medieval Arab geographers and features prominently in local traditions.

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130 Genevieve Bouchon, *'Regent of the Sea' Kannur's Response to Portuguese Expansion, 1507-1528*, Oxford University Press, New Delhi, 1988. p. 21.

131 H.A.R Gibb and C.F Beckingham (trans.), *op.cit*, pp. 99– 100.

132 Sebastian R. Prange, *op.cit*, p. 44

With its abundance of spices, coir, coconut and other products, Malabar has drawn an influx of traders from China, the Middle East and other areas since ancient times. The best ginger was harvested in the Calicut area. Although the pepper in the Ezimala region was scarce, its quality was superior to that of the south.[133] Towards the south also were slopes of mountains, where pepper was produced in large quantities. It said that the raja of Vadakkumkur and Kollam had owned their pepper-growing land.[134]

The region was known for the spice trade, (especially Thalassery of Kannur) and timber trade (Kallayi of Kozhikode, and Kannur). Trade and commerce activities from the ports here continued for centuries. Since the advent of the Portuguese in 1498, it also witnessed traders turning into invaders. The trading relationship with the Arabs since ancient times led to the formation of Malabar's distinct *Moplah* (Muslim) community. The *Zamorins* patronised the Moplah community, and they lived in harmony with the Hindus of the region.

There are many historical signposts in Malabar, from the Palakkad Gap to Nilambur, Kallayi, Beypore, Kozhikode, Kannur, Thalassery, Ezhimala, Bekal etc. With a glorious past of bustling international trade and commerce and a remarkable tolerance that embraced various religions and cultures, Malabar has a stellar place in the history of Kerala.

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[133] Genevieve Bouchon, "Sixteenth Century Malabar and Indian Ocean", in Asin Das Gupta and M.N Pearson (ed) *India and the Indian Ocean 1500-1800,* Oxford University Press, New Delhi, 1999, p.166.

[134] *ibid.*

Malabar had close commercial contact with North India from ancient times onwards. From time immemorial, she also had trade relations with nearby and far-off countries, including Arabia, Syria, Egypt, China, Greece and Rome. The spices, mainly pepper, attracted merchants from all these countries. Malabar had trade relations with the Romans as early as the 2nd century B.C. Pepper had become one of the 'necessities to quite a large circle in Rome'.[135] After the establishment of the Eastern Roman Empire (362 AD), trade and commercial contact with Malabar was revived. The coins of Emperor Constantine were found in many parts of the Chera Empire. A large number of Roman coins dated up to 491 A.D have been excavated from Kottayam, Cannanore, Tellicherry and other parts of the ancient Kingdom of Ezhimala. Trade was carried out on a large scale with the Arabs. On the eve of the arrival of Vasco-da-Gama, Calicut was a great city conducting a flourishing trade with many countries around the world. Nicolo Conti described Calicut as a 'noble emporium for the whole of India'. The English East India Company established the district of British Malabar, distinguishing it from the princely states of Cochin and Travancore.

From the earliest times, Malabar has been in direct contact with the sea-faring people of the West. The main trade route in ancient times, as in the present day, lay through the Arabian coast and the Red Sea, and through them, the trade of Malabar thrived in Europe. The earliest trade contact with the Malabar Coast was also traced out to the Phoenicians as the curious culture like ear-lobbing, shank worship, and other elements of heliolithic culture have been found there in the

[135] Gordon Childe, *What happened in History*, Aakar Books, Delhi,1942, p.225.

Malabar region.[136] It has been held on philological evidence that the Hebrews knew of Malabar at the time of Solomon.[137] Cinnamon and cassia, produced mainly in Malabar and Ceylon and are foreign to Palestine, were much used among the Hebrews. Historians and archaeologists give evidence that merchant ships from the ports on the Red Sea and the Persian Gulf frequently visited the Malabar Coast during the 10th and 9th centuries B.C.[138] Many Roman coins from B.C 30 to A.D.547 have been found in different parts of Kerala, mainly from Kottayam, Thrissur and Kannur. This is evidence of the extent of trade between Kerala and the Roman Empire.[139]

The early foreign contact of Malabar is connected with the spice trade. The hill products like pepper, cinnamon, cardamom, and teakwood attracted the Europeans. Pepper, the 'black gold', was the favourite merchandise for foreign traders though the people of Malabar did not systematically cultivate it. Qasveeni, the Arab traveller, points out that pepper grew as a wild climber and was not planted by anybody. [140] With the growth of trade, many seaports arose on the western coast. They are *Naoura, Tyndis, Musiris, Nelkinda* and *Bakare*.[141] Since the 16th century,

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136 K. M. Panikkar., *Malabar and the Portuguese,* D.B.Taraporevala Sons & Co, Bombay, 1929, p. 1

137 He is the son of David, king of ancient Israel 970-.930 BC. During his reign he extended the kingdom of Israel to the harder with Egypt and the Euphrates, and became famous both for his wisdom and for the magnificence of his palaces.

138 Starkey, H., "Ancient Maritime Trade Routes of the Persian Gulf*", Journal of the Royal Asiatic Society 16(1*), 2006, pp. 1-19.

139 *ibid.*

140 Muhammed Hussain Nainar. S, *Arab geographers knowledge of Southern India*, Other Books, Calicut,1942, p.202

141 Gopala Knshnan. P.K, *Keralathinte Samskarika Charithram,* -Kerala Bhasha Institute, Thiruvananthapuram, 1974, p. 255.

Malabar, the mysterious land of spices, had been exploited by successive European Companies, which radically changed the trade pattern here.

The whole course of trade with India underwent a significant change in 45 C.E. The discovery of the Monsoon winds by the navigator, Hippalus was remarkable enough to change the maritime trade history of the world. "From that time, it may be said that Western trade with Malabar ports has been continuous and unbroken." As this discovery synchronised with the significant development of Roman power in the East, there grew up between the Malabar Ports and the Roman Empire an up-and-coming "trade of no mean volume and importance". Roman Merchants might have regularly visited Malabar Ports.[142] At the Eastern end of the Mediterranean, facing towards the West, and looking out on the Levantine Sea, or "Sea of the Rising Sun", was the scanty but fortunately positioned tract which the Geeks and Romans knew as Phoenicia or the "Region of Palms" and the trade in spices grew to such importance that when Alaric [143] invaded Rome in 408CE, "he demanded and obtained, as part of the ransom, three thousand pounds of pepper, then, the main product of Malabar".[144] At that time, Malabar's leading centre of trade and commerce was *Muciri or Cranganore* (Kodungallur). The exports of Malabar consisted mainly of high-quality pearls, pepper in large quantities and a variety of gems. The imports were mostly coral, lead, tin etc. It is noteworthy that the trade the

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142 K. M. Panikkar. *op.cit*, pp.2-3

143 Alaric (370-410 CE), king of the Visigoths. Alaric invaded Greece (395-6 CE) and then Italy (400-3CE), but was checked on each occasions by the Roman general Stilicho (365-418 CE). He invaded Italy again in 408 and in 410 and captured Rome.

144 K. M. Panikkar, *op.cit*. p.3.

Portuguese carried on at a later time was practically in the same commodities as those the Romans carried out with Malabar in ancient times.

As the Malabar Coast had trade relations with the Arabian countries, the early caliphs fixed their eyes on India as the legitimate field for the propagation of 'faith'. The enthusiasm shown by the Muslim merchants from Arabia and the religious fervour of the caliphs helped spread Islam in Malabar during the days of the pious caliphate.

There is also a view that Islam made its way to Kerala during the 8th century. In the District Gazetteers of Ernakulam, Quilon, and Kozhikode, Prof. Sreedhara Menon point out that Islam made its way to Kerala during the 8th century.[145] It is assumed that the first batch of Muslims reached Kerala as early as 712. A.D. The Muslims respected the customs and usages of the country and maintained the most cordial relations with the native population. They also built mosques and gradually converted to Islam. The coastal regions of Malabar turned out to be fertile ground for the new faith. Dr. C.K. Kareem also agrees with this view when he says that during the 7th century A.D., Prophet Muhammed came to Kerala.[146]

The popular view about the introduction and spread of Islam in the early period is related to the conversion of *Cheraman Perumal*, the last Chera emperor, to Islam. *Cheraman Perumal* is the eponymous hero of nearly every Malabar tradition.

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[145] Sreedhara Menon. A., *Ernakulam Gazatteer*. Kerala Gazeteers, Thiruvananthapuram, 1965, pp. 260-261.

[146] Kareem.C.K, *What happened in Indian History,* Paico Publishing House, Cochin ,1971, p. 1l .

No discussion on the advent of Islam in Kerala is complete without reference to the *Cheraman Perumal* tradition which is a live tradition in Kerala history.[147]

Zamorin ordered Hindu fishermen to convert one or two of the male members of the family to Islam to fortify the Royal Navy under Arab training.

This helped in the large-scale conversion of the fishermen community now known as *'Poosalan',* evidently, a corruption of *'Pudu Islam* (New Islam) and enabled an adequate supply of manpower to crew his navy and sea-trade as Hindus left such 'vulgar' professions[148] either to the lower caste or to the foreigners.[149] The practice continued, and it was not uncommon to find *Mukkuvan* boys being trained in Quran and Muslims and Hindus living in the same house.[150] These large houses were seen in the coastal areas of Ponnani during that time.

In terms of population distribution, Muslims were settled in every port, with the majority living in north Kerala, especially in Calicut and other coastal towns like Chaliyam, Parappanangadi, Tanur and Ponnani. [151] Gradually developed two cities, Calicut and Ponnani, with a majority of the Muslim population under the influence of *Zamorin*. The flourishing condition of the Muslim settlements was directly

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147 Charles Alexander Innes, *Malabar,* Kerala Council for Historical Research, Trivandrum, 1951, p.38.

148 *'Vulgar professions' - Hindus of higher castes considered sea trade and naval offices as vulgar professions not suitable to their dignity.*

149 Narayanan M.G.S. *The Cultural Symbiosis in Kerala,* Kerala Historical Society, Trivandrum, 1972, p.33.

150 Nafis Ahamed Siddiqui, *Population geography of Muslims of India,* S. Chand Publications, New Delhi, 1976, p.174.

151 Stephen Frederic Dale, *The Mappilas o f Malabar (1498-1 922),* Islamic Society on the South Asian Frontier, London, 1980, p.28.

attributable to their economic role as merchants. They were dependent on commerce as a major source of their income.

The role of the Ali Raja family, which established itself as a kind of city-state dynasty in Cannanore city, is said to have originated from an important *'Nair family,* which was converted to Islam sometime in the 11th century A.D, is an important factor. As a result of this close alliance, many Muhammadan traders were attracted to Calicut by the freedom of trade they enjoyed there.[152]

Mappila trade had its roots in Arab links of the coastal towns of Malabar. From time immemorial, Arabs established a settlement at Calicut, which developed as a great port and trading centre of the medieval world. The Arabs made Calicut their home, assisting the *Zamorin* and drawing his support for commercial expansion.[153] Their progeny, the *Mappilas,* became the agents of the Arabs. The Muslim community, as stated above, was confined to coastal towns. Their leadership was in the hands of the Arab merchant princes who had established themselves at Calicut and Cannanore.[154]Their influence was mainly with the rulers of these two states, whose property depended mostly on the export trade of pepper and spices. Malabar Coast had the thickest forest, canals, rivers, backwaters, natural harbour etc.

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[152] W. Logan, *Malabar Manual, Vol. I,* in P.J. Cherian(Ed), Kerala Gazeteers Department, Thiruvananthapuram, 1887, p.292.

[153] Ashwin Das Gupta. *Malabar in Asian Trade. (1740-1800*), Cambridge University Press, London, 1967, p.5.

[154] K.M. Panickar. A *Historv of Kerala 1498-1801*, Annamalainagar, Annamalai University, 1960, p. 15.

These natural facilities for anchoring ships attracted Arab traders from ancient times.[155]

Calicut had risen to great prominence by the beginning of the 14th century, chiefly because of the preference for the port by the Muslim merchants. The phenomenal growth of Calicut by the time of the Moroccan traveller Ibn Battuta's visit (1342-1347 CE) made it one of the most prosperous towns on the Malabar Coast. Abdur-Razzaq, the Persian ambassador to the Court of the *Zamorin,* who visited Calicut in 1442, described the city thus: "Security and justice are so firmly established in this city that the most wealthy merchants bring towards that place from maritime countries, considerable cargos which they unload and unhesitatingly send into the markets and bazaars, without thinking at the meantime of any necessity of checking account or keeping watch over the goods. The officers of the custom house take it upon themselves the charge of looking after the merchandise, over which they keep watch night and day when a sale is affected, they levy a duty on the goods of one-fortieth part; if they are not sold, and they make no change whatsoever".[156]

Muslim settlements in Malabar are found on the banks of the navigable river, at its mouth, or the confluence with the backwater. The earliest Muslim colonies were believed to be near the head of the navigable portion of the Valarpattanam River.

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[155] V.I. Subramoniam, *Dravidian Encyclopaedia, Vol I,* International School of Dravidian Linguistics, Thiruvananthapuram, 1990. p.478.

[156] Major R H (Ed.), *India in the Fifteenth Century,* Deep Publications, New Delhi,1974, p.11

In 1498 CE, Vasco da Gama, with his team of Portuguese traders and Catholic Christian missionaries, dropped anchor off at Pantalayani in Calicut. Contrary to their expectations, they found an extremely unfavourable environment in Malabar. An apparent reason for this was that the Arabs had already taken the Hindu kings of Malabar by themselves into their confidence. Not only had they established a firm and long-standing foothold there, but many of the descendants of the Arabs and the newly converted Muslims were in the service of these Rajas. In this context, it is highly significant to mention the powerful positions of the Kunjalis, who were the *Zamorin*'s naval fleet captains.

The Portuguese could not tolerate the prevailing circumstances anymore. They tried their best to create intrigues, distrust and rift between the Rajas and Kunjalis, intended to weaken the Arab ·influence and their trade monopoly in the Malabar region.

Malabar was the most important zone in the maritime trade. In touch with the outer world since antiquity, it became an eyesore for Pliny, who complained this zone that India was draining the Roman Empire of precious metals with her grass and roots. Pliny calculated an annual drain of 100 million to India alone. Similar sentiments were repeated by Wassaf, "....since the days of Adam till the present, there has been a country to which people export gold, silver, commodities and curiosities and from which in exchange they bring away only thorns, dregs, dust,

pebbles and various aromatics roots, from which money has never been sent to any place for the purchase of goods." [157]

Malabar was traditionally known for its supply of spices, especially pepper.

The prosperity of the Roman Empire and its insatiable demand for spices made Malabar is a favourite destination of foreign merchants. An intense struggle to control the supplies of Malabar ensued between the Sassanids (Persians) and the Romans.

The emergence of the Islamic caliphate once again generated a huge demand for Indian spices in west Asia. Victories of the Islamic armies extended the caliphate's influence in Asia and Africa. It heralded the era of Pan Islamic. It was represented by general prosperity and the extension of trade. Muslim armies plundered enormous treasures in Africa and Asia and circulated them for the expanding Asian markets. Cities proliferated. Products of the distant world were brought for the caliph and Muslim gentry. This 'country of pepper', as designated by the Arab geographers, gained a lot from such a scenario. Malabar was also called 'the country of pepper' by the Arabs.[158] Ports of Malabar soon acquired a cosmopolitan character. They attracted extensive Diasporas of foreign nationals professing different religions. Earlier it had come into contact with Christianity when Saint Thomas arrived in south India around the first century. After the twelfth century, it gained more importance because it emerged as the single trans-shipment

[157] Henry Miers Elliot and J. Dowson, *The History of India as Told by its Own Historians Vol. III*, Nabu Press, Allahabad, 1964, p. 30.

[158] Muhammad Zaki, *Arab Accounts of India During the Fourteenth Century,* Idarah –I Adabiyat, SDelhi, 1981, p.75.

zone for vessels trading in the Indian Ocean. There is some evidence that sailing was done from the Persian Gulf to China before the eleventh century, but sources point to the absence of such a phenomenon in the period under study.

Junks sailed up to Quilon and Wassaf writes about their vastness.[159] *Dhows* were confined to the western sector of the Indian Ocean. This trend encouraged large settlement of traders in Malabar. Duarte Barbosa records the presence of the Gujaratis, Arabs, Persians and Dakhnis, known as *Pardesis* in Malabar. According to his testimony, the foreigners were provided with their own controllers and governors to regulate their affairs.[160] Malabar was dotted with several small and big ports of national and international fame. Throughout the medieval period, the ports of Malabar nurtured internal rivalry for supremacy in attracting the inflow of maritime trade. The struggle to emerge as a single trading emporium was mainly confined to two crucial ports, namely Quilon and Calicut. The prosperity of these two constrained Ibn Battuta to compare them with the magnificent port of Alexandria.[161] Therefore, we would study Malabar's multi-dimensional trade, with special reference to these two ports, to locate its trading emporium.

Ruled by a Hindu ruler designated as *Zamorin,* Calicut emerged as a rich, prosperous and populated port. It was extremely famous in the Indian Ocean trading world. In 1498 AD, the great sailor Ibn Majid brought the Portuguese, in search of Indian pepper, to Calicut. Increased maritime activities after the eleventh century

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159 H.M. Elliot and J. Dowson, *op.cit*, p.32.

160 Mansel Longworth Dames, *The Book of Duarte Barbosa- An Account of the Countries* Bordering on the Indian Ocean *Vol. II,* The Hakluyth Society, London, 1821, p. 76.

161 H.A.R Gibb and C.F Beckingham (trans.), *op.cit,* p. 19.

attracted a considerable number of merchants to Malabar. Muslim diaspora from Gujarat and western Asia moved towards Malabar. The arrival of these Diasporas strengthened the contacts of Calicut with other trading zones of the Indian Ocean. The Chinese also made Malabar their farthest destination in the Indian Ocean. They normally terminated their voyage in Calicut. The availability of Chinese commodities, silk and porcelain, was an added advantage. Porcelain and silk were in massive demand throughout India, western Asia and Africa.

Trading activities in Calicut, however, remained in the hands of Muslim merchants. They almost monopolised its foreign trade. They even threatened the *Samuri* that they would leave the port if the Portuguese were allowed to trade in Calicut around 1498 AD. The threat was serious enough to force the Samuri to turn hostile towards the foreigners (the Portuguese). Duarte Barbosa informs us that the Gujaratis (Muslims) owned the best houses in Calicut.[162] Calicut developed with the active participation of the ruling class. As mentioned earlier, the rulers granted autonomy to merchants. They (merchants) had their *shahbandar,* who regulated their internal affairs. The merchants were promised the security of their lives and goods. The duties were moderate. Abdur Razzaq records: "Security and justice are so firmly established in this city (Calicut) that most wealthy merchants bring thither from maritime countries considerable cargoes, which they unload, and unhesitatingly send, into the markets and bazaars, without thinking in the meantime of any necessity of checking the account or of keeping watch over the goods. The custom-house officers take upon themselves the charge of looking after the

[162] Duarte Barbosa, *op.cit,* p. 73.

merchandise, over which they watch day and night. When a sale is affected, they levy a duty on the goods of one-fortieth part; if they are not sold, they make no charge whatsoever."[163]

Ibn Battuta describes that in Malabar, it is a custom that whenever a ship was destroyed, whatsoever was saved from it went to the treasury. But, this practice was not followed in the town of Calicut[164]. The merchandise went back to the true owner. The maritime trade benefitted the *Samuri,* and Duarte Barbosa adds that the merchants from Calicut returned with even more foreign nationals who were quickly given shelter.[165] With this consideration, the Portuguese were also given a warm welcome as traders. With better deals to offer, the port of Calicut succeeded in attracting the maritime flow. It emerged not only as an exporter but also as an important intermediary. Precious commodities brought from all quarters of the world were available in Calicut. It fulfilled the demand for both luxuries and staples. Even costly products from Abyssinia, Zirbad and Zanguebar were available here.

Malabar being a producer of unique products of high foreign demand, has been an integral part of the Indian Ocean trade circuit right from the time of ancient Rome. The luxury trade, prioritising products such as pepper, cardamom, and sandalwood, has attracted foreign traders like the Greeks, Chinese and Arabs etc. If India is regarded as the land of spices, Kerala is the spice garden. Kerala is one of the major producers of certain varieties of spices worldwide, especially pepper and

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163 Abd-ur Razzaq, , *Matla ul-Sadain***,** M. Shafi, (Ed)., Lahore, 1941-49, p. 14.

164 Ibn Battuta, *op.cit,* p. 192.

165 Duarte Barbosa, *op.cit,* p. 77.

cardamom. So far as the export of spices from Kerala is concerned; pepper, cardamom, ginger and turmeric are the most prominent items. Kerala was famous for the cultivation of spices even during the medieval period.

The country of Malabar was known as the mother of pepper. It was the principal article of trade from Malabar. Nature provided good conditions for growing the best quality pepper in North Malabar.[166] Pepper was the major exporting item consumed throughout India, west Asia and Europe. The Kolathunad pepper had high value in Chinese markets as well.[167] Along with the pepper, Malabar produced turmeric, which was grown in the hinterlands of this country exceedingly abundantly.

Like pepper, the local traders conducted trade in cinnamon. The best quality of cinnamon known in Europe as caffia lignea[168] grew abundantly in Malabar, especially in Cannanore.[169] In the sixteenth century, cinnamon was a restricted item to local merchants. But gradually, the restriction upon them cleared, and it was considered a part of the royal monopoly in the seventeenth century.[170]

Several kinds of cardamom were found in different parts of India, and their distinct characteristics have not been sufficiently observed. Various grew in the territories of Cochin, Calicut and Cannanore. Two different species of this plant are

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166 Jacob Canteer Visscher, *Letters from Malabar,* Gantz Brothers, Madras, 1862. pp. 153-54

167 Genevieve Bouchon, *op.cit,* p.20.

168 Abbe Raynal, *op.cit,* p. 438.

169 *ibid.*

170 Afzal Ahmed, *Indo-Portuguese Trade in Seventeenth Century (1600-1663),* Gian Publishing House, New Delhi, 1991, p. 110.

found here, one in Cochin or south Malabar and the other generally known as Cannanore Cardamom, in the kingdom of Kolathiri. Cannanore cardamom is rounder in shape, smaller, tastier and more esteemed.[171] Its price had risen annually, as it had more demand in Europe. The demand for cardamom yielded more profit for the farmer than pepper in Cannanore. This plant was indigenous to specific districts and could not be grown elsewhere.[172] Cardamom and wild cinnamon had a good export market in west Asia. Medicinal plants were also exported from the Malabar region.

Islam reached Malabar through a much earlier established conduit of trade, with merchants from the Persian Gulf, south Arabia, and the Red Sea playing a pivotal role, which, subsequently, also brought the Hadrami Sayyids to the Malabar soil, who wield religious and political leadership in the local community of Moplah Muslims who descended from the Arab merchants.

Trade in the medieval period, like any other time, was based on one consideration: profits. Merchants crossed seas with different types of ships and undertook tremendous risks to earn profits. If a specific port promised them better facilities, they could be easily lured into it. Better facilities could easily double their returns with low risks.

Political patronage was an essential priority in developing a trading emporium. The ruling elites could only ensure the security and neutrality of the ports.

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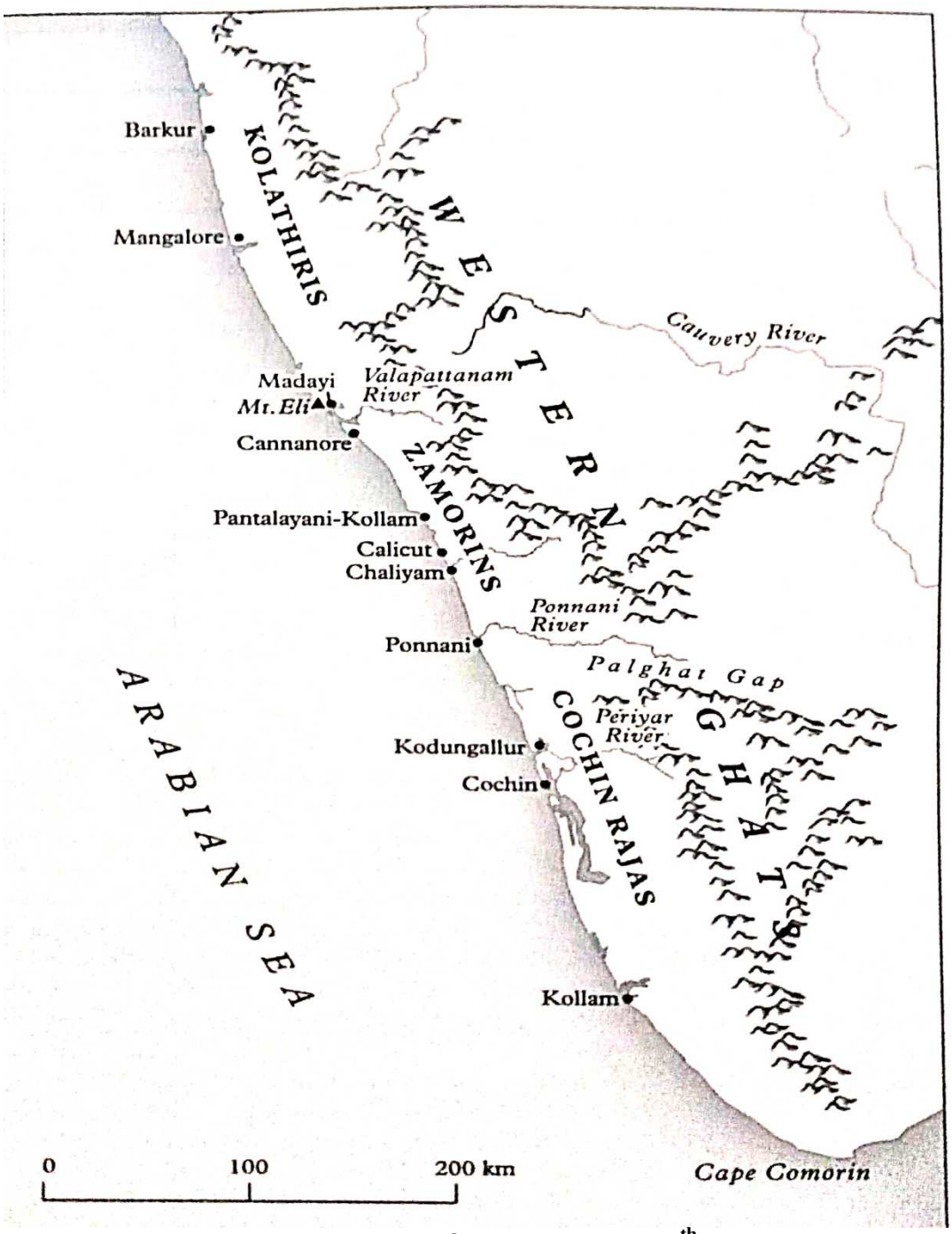
171 Abbe Raynal, *op.cit*, p. 14

172 *ibid*, p.157.

Geographic suitability was the next factor. The chief trading emporium should be ideally located. It must promise deep harbours. It must be well connected with its hinterlands. Navigation should not be a dangerous enterprise.

The availability of profitable markets was another characteristic of chief trading emporiums. Foreign merchants were bound by the monsoon circle. They had limited time at hand. They preferred to visit ports specialising in a vast range of products. Ports that were well connected with their hinterlands thus had an added advantage.

Strong and autonomous mercantile organisations were also important. Merchants preferred to visit ports where mercantile organisations were offered autonomy. The presence of commercial organisations promised security and better deal in local markets.



Important trading ports of Malabar in the 15th Century

(Sebastian R. Prange, *Monsoon Islam: Trade and faith on the Medieval Malabar Coast*, p.36)

CHAPTER III

SOCIETY AND LABOUR - THE SHIPBUILDING OF MALABAR

In early times, people used sea voyages for short and long-distance relations. For this type of sea relations, men invented sea vessels according to their ability. The ancient man started voyages by making crafts by tying wooden pieces. Some ports and shipbuilding centres emerged in the early period. The Bible references the technology of making sea-borne vessels; God created a flood during Noah's period and asked him to make an ark to escape from it. God said to Noah, "I will surely destroy both them and earth. So make yourself an ark of cypress wood; make rooms in it and coat it with pitch inside and out. This is how you are to build it. The ark is to be three hundred cubits long, fifty cubits wide and thirty cubits high. Make a roof for it, leaving below the roof an opening one cubit high all around. Put a door in the side of the ark and make lower, middle and upper decks".[1] Thus we get the earliest reference to making water vessels for sea travel.

What Kerala had learned about making water vessels is clear from the pages of the Periplus, which states that Malabar was capable of making native ships. Hundreds of domestic ships are reported to have anchored at Muciri.[2] Trade relations with foreigners helped develop shipbuilding in the port areas. The

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1 *Holy Bible* (Malayalam translation), C.R.L. Society, Edamattam, 1993, p.7.

2 V.H. Dirar, "Beypoorile Uru nirmanam", T.T. Sreekumar(Ed), *Kadalarivukal*, D.C Books, Kottayam, 2004, p.60.

availability of wood and expert architects and labourers played an important role in making Kerala a prominent shipbuilding centre. Yachts and boats like *Pathemaris, Manchu, Odam, Odi, kettuvallam, chundanvallam, Terappam, Vanchi etc*., were made here. [3] Arab travellers like Abu Said have attested to Kerala's relations with Arabia and the shipbuilding techniques. “Oman Arabs went to the land of coconut with the carpenter’s toolbox and then they cut the coconut trees at first and made them dry. The dried ones were made into planks. Ropes were made from fibres used to tie the planks to make *Urus*. Masts were also made from the same tree. After the boat was ready, coconuts were dumped into it and they started back to Oman. They got high profit in this trade”.[4]

Malabar's shipbuilding tradition and the prosperous maritime trade have always attracted travellers from the outside. The famous traveller Al Baruni mentions the shipbuilding of Kozhikode. *Kottia, Pathemari, Sambook, Donki, Bahala, Toothukudi, Mangalore Padav etc*., were the local names of ships built in Kerala.[5] Beypore and Feroke were the major shipbuilding centres of Calicut. Beypore was a landmark in the sea trade of the olden days and from where hundreds of *Urus*, huge wooden sailing vessels, sailed out. These wooden vessels had great demand from foreigners, especially the Arabs, who were its major consumers.

There is a close relationship between Beypore in Calicut and shipbuilding. It

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[3] K.M. Bahavuddin, “Kozhikkotte Kappal Nirmanam” in *Kerala Muslimkal: Cheruthunilpinte Charitram*, Islamic Publishing House, Calicut, 1995, p.270.

[4] K. M. Muhammed, *Arabhi Sahityathinu Keralathinta Sambavana,* Ashrafi Books, Calicut,2005, p.11.

[5] K.M. Bahavuddin, *op.cit,* p.270.

is said that the glory of Beypore as a centre of shipbuilding – *Urus (Dhows*), *Pathemaris* (cargo ships) and sails (Yachts) – was known to the world as early as 1000 BC, and it is believed that *Ophir*, the famous centre of the shipbuilding, was Beypore.[6] Various types of *Urus* like *Boom, Sambook, Brigg' Safeena* and *Machwa*– called *Paikappal* in Malayalam and *Safeena* and *Dhow* in Arabic – were built here.[7] These were small wooden ships used for coastal trade in the Gulf. The *Urus* were cherished possession for the Arabs.[8] The *Boom* was the favourite of the Arabs. *Sambook* was suitable for fishing and transportation. And *Brigg* has got an arch-shaped *Amaram*.[9] *Urus* built at Beypore crossed the Arabian Sea and reached the Middle East, where they were fitted with engines and re-launched in the waters for sea-borne trade. They are common in Bahrain, Kuwait, Muscat and Arabian ports today.[10]

The most remarkable feature of the wooden shipbuilding at Malabar is its reliance on the traditional technique of craftsmanship. The *Maistiries* do not depend on external knowledge or refer to any literature for their work.[11] Their skill is

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6 *Holy Bible (Malayalam Translation), C R L Society, Edamattam, 1993, p.532.*

7 V.H. Dirar, *op.cit*, p.63.

8 K.V. Kunhammed, "Malabar Machwas", in M.G.S. Narayanan (Ed), *Malabar Mahotsav Sovenir*, Calicut, 1994, p.173.

9 V.H. Dirar, *op.cit*, p.65.

10 K.V. Kunhammed, *op.cit*, p.173.

11 *Yukti Kalpataru* is a traditional text on shipbuilding. The text covers many topics and the subject of shipbuilding is elaborated only in one chapter entitled "Nishpadyanoddesa" (wheel-less vehicles). The chapter refers to appropriate seasons for shipbuilding, wood used for its construction, use of Iron (anchor) in sea-going vessels, classification of ships, names and measurements, two types of special (*visesha*) ships, painting and decoration of ships, three types of ships with cabin, characteristics of royal ships, despicable water vessels (*Jaghanya Jalayanani*), etc. The

entirely native in origin, essentially traditional orientation and unparalleled in history. The entire process of designing and mathematical calculations is in connection with shipbuilding are done in mind and were never rented in the form of sketch or blue print. Even in this age of technological boom, they consciously resist the application of modern technology in its construction. This factor adds an element of mystery to the art of *Uru* making, and it continues to wonder outsiders because the whole process proceeds with a little noticeable mistake. Everything is finished perfectly.

The word *'Kalam Cheykammiyar'* in Tamil denotes the workers involved in shipbuilding. The Tamil literature explained different type of ships[12], workers of ship[13], ship builders[14], captains[15], mast[16] and rope of ship[17], iron pin of ship[18] etc. Lines from 121 to 126 of the *Manimekalai* song 25th refer the ship building workers, the oceanic travelling and the story of the voyages.

Kalanjey kammiyarvaruka enaku uy

Elanguneerppunari erikarai eythi

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time for shipbuilding is when Mars is in the sixth house from Capricorn (Midhunam) and the launching shall be when the sun enters Dhanista asterism in *Kumbham*. See, S R Sarma, "The Sources and Authorship of the Yukti Kalpataru" in *Aligarh Journal of Oriental Studies Vol III No.1*, Viveka Publications, Aligarh, 1986, pp.4-20. Surprisingly, the *Maistiries* of Malabar are quite unaware of this most famous work.

12 *Vangam, Kalam.*

13 *KalanjeyKammiyar.*

14 *Kalam Punar Kammiyar.*

15 *Muthalmuriyavingar.*

16 *Mayangakal.*

17 *Kayirukal.*

18 *pariyavayiru.*

Vangam arinan mani pallavathidaith[19]

(ക്കലഞ്ഞെയ്ക്കമ്മിയർവരുക എനകൂ ഉയ്

ഇലങ്കുനീർപ്പുന്നരി എറി കരൈഎയ്ക്കി

വങ്കം ഏരിനൻ മനിപല്ലവത്തിറ്റൈത്)

Line 70th of the 7th portion of Manimekalai refers the word Kalanjey Kammiyar denotes workers and Kalam Punar Kammiyar point the builders of the ships[20]. Lines 28 and 29 of the 4th portion of the Manimekalai speaks Captain sitting on the upper portion of the ship.

muthalmuriyavingapiniyaviythu

Kayirukalpariyavayirupaipattanga

Ethaychithaitharppaththiraiporumunnir

Eyangathichaiariyathiyanganumodi

Mayangakaleduthavangam pole[21]

(മുതല്മുരിയവിങ്ങപിനിയവിയ്ത്തു

കയിരുകല്പരിയവയിരുപൈപട്ടങ്ങ

എതയ്ചിതൈതർപ്പത്തിരിപോരുമുന്നിർ

ഏയങ്ങതിചൈഅരിയതിയങ്ങനുമൊദി

മയങ്കകാൽ എടുത്ത വങ്കം പോലെ)

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19 P Janardhanan Pilla, *Manimekalai(Malayalam Translation*), in V R Parameswaran Pilla (Ed), Kerala Sahithya Accadamy, Trissur, 1961, p.452.

20 *ibid*, p.156.

21 *ibid*, p.94.

Urukeyumithur

Miyannadunganaduvunintonkiya[22]

(ഊരുകെയുമിതുർ

മിയന്നാടുങ്ങനടുവുനിന്റൊന്ക്കിയ)

Workers of various types were engaged in different stages of shipbuilding. They included carpenters, blacksmiths, painters, caulking workers and unskilled labourers. The workers are under the direct supervision of *'Maistiries'*. They are engineers in the field, well-versed in building sea-going vessels. All calculations ranging from the specifications of the vessels to their floating capacity and speed would be at their fingertips. They require no charts or sketches. Hereditary Maistiries learn everything required in verse form. Each stanza gives exact specifications. The customers who give orders are eager to know which Maistiry would build their vessels. Beypore-built vessels were also known to have been in Lord Nelson's Armada.[23]

Many Muslim families in Malabar are the contractors of *Uru* making. Firstly they collected raw materials to make a wooden ship, such as wood, nails, coir, fish oils, *charuvi* or anchor etc. Then they arranged the site, the workers and other facilities for the same. Although the builders of Urus were Muslims, the main architects belonged to Hindu families.[24]

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22 *ibid*, p.93.

23 K.V. Kunhammed, "Malabar Machwas", in M.G.S. Narayanan (Ed), *Malabar Mahotsav Sovenir*, Calicut, 1994, p.173.

24 Parappil Mammad Koya, *Kozhikkotte Muslimkalude Charitram*, Focus Publications, Calicut, 1994, p.81.

Timbers are the main raw material of *Uru* making, collected from the forests of Malabar, mainly Nilambur and Wayanad. The forests of South Wayanad and Nilambur produced immense quantities of magnificent timber. Contractors cut timber from marked boundaries in older days when the Nilambur and Wayanad rajas were the forest owners. The contractors, called Timber merchants, employed woodcutters from the countryside on daily wages. These woodcutters moved to deep interior forests and cut woods. The next stage was transportation. *Elu* (track) was prepared for this purpose, along which elephants dragged through big logs until they reached the *marelu* (wood track), where either man could drag them to water with the help of buffaloes or bullocks; often the big logs were dragged to water by elephants. Road transport required more expensive than floating timbers on the river because it needed loading and unloading workers. They reached ship-building areas like Beypore and mainly floated through the Chaliyar or Beypore river. Comparatively low-cost river transportation became the backbone of the wood industries of Calicut. The river is navigable for timber logs from June to January. It is very easy that a single man can manage the largest raft.[25] Several logs are tied together with hundreds of dry bamboo so that they may float. Such a structure was called "*Therappam"*. *Therappams* were prepared smaller in size with a lesser number of logs which, however, required more manual labour in the lower reaches; two or more such smaller *therappam,* were joined together and required lesser labour. It took two or three days for a *therappam* to reach the mills or building yards from the starting point (Nilambur to Beypore); large quantities of *therappams* were

[25] A Sreedhara Menon, *Kerala district Gazatteers: Kozhikode*, Superintendent of Government press, Trivandrum, 1962, p.338.

reached at Beypore through Chaliyar and these timbers were exported to a different part of the world.[26] From old age, the wood products and timber were exported to India and foreign countries through Beypore *Uru* ways. Each *Uru* can carry 250-300 tons of wood products.

Beypore had second place in the wood industry of Calicut after Kallai. During the 19th century and early 20th century, the Chaliyar River was extensively used as waterways for carrying timber from the forest areas in and around Nilambur to carious mills in Kallai, Beypore and Feroke of the Calicut city. Rafts made of logs were taken downstream during the monsoon season to Kallai and other coastal banks of Calicut city. The Kalllai River is connected with the Chaliyar River with a constructed canal. However, Chaliyar played a significant role in the development of the wood industries of Beypore; Chaliyam and Feroke became the depot of timber during this period. The peculiar topography of the country that made its rivers flow from the high ranges toward the west to the sea facilitated the exploitation of timber resources relatively easily and cheaply. The streams and Chaliyar offered easy timber transport to commercial centres like Beypore and kallai. Teak timbers formed greater demand due to their good qualities; by using water transport, the British exploited Malabar's forest resources.

Malabar became famous for its wood industries. The Malabar District Gazetteer observes it as “the forest that clothes the western ghats from head to foot and covers a greater part of the Wayanad plateau, besides making Calicut one of the

[26] V. Kunhali, *Timber Industry Related to Ship Building in Kerala: History of Traditional Navigation*, in G. Victor Rajamanikkam (Ed) Tanjavur, 1998, p.159.

most important timber mart in India, with the support of thousands of carpenters, sawyers and woodcutters and their numerous progeny.[27] A feature of the wood industry in the Calicut district is the concentration of the units in and around Kallai. Its localisation here is pre-eminently beneficial to the industry as water, rail, and road transport facilities are easily available. Kallai became the second-largest timber yard on the world map. In 1903, Innes observed: "in the season, the river at Kallai is a wonderful sight. The water is scarcely visible for the thousands of logs floating on its surface. The logs are left in the water until they are sold and eventually, they are exported by the sea' and rail to Bombay, madras, Kolar and other parts of India.''[28] This shows the growing demand for timber from India and foreigners from the early medieval period onwards. *Teak (Tectoniagr andis), veeti (Dalbergialatifolia), karimarudu (Terminaliatomentosa) Ainipilav/Anjil (Artocarpushisuta*) etc., were the chief timbers from the Malabar forests. These hardwoods catch wide dem and. Most of these woods were mainly used for house construction, sleepers for railway line construction, bodies for ships and boats, reapers etc. The strength and durability of the teak were very well. However, large quantities of natural resources and easy transportation facilities made Calicut the centre of shipbuilding and capture a better place in the world map of trade. The global traveller IbnBatuta (AD1342-47) notes: "We came next to Calicut city, one of the great ports of the district of Malabar and in which merchants of all parts are found''.[28] The Arabians, who traded with *Zamorin* of Calicut, wanted wood instead of gold. In 1804, British Malabar

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[27] A Sreedhara Menon, *op.cit*, p.335.

[28] Venu, *District Handbook of Kerala: Kozhikode,* Dept: of Information and Public Relation, Government of Kerala, Trivandrum, 2003, p.7.

forwarded the list of timber sent to the mill and the request for the timbers and planks for warships to the Principal collector of Malabar.[29]

Moopans were the most noted persons and leaders who supervised the whole activity of the labourers to guard the woods under each *Moopan.* There will be tenor twenty labourers under each *Moopan.* The strength of Wood labourers is the old technology they use in addition to their dexterity (the strength of their hand or muscle power). Their main instrument is ropes. For the loading of timber, they tied ropes in two ends of logs and carried them with their shoulders. This method is locally called '*Vanthanikkedupp'*. They used to sing particular couplets while they were engaged in their work. One person will chant these lines of the song loudly and other group members will repeat those lines in the chorus. The recitation is intended to reduce the burden of their work. The song begins by praising God. The song reflects different occasions related to their social life. Although it lacks poetic quality, it has a harmonious rhythm and musical tone that appeal to the heart.

Traditional Songs in *Vanthanikkedupp*[30]

Aala…mbe…….

Kerala Daivam… Alaisa……

Daiva Sahayam…Alaisa…….

Daiva Sahayam…Alaisa…….

Devi Sahayam…Alaisa…….

[29] Malabar Collectorate Records, Calicut Archives, G.No- 20525, Sl. No- 2160, Vol-49-51.

[30] *Interview*, Muhammed Moopan, Kallai, April 24, 2017.

Nangalkund…Alayya…….

Nangale Yanjanam…Alayya…….

Adipavangalalle…Alayya…….

Enthoru Kash….Alaisa…….

A… Kashinte Ponne…Alaisa…….

A….Thokinte Kathi…Alaisa…….

Thokila Lama…..Alaisa…….

Ramavathakk…..Alaisa…….

Ath Kovalam Kand….Alaisa…….

Adi Thekkvadakk….Alayya…….

A…. Kovalam Kando…Alayya…….

Edi Nangale Kando……Alaisa…….

Nammude Pad……Aelelayya…..

Employing around 2000 carpenters and other skilled workers, the Malabar Uru-making shipyard produced as many as 20 vessels annually. These vessels having a carrying capacity of nearly 700 tones to 1300 tones had played a crucial role in the business activities of the West Asian countries in the olden days. The vessels made from Calicut will survive for about 60-75 years.

In the past, logs were also exported to repair the damaged parts of old Urus built and exported. As export of teak is totally banned now, *Urus* that needed repairs has been towed to Malabar Coast. *Urus,* which needed repairs, also was towed to Beypore.

According to the traditional *Maistiries* of Beypore, *Uru* making technology of Malabar dates 1300 years back. However, no historical evidence supports this argument except the oral sources. There is a legend about *Cheraman Perumal*, the last king of the Chera dynasty, who embraced Islam, that he sailed to Mecca in a ship built at Beypore.[31] When *Perumal* reached Mecca, the Arabs were attracted by the beauty and strength of the *Uru* he had travelled, and Beypore began to get orders for ships from Arabian countries after that. It is believed that the *Uru* for his journey was built at Karuvanthuruthi, a place in the eastern shore of Beypore, under the supervision of the expert architect, Pachu of the *Edathum Padikkal* family. A hymn that the family remembers contains the memories of the event but taboo imposed by custom does not allow them to reveal the hymns to outsiders, which however contains 21 lines and deals with the story of *Cheraman Perumal's* voyage and its connection with the *Edathum Padikkal* family. The songs sung by the *Edathum Padikkal* family still cherish this tradition.[32]

Sea-going vessels were used to be made by native carpenters under the guidance of expert *Maistiries* brought from Gujarat by Gujarathi traders. These *Maistiries* were known as '*Kaithars'*. Some *Maistiries* argued that experts in building sea vessels were rare in Beypore in the ancient period. It is also said that those carpenters who worked under *Kaithars* later became experts in making different types of sea vessels. [33]

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[31] Parappil Mammad Koya, *op.cit*, p.79.

[32] *ibid.*

[33] *Chitta- Samskarathe Aduthariyukha*, Block Resource Centre, Calicut, 2011, p.44.

Lakshadweep also has a tradition of building wooden ships called '*Odam'*. While *Urus* made in Malabar is used for trade and tourism, the Islanders' *Odam* is mainly used to contact the mainland and bring goods from there.[34] If the owners of *Urus* made in Malabar are foreigners, the *Odams* of Lakshadweep were owned by rich local people known as '*Kevi'*. *Odams* were the proud possessions of the Islanders.[35]

Farmer, the English East India Company representative, has written some notes related to Calicut. Farmer sent a recommendation letter to Bombay's government requesting consent and financial aid to Alexander Maquency to start a Sawmill at Beypore. In 1794 they got machines and financial aid for it. But the project of Maquency failed, and as a result, the East India Company gave permission to private merchants, and thus the woods of Malabar, especially teak woods, were ploughed to Bombay. It shows that the Malabar woods, especially teak were in great demand then.[36]

According to Captain Iwata, founder of the association of Sumerian ships in Japan, Sumerian ships might have been built in Beypore. There is evidence to prove that Malabar had a direct trade link with Mesopotamia and was a prominent link on the maritime silk route.[37] Captain Iwata came to Calicut to construct a ship that could retrace the fabled silk route. The design was registered in a cuneiform

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[34] N. Koya Haji, *Sagaratheerathe Paitrukam Thedi: Lakshwadeepinte Charitravum Samskaravum*, Current Books, Kottayam, 2007, p.17.

[35] *ibid*, p.25.

[36] V.H. Dirar, *op cit*, p.65.

[37] Parappil Mammed Koya, *op cit*, pp. 82 - 83.

Sumerian tablet kept at the Louvre museum.[38] The 300-tonner ship made fully in wood was a technical feat indeed. The ship was named Ki-en-gi, which in Sumerian means 'the land of the master of reeds'.

So many construction companies were functioning in the field of Uru building. These companies got a contract from wealthy foreign merchants, especially Arabs, for building Urus.[39] Baramis, P.I. Ahammed Koya and Sons, Al – Basheer, P.N.Hamza Koya and Company, Yusuf Sager and Company, Jiffry and Kareem Company, Bichu and Company and Binafa Enterprises are well-known Uru building companies of Beypore. Among them, Baramis and P.I.Ahammed Koya and Sons have received many awards from central and state governments and southern state trade councils for their contribution to the *Uru* building and export field. Tim Severin, who visited Calicut in 1983, had recorded these two shipbuilding contractors of Beypore in his travelogue called "The Sindbad Voyage".[40]

1. Baramis (Haji Muhammed Barami And Sons)

It is the most famous and expert *Uru* building company in Beypore. They reached Malabar from Yemen as sailors around 1741 A.D. Baramis originally belonged to Mukhalla of Yaman, who came along with the Jiffry family, the missionaries who came to Malabar. Other groups of Baramis settled in Indonesia and Egypt. In Indonesia, the Baramis held high posts in the government. Baramis were also known as *Mukhallans*, following the name of their native place. Baramis

[38] *ibid*, p.83.

[39] Interview, Alikkoya, Beypore, March 16, 2016.

[40] Parppil Mammed Koya, *op cit*, p.83.

engaged in trade with Arabs from generation to generation. They were great timber merchants and Uru (Big boats) owners. Baramis were renowned businessmen who specialised in foreign export business. Tea, pepper and coir were the main items of export to Aden and Muscat.[41] Their expertise in the *Uru* building field as well known in different parts of the world. The construction and voyage of "Vasco da Gama", a ship which Baramis built in March 1980, was a golden chapter in the history of Beypore's *Uru* building. Ziet Krugel and Fred Krugel brothers, who were navy officers of East Germany, happened to know about the expert Baramis and Uru building industry of Calicut. Thus, they came to Beypore in August 1979 and approached Baramis with their demand and as a result of a few months' efforts, a ship was built accordingly to their taste.[42] On March 1980 Krugel brothers started their voyage from Kappad on this ship, which belonged to "*Sambook*" type. They called their ship "Vasco da Gama" to commemorate Gama's arrival in India in 1948. Thus the Krugel brothers became known as the first sailor after 1200 years who sailed along the China Sea through the ancient route of the Persian Gulf and Hong Kong.

The voyage of "Al-Qaseer", a luxury tourist ship Baramis built in 1983, was another important event in the history of Beypore. It was built for the rich Kuwaiti merchant Hussain Murafi. This floating restaurant 'Al-Qaseer' was also called Muhammed II because it was a successor to Muhammed I, a ship built in 1915 by Baramis. Its specialities include a spacious hall that could accommodate 88 persons to sit and dine, a sundeck for taking rest and a tea and coffee saloon for 20 persons.

[41] *ibid.*

[42] Interview, Alikkoya, *op.cit.*

This ship was built in *Boom* type. Baramis, who go ahead with the shipbuilding industry, is now constructing fishing trawlers with a capacity of 100 to 200 tones.

2. Al – Basheer Company

It was Al-Basheer Company which had built a tourist ship in June 1977 for Sheikh Sagarbin-al Qasim, who was the ruler of Rasal Kaima in the U.A.E. The ship's Air-conditioned rooms, a quarter for fishing and well-furnished dining halls were given as a gift to the king by his friend Ibrahim Salim, a prominent industrialist.[43]

Al-Basheer had built a Uru called “Sur” for a German named Lamle. This Uru was built within two months at 9 Lakh rupees. Lamle started his voyage from Beypore to travel around the world.

Another important ship-building enterprise of Al- the Basheer Company was the construction of ‘Kiyengi’, a Uru built in 1992 to a Japan called Akeera Ivatha. He was a navigator in the Michai Line shipbuilding company of Tokyo. He knew about the Uru building tradition of Beypore from the Lube Museum in Paris, where it was displayed in a rock inscription of Mesopotamian civilization. But his intentionto travel around the world ended with the wreckage of his Uru at the China Sea. But his Uru had met with an accident after travelling about 6700 km within 117 days.[44]

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[43] V. Kunhali., *'Maritime Traditions of Medieval Malabar'*, other books, Kerala, 2020, p.24.

[44] Interview, Alikkoya, *op.cit.*

3. P.I. Ahammed Koya and Sons

P.I. Ahammed Koya and Sons have had a tradition of building small and big vessels for the last fifty years. They won many awards and honours for shipbuilding and trade activities. They give special attention to the *Uru* building and likeBaramis had active trade links with Gulf countries.[45]

4. P.N. Hamza Koya and Company

P.N. Hamza Koya and Company have been engaged in trade relations with Arab Gulf countries for the last two decades and they are famous for constructing many cargo vessels.[46]

5. Yousuf Sagar Company

Yousuf Sagar Company enjoyed trade relationships with Arabian countries until the end of the sixties and they had export-import links with European countries.[47]

6. Jiffry and Kareem Company

Like Yousuf Sagar Company, Jiffry and Kareem Company was also a Uru building company which had made contributions and valuable services in the socio-cultural scenario of the Muslims in Calicut. They had very close trade links and export-import dealings with Arab and European countries.[48]

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[45] V. Kunhali., *'Maritime Traditions of Medieval Malabar', op.cit.*

[46] Interview, Bichu, Chairman of Bichu & Company, Beypore, April 20, 2016.

[47] *ibid.*

[48] *ibid.*

7. Bichu and Company

Bichu and company was a novice in the field of Uru building. They secured their place in the history of *Uru* building of Beypore by constructing the biggest one ever built in Beypore. This huge vessel was the first ship from Beypore after a gap of 8 years. In 2012 they exported a new Uru to the Shaikh family of Qatar.[49]

8. Binafa Enterprises

Binafa Enterprises is a well-established and reputed business firm with a tradition of manufacturing and exporting different types of *Urus.* The company can build different types and models of traditional *wooden Dhow (Machuwas*) such as *Boomb, Sambook* etc. The creative minds who moulded and gave shape to the Urus are Achammu Haji, a well-trained and experienced builder with a legendary record of twenty years of service. Abdul Majeed, his son, took over from him and continued the good service him and continued service his father had done. At present, it is Abdul Gafoor, the grandson of Achammu Haji, the chief builder and chairman of Binafa Enterprises.[50]

FUNCTIONAL GROUPS

The traditional *Uru*-making experts belonging to the carpenter caste are called Vishwakarma.[51] The artisans in South India were called *Kammalan* or Vishwa

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[49] *ibid.*

[50] Interview, Abdul Gafoor, chairman of Binafa Enterprises, Beypore, April 20, 2016.

[51] K.K.N. Kurup, *Beypore: Paithruka Kappal Nirmana Kendram*, Centre for Heritage Studies, Tripunithura, 2011, p.50.

Karma. Asari, Musari, Kollan, Tattan and Kallasari were the *Ainkudi Kammalas* of Malabar. *Chaliyas* and *Kushava* communities are in addition to these *Kammala* communities.[52] They also played a prominent role in pre-modern Kerala society, especially in Malabar. The *Tachans or Asaries* were artisans who followed the occupation associated with woodwork. They have engaged the building construction and also professionalised in shipbuilding. The carpenters built the boats claimed by the *Marakkars* in Cannanore and Calicut.[53]

For navigation purposes, *Asaris* constructed different types of boats and ships. They were traditionally called "*Odayees*", a sub-caste carpenter community group. As they were engaged in the construction of '*Odams*', that is, boats, they came to be known as "*Odayees*". They got much respect and recognition in the community and society.[54] According to Shiva Shankaran, this name was bestowed to their ancestors by the *Zamorin* as a title for their expertise in making wooden ships. As the new generation experts do not belong to these traditional castes, they are not known by this title.[55] In the northern Malabar region, they settled inlocations like Kallai, Beypore, Panthalayani Kollam, Calicut and Madayi and the southern region is found in coastal Trivandrum and Kayamkulam. Ludovico di Varthema

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52 L. K. Anantha Krishna Iyer, *Castes and Tribes in Cochin, Vol. I*, Higginbotham & Co., London, 1909, p. 343.

53 Duarte Barbosa, *The Book of Durate Barbosa: An Account of the Countries Bordering on the Indian Ocean and Their Inhabitants*, Manual Longworth Dames (Trans. & ed.), Vol. 2, New Delhi, 1989, p. 97.

54 V.H. Dirar, *op.cit*, p.64.

55 Interview, Shivasankaran, Beypore, April 16, 2015.

praised the work of shipbuilding in Calicut, who did plank even without using oakum, which was unheard of in Europe.[56]

Many families having the tradition of *Uru* building are still found in Malabar. Some such families are *Edathumpadikkal, Vattakakkandathil, Muduvanachalil and Kandamparambil*. But it is important to note that the new generation of these traditional families is least interested in continuing them ancestral heritage. Instead, men from outside, from other carpenter families and non-carpenters, have started developing as new *Maistiries. Edathodi Satyan*, renowned *Maistiry* of Beypore, who is not a carpenter by birth, is a powerful example of this trend.

- **Edathumpadikkal Family**

It is believed that *Zamorin* brought a few families for ship-making from Kodungallur and settled them in and around Calicut. *Edathumpadikkal,* a prominent family of *Uru* making, settled at Vattampoyil, is one among them. *Thamutty Maistiry* was an expert Uru builder of this family. About 52 families belong to the *Edathumpadikkal* lineage, but only two or three families continue the tradition of Uru making today. Shivasankaran, son of *Thamutty Maistiry*, along with his brother Balakrishnan, continues this tradition today. Shivasankaran told about a hymn which revealed that the ship on which *Cheraman Perumal* set out for Mecca was built under his ancestor *Edathumpadikkal Pachu Maistiry*. He said that their family

[56] Joseph.C.C., *Ship building and Navigation in India and the Portuguese during the Sixteenth and seventeenth centuries*., Ph.D (History) Thesis submitted to The University of Pondicherry., 2003., pp.54-55.

received the traditional title and honour from the *Zamorin.* Betel leave and gifts were given to them at the time of launching a ship.[57]

Valappil Chandukutty Maistiry was another prominent figure among them. He obtained his expertise in Uru making from his father, Parangodan and his brother Imbichutty. The family of *Chandukutty Maistiry* later shifted from Vattampoyil to Beypore. More than 200 *Urus* and boats were constructed under his supervision. His son Gokul Das is now active in Uru making. Now he is engaged in building of *Urus* in Dubai.

- **Vattakakandathil Family**

This is another important *Uru* building family of Malabar. This family connects with the traditional carpenter family of Pookad near Kappad. Andikutty was one of the major *Uru*-making experts and till his death in 2011, he was famous as a Uru-making expert. His brother *Narayanan Maistiry* is now in charge of producing a Uru at the Chaliyam Thuruth. A distant relative of *Andikutty Maistiry* named Rama Das is now engaged in making an *Uru* at Valapattanam, Kannur. The newer generation of this family does not show interest in this tradition.

- **Muthuvanachalil Family**

Muthuvanachalil Choyi Maistiry was one of the great *Uru*-making *Maistiries* of Malabar. His father, *Kuttappan Maistiry* and other family members

[57] Interview, Shivasankaran, Beypore, April 16, 2015.

originally belonged to Beypore. Today their family members are settled in Nallalam, near Beypore.

- **Kandamparambil Family**

The *Kandamparambil* family of Nallur is a traditional carpenter family. *Kandmparambil Raman Ashari* has worked in *Uru* making and his son *Kandamparampil Raju* is also an expert *Maistiry*. He also worked as a *Uru* builder in Dubai.

Besides the *Maistiries,* h and saw workers, drill workers, carpenters and *Kammali* workers or *Khalasis* are engaged in *Uru* making. An important group among them is theand-saw workers. They model wood for the construction of Uru. Drill workers are helping to drill the wooden planks and nails. They use a tool name base also known as '*Burma Panikkar'*. *Kammalis* are the helpers in Uru making. They do works like arranging the woods in the workshop, applying sea cordoil on both sides of *Uru,* cloaking work on the gaps, painting *'cheruvi'* on the Urus and raising and lowering the sails.[58]

MALABAR KHALASIS

The *Khalasis* are boat pullers of Malabar and have traditionally handled this work for centuries. They were workers of a ship or boat going to the sea, pulling the boat to the sea shore, loading and unloading the cargo, shifting goods from the harbour to wagons etc. *Khalasis* are mainly concentrated at Beypore and Chaliyam.

[58] Interview, Sathyan Maistiry, Beypore, March 21, 2016.

They were known as "*Malabar Khalasis*" outside Kerala. They have started involving several other activities, such as construction works (building dams, bridges and huge buildings). Their expertise and tactics excel even the modern technology.

The word '*Khalasi'* is of Arabic origin and now forms part of the Malayalam and Hindi languages. The Arabic root of '*Khalasi'* is '*Khalas'*, which means 'release', 'relief' etc. According to N.S. Gorekar of Heras Institute of Bombay, *Khalasi* means one who releases the ship for smooth sailing. He does the repairs of the ship and does the loading and unloading of cargo. In Malayalam and Hindi, *Khalasi* means one who works on a ship as a porter.[59]

According to Sayyid Sulaiman Nadvi, the word *Khalasi* means black and white mixed because they were born to a white father (Arabs) and a black mother (a native woman of Malabar). The children born out of this illegal relationship were employed for work in ships and were called *Khalasis*.[60]

Khalasis, by and large, belong to the *Mappila* community. The *Khalasis* were mostly *Mappila* Muslims from Malabar with a few Hindus. They proudly and rightfully claim the tradition of the *Kunhali Marakkars.*

The Services of Khalasis

After the train tragedy at Peruman near Kollam on 8th July 1988, people

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59 Alex George,"Traditional Technology of Malabar Khalasis", in *Economic and Political Weekly*, May 6, 1989.

60 SayyidSulaimanNadvi, *Arabikalude Kappalottam,* Hilal Publications, Tirurkadu, 1992, pp. 73 - 74.

began to notice the skill and expertise of *Malabar Khalasis*. When nine out of 14 bogies of 'Island Express' derailed and fell into the Ashtamudi Lake, killing more than 100 passengers and when the modern technology failed miserably in grounding the sunken bogies, the *Khalasis* of Beypore and Chaliyam were successful in performing this task successfully with the help of old and outdated instruments and traditionally acquired techniques and tactics. Then the people all over Kerala appreciated their meritorious achievement. Within two days after taking up their assignment, a team of 37 *Khalasis* could bring the first bogy with the help of army personnel ashore. But the second bogy was brought in one day. It was under the the leadership of *Jahu Mooppan, Bava Mooppan, Mohammed Koya Mooppan* and *Sulaiman Mooppan* that the bogies, which weighed more than 50 tons, were brought ashore. The *Khalasis* performed this wonder while the modern technological devices like the floating Crain of the port, the Bulldozer of the I.R.E., a train engine with a capacity of 400 tons and a German-made Fabric Dushe L and machine were on the shore.[61] Similarly, when the cranes failed to bring back an aircraft, which skidded from the runway at Karippur Airport in Calicut, the authorities sought *Khalasis'*s help and performed the task successfully.[62]

Beypore Khalasis built bridges and others, even during British rule. Their main task in building bridges was either establishing or replacing girders. In addition, they were also doing the heavy responsibility of making digs in the ground down to the rock level and then putting pillars into it as part of building bridges. The

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61 *MathrubhumiDaily*, July 17, 1988.

62 A. Vineesh, "Meykaruthinte Gathakavumayi Khalasikal", in *Kerala Kaumudi*, June 16, 2005.

railway bridge at Bilaspur in Madhya Pradesh is their work.[63] Earlier, the bridges across Mahanadi and Sivanath in Orissa were built with their help. In the establishment of the manganese factory in Goa and the Dalmia cement factory, they played crucial roles.[64]

Khalasis's expertise was used to plant heavy machines in large industries. With *Khalasis*'s help, giant machines in the Idukki dam were established. The active presence of *Khalasi*s was there in the construction of bridges at Feroke, Kallai, and Vadakkumpatt.[65]

Khalasis were widely used whenever there were any major road accidents. Their traditional technical skills were used to pull buses or heavy vehicles if they fell into deep fathoms. *Mooppans* are their leaders, who supervise the whole activity of the *Khalasis*.

The strength of *Khalasis* is the old technology they use in addition to their skill (the strength of their hand or muscle power). Their main instruments are wooden bars, iron ropes and pulleys.

One of the main instruments used by the *Khalasis* in their work is the wooden winch called '*Davar*'. It is built out of heavy timber called *Poovam or Poovuthi*. It is fixed on a wooden platform, which is fixed on the wooden sleepers. These wooden sleepers are installed deep into the ground and then covered with soil, so the winches don't get displaced when added weight. These winches are mainly used to

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63 *MalayalaManoramaDaily*, September 24, 1988.

64 *MathrubhumiDaily*, July 21, 1988.

65 *Chitta- SamskaratheAduthariyukha*, Block Resource Centre, Calicut, 2011, p.42.

drag up bogies and ships. Then two long wooden bars, ' *Kazhas'*, are put through two holes in opposite direction near the top end of the winch. The four projecting ends of these wooden bars are used as handles. One end of the iron rope is tied to the bogey or to the object to be dragged and another is attached to the bottom of the wooden winch. These iron ropes are attached to the winches after passing through three double-sheaved pulleys of 100 tons capacity. As the rotators rotated the four handles of '*Kazhas'*, iron ropes began to spiral up on the winch, and the bogey or the weighty object moved forward.[66]

In this operation, using a pulley reduces the effort required to pull an object. When the four handles, used for levers, are rotated from four sides, they tend to reduce further the birth weight. As the length of *'Kazhas'* increases, the rotators' weight will be reduced.

Compared with the '*Malmis*' who were the navigators of Lakshadweep, who had the complex knowledge of techniques and skill of navigation and knew how to handle the various instruments used in traditional navigation, the *Khalasis* was regarded as a relatively less skilled set of labourers on a sailing ship.[67] On the sailing ships, the *Khalasis* did the relatively less skilled labours such as raising and loweringthe sails, bailing out water from the ship when leaks developed and were also in charge of the loading and unloading cargo. An additional task undertaken by *Khalasis* in Beypore is the salvaging of sunken sailing ships and large loads. Thus though they stand one step lower in the technocratic hierarchy of traditional

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66 Alex George, *op.cit.*

67 N. Koya Haji, *SagaratheerathePaitrukamThedi: Lakshwadeepinte Charitravum Samskaravum,* Current Books, Kottayam, 2007, p.18

navigation, their very name Khalasi is testimony to the fact that their services were socially recognised during the period of sailing ships.[68]

Malabar Khalasis used to sing particular couplets while engaged in their work. One person will chant these lines of the song loudly, known as *'Amba Chollal'*, and other members in the group will repeat those lines in chorus, which is called '*Jawab'*, an Arabic word which means answer. The recitation is intended to reduce the burden of their work. The song begins by praising Allah. The song reflects different occasions related to their social life. Although it lacks poetic quality, it has a harmonious rhythm and musical tone that appeal to the heart.

With the help of the *Khalasis,* the *Urus* is released into the water after they are built. They use *Urulas,* a device made of rolling '*Poovam*' woods, Wooden Bars, Pulleys and Iron Ropes for this operation. At this time, the wooden logs are tied together, known as "*NandhKettal*". There is another activity called "*Baloos*" or "*Makkidi Tharakkal*", in which wood is split into two lengthwise and a peg or *Makkidi* thrust.[69]

The ground through which the boat has to be moved is first levelled, and wooden planks of two-inch thickness are paved. Above these planks, wooden rollers are placed; the boat, supported on either side by two heavy logs of *Poovam* wood, which keep the boat above the ground, is slowly placed over rollers. Then the boat is tied to the *Davar,* and as the *Kazhas* of *Davar* is rotated, the boat moves towards the water. The *Uru* is launched with *Amba and Jawab.*

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[68] Alex George, *op.cit.*

[69] Interview, Muhammed Koya Moopan, Beypore, April 21, 2016.

TRADITIONAL SONGS OF *MALABAR KHALASIS*[70]

- Hale Mali…… Yaa Allah

  Aisa…… Yaa Allah

  Obalamale…… Yaa Allah

  AmaroThattikkodu…… Aisa

  Porattangane…… Aisa

  Oh Tina Be…… Aisa

  AniyamThattikkodu…… Aisa

  RandumKoodiThattikodu…… Aisa

  AlathThangale…… Aisa

  Thadakenatherchakkoda…… Aisa

  OthorumePidikada…… Aisa

  KallaPiduthamPidikkalle…… Aisa

  Komala Devi…… Aisa

  Meenachi Mole…… Aisa

  Chandipporu Mole…… Aisa

  BadakkidMooppa…… Aisa

  Oh Kabardar…… Aisa

  Oh, Oh, Oh, Oh……

- HobleMali……. Hailasaa

  ThalladaaPokae……. Hailasaa

  PallaPayiche……. Hailasaa

[70] Interview, Sideeq Moopan (Malabar Khalasi), Beypore, April 19, 2016.

Kuttoosakutty…….. Hailasaa

PottathiyeKettye……. Hailasaa

PottathiPathaam……... Hailasaa

MasathilPette…….. Hailasaa

The decline of the *Uru* building in Malabar adversely affected the lives of *Khalasis*. Many of them went abroad in search of a job. Today most of the remaining *Khalasis* are called *Kammali* workers. Their main work is the grounding and releasing boats, especially the fishing boats at the Malabar ports. The decline of sailing shipbuilding in Malabar due to the impact of steam navigation and the slackening of sailing ship-based trade has it them hard. It is significant to note that the skills the *Khalasis* possess are valuable through they use relatively simple and limited equipment and are traditional to the indigenous technological environment.

The two things commonly experienced by these working groups are that all of them have led a low standard of life because of their menial wages. Secondly, all of them have been considered socially inferior regarding their lineage, social status and economic gains; the *Khalasis* were also given an inferior status in accordance with the rules of the caste system.

The colonial government did not follow a clear-cut ideology during its early days. The policy involved by the East India Company was prolonged. Their immediate attention was concentrated at first on increasing revenue. Later their attention was moved on to forest products like pepper, ginger, turmeric, areca nut

etc. Among the spices, pepper got worldwide attention and has more dem and in the world market.[71]

They also undertook the repair of ships besides the construction of small vessels. By the 1790s, the construction of large vessels became imperative. These early chapters of shipbuilding activity were closely related to the attempts of the company to control and utilise the great timber lands of India, beginning with the teak plantation of the Malabar Coast.

The British wanted to dominate the seas, which they thought was the only way to control the world. With this in view, they brought the forest and timber resources in South India under their firm control. When the supply of oak became scarce in Europe, the Indian teak played a prominent role in the shipbuilding activities of the Great Brittan. They used high-grade timber, mainly teak and Rosewood, to construct gun carriages. For these purposes, a large volume of timber was needed for naval and merchant ships. They even started a plantation in Malabar known as “Connolly teak plantation”, named after the then-district collector of Malabar.

The first step towards forest conservation was an order issued by the Bombay Bengal joint commission appointed in 1792 to enquire about the internal Circumstances of Malabar. The report was only concerned about the continual availability of teak to meet the company's requirements. The report also suggested prohibiting felling teaks timber of fewer than 24 inches in circumference. This report did not take any severe alarm from the authorities of the East India Company

[71] Ashin Das Gupta, *The World of Indian Ocean merchants 1500 – 1800*, Oxford press, New Delhi, 2001, p.421.

because their primary interest was in the spice trade. However, they were aware of the future commercial potential of the timber trade.

Another report was William Thackeray's report, which investigated the revenue matters of Malabar and Canara. He also referred to the nature of the ownership of the Malabar forest. He suggested that the government should get control over the forest before the private owners get the real value of the forests. He advocated for the establishment of companies' monopoly in the timber trade.

Ward and Corner's report came next, referring to the luxurious growth of forest and the magnificent dimension of teak trees found in the eastern part of Malabar. They also described the cutting of teak trees and their transport to Calicut. Dr: Francis Buchanan had undertaken an exploratory journey through Mysore, Canara and Malabar.[72] In Malabar, he has seen some of the finest forests ever seen. He records many of the trees, of which teak was the most valuable.

H.S. Graeme's report of 1822 reflects the colonial concern of timber trade. Graeme detailed the pros and cons of the monopoly established over the timber trade from 1807 to 1822.

In 1823, Thomas Monroe, the governor of madras, was instrumental in abolishing the timber monopoly established by the East India Company in Malabar and Travancore. He believed in the timber market and hoped that better timber prices would incentivise private forest owners to improve their timber stock.

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[72] K. V. Kunhi Krishnan,*Forest Policy and Administration in India*, Ph.D Thesis, Calicut University, 2006, p.55.

Lord Dalhousie laid down the outline of the permanent policy of forest conservancy in India. He declared that this was considered the 'first real step towards the scientific conservancy of the forest.'

Forest conservation in India and Malabar was not a part of the knowledge of forestry and the importance of forest preservation. But the material need of the company was ironically when the knowledge on forest resources occurred in Malabar during the early 19^{th} century.

CHAPTER IV

ASPECTS OF SHIPBUILDING TECHNIQUES OF MALABAR

Navigation and cartography are closely related skills. Sea pilots in the Muslim world had a vast store of knowledge passed down through the generations. These pilots charted the way across the oceans, transporting merchants and other travellers in their ships. Using landmarks, depth and current measurements, and simple navigation instruments like the number of finger-widths from the horizon to fix a star, they kept mental/written records of their routes. These charts were jealously guarded by sea pilots who worked for many different ship owners. Ibn Battuta tells us that Muslim pilots served as captains on the huge Chinese seagoing junks. The astrolabe is perhaps the most famous of Islamic inventions. The Greeks developed primitive astrolabes. But Muslim mathematicians and artisans refined them to be more accurate and versatile.[1] Al-Biruni wrote a mathematical treatise on the shadow that helped calibrate sundials accurately.[2] A Muslim navigator, possibly the well-known Ahmed Ibn Majeed, guided the famous Portuguese explorer Vasco da Gama in 1498 on the last leg of his voyage from East Africa to India. The first

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1 H.A.R Gibb and C.F Beckingham (trans).*, Travels of Ibn Battuta-AD 1325-1354 Vol-IV*, Routledge, England, 1994, p.17.

2 A.M.Muhyuddeen (trans), *Albiruni Kanda India*, Sahitya Akademy,New Delhi, 1970, p.128.

Muslim invasion of India was in 711 AD. With Islam came a great impetus for travel, commerce and adventure, which persisted until the 14th century.[3]

Watercraft technology intended the collection of techniques, skills, methods and processes used to construct vessels which travel overseas, lakes or rivers. *Yuktikalpataru* is treated as a text on shipbuilding. The text covers many topics and shipbuilding is elaborated on only in one chapter entitled *Nishpadyanoddesa* (wheelless vehicles). The coverage of *Nishpadyanoddesa* are Seasons for shipbuilding, wood for ship construction, Use of Iron (anchor) for Sea Going Vessels, Classification Ships, Names and Measurement, Two types of special (*visesha*) ships, Painting and decoration of Ships, Three Types of Ship with Cabin, Characteristics of Royal Ship, Despicable Water vessels (*Jaghanya Jalayanani*).[4]

The time for shipbuilding is when Mars is in the sixth house from Capricorn *(Midhunam*) and the launching shall be when Sun enters the Dhanista asterism in *Kumbham.* A ship made of *khatrija jati* wood (light and hard) brings health and happiness. It is also capable of passing through troubled water. Ships made of two different kinds of wood are not good. Iron shall not be tied to seagoing vessels using a string because it may be attracted by magnetic iron in the sea and may cause danger. *Samanya* (ordinary) and *visesa* (special) are two classes of ships.[5]

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3 H.A.R Gibb and C.F Beckingham (trans.)., *op. cit*, p.17.

4 Jose C.C, "Ship Building on the Malabar Coast before the 16th century", in *Journal of the Institute for Research in Social Science & Humanities Vol. 2*, Refereed Biannual Research Publication, November 1 January – June 2007, pp.74 – 75.

5 *ibid.*

Tilakamanjari is another text that mentions caulking along plank joints, on sails and riggings of the vessels. It mentions the working of the sails, especially in foul weather. It talks of some anchors (*nangura*).[6] Other texts like the work *Milindapanho* of an earlier period, *Brhatkathaslokasangraha* and *Samariacakha*, talk of lifeboats and ship flags. In Tamil, a mutilated palm leaf manuscript is called *Navoisastra or Marakalamuhurtam*. From its internal evidence, this text appears to belong to the first decade of the sixteenth century. It is primarily astrological but mentions several technical terms about boat components. It talks of '*Sampan'* as a locally prevalent boat form and also of timber quality for boat parts and timber defects to be guarded against in usage for boat components.[7] A still later *Kappalsastram*, in corrupt Tamil, of the mid-seventeenth century, is also astrological, which presents a detailed plan to plank technical discussion of boat building. Though believed to be a description of a European boat design, its value lies in its details of boat design, in the absence of a visual engineering drawing.[8] A seventeenth-century *KappaPattu* in Malayalam, by a Malabari Muslim Kunjali Musaliyar, is a narrative imagery but has considerable technical details of boat components. In some cases, various boat songs and ballads carry helpful information on boat forms and their anatomy.[7]

The beginnings of boat-building technology in India go back to the 3rd

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6 B. Arunachalam, *Technology of Indian Sea Navigation (c.1200-c.1800),* The medieval History Journal, SAGE Publication, Delhi, 2008, p.190

7 *ibid*, pp. 190-191

millennium B.C. (Harappa / Indus civilisation)[8]. The Harappans (or Indus Civilization) constructed the first tide dock in the world for berthing and servicing ships at the port town of Lothal.[9] The terracotta models of a boat from Lothal and engravings on Indus seals give some idea of ships going to the sea. Also seen in a dockyard is a roughly trapezoidal area enclosed by a four-course burnt brick wall on the inner side of broader mud brick embankment walls. At the hide tide, the seagoing vessels could enter the inlet, and a regular level of water could be maintained using a wooden sluice gate fitted across the spill channel. The presence of marine organisms detected inside the enclosure has more or less proved that this was a dockyard.[10] A mud-brick platform, 12.8 m wide and 243.8m long, adjoining its western embankment possibly served as a 'wharf' for the loading and unloading goods.[11]An engraving on a seal from Mohenjodaro represents a sailing ship with a high prow; the stern was made of reeds. In the centre, it had a square cabin. Out of five miniature clay models of boats, one is complete and represents a ship with a sail.[12] South India is strategically positioned in the maritime networks of the Indian Ocean region that connect the eastern and western worlds.

Many Maharashtra sites, especially those in the interior, are linked to the

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8 Shereen, Rathnagar, *Trading Encounters from the Euphrates to the Indus in the Bronze age*, Oxford University press, New Delhi, 2004, p.96.

9 Rao, S.R, *Lothal – A Harappan Port Town*. 2 vols. Archaeological Survey of India, New Delhi, 1985, pp.225- 26, 505.

10 Dilip K. Chakrabarthi, *INDIA- An Archaeological History Palaeolithic Beginnings to Early Historic Foundations,* Oxford University Press, New Delhi, 1999. Pp. 172-173.

11 *ibid.*

12 Shereen Ratnagar, *Understanding Harappa- Civilization in the Greater Indus valley*, Tulika, New Delhi, 2001, p. 57.

internal trade routes directed towards the coast for maritime trade. A port site of the region Kaveripattinam, has its first period dated between the third century B.C. and first century A.D. During this period it had successively wooden boat jetty and brick built wharf. Rampart at Ujjayini went back to c.600 BC and was 73.5m broad at the base and 132ft wide at the top, protected by well-laid wooden logs (teak and safed khair) for about 105m along the river to prevent the bank from getting scoured by the river action.[13]

The Pattanam excavation conducted in 2007 and 2008 by the Kerala Council for Historical Research has brought to light archaeological remains, including brick architecture, imported ceramics, a dug-out canoe and a well-built wharf in situ.[14] A wharf is a wide wall beside the edge of the sea or river to moor ships and boats and load and unloads cargo or passengers. In 2007, a wharf-like structure made of laterite granules, lime, and clay was found adjacent to a water-logged deposit at Pattanam. A brick lining, probably a protective layer, has been found towards the lower part of the wharf where it touched water. The exposed part of the structure in the North-West, South-East direction is 6m long and 7.30 m thick at a depth of 245 cm in the Early Historic layers.[15]A rich assortment of botanical remains in a surprisingly well-preserved condition was found in the water-logged area of the wharf context at a depth of 275cm. Decayed rope pieces, made of unidentified plant

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[13] *ibid*, p. 290.

[14] P J Cherian, V Selvakumar et al.,"Evidence for the Ancient port of Muciri", in *Chemmozhi* 2(1), 2007,pp. 26-27.

[15] P J Cherian, *Muziris Children's Museum Catalogue,* Keral Council of Historica Research, Thiruvanathapuram, 2014, p.20.

fibre, have also been found in the water-logged area, though away from the wharf context.[16]

A canoe is a small, light narrow boat tapering at both ends. In 2007 excavations at Pattanam, a highly degraded 6m long wooden dug-out canoe was found adjacent and parallel to the wharf-like structure. The wood was *Anjili* (Artocarpus Hirsutus Lamk), a locally available wood.[17] The Radio Carbon dates place the canoe within the 1st century BCE- 1st century C.E. period. It may be assumed that the wharf could also belong to roughly the same period. Below the canoe was a floor feature made of pot shreds belonging to Indian and non-Indian regions.[18]

Kadakkarappally is a small village near Taikkal; in the late 1990s, a sailboat in a partially preserved condition was encountered in a waterlogged site by a few labourers digging a rice field for coconut plantation and subsequently documented and discovered the site. The intact length of the flat-bottomed, which lacks a keel, reveals the use of Iron fastening, nailed and plank-built boat measures ca. 18.67m, and its width is ca. 4.05m. The boat has a transom stern and a curvilinear, pointed bow. From the mast- steps available, it appears that the boat had at least double masts: one in the bow and the other amidship.[19] It is mainly made of *Anjili* wood

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16 *ibid*, p.20.

17 *ibid*, p.21.

18 *ibid.*

19 M V Nair, V Selvakumar et al., "Excavation of a Unique Sailboat at Kadakkarappally", in *Current Science 86(5), Kerala - A Preliminary Report*, 2004, pp. 709-712.

(Artocarpus hirsutus Lamk), and Cassia fistula has been used for the bulkhead.[20] Based on the radiocarbon analysis, a date of the 12th to 15th centuries has been proposed for the boat.

This is the first significant example of a large boat excavated in India in a waterlogged deposit. The boat displays a mixture of technologies, some of which are not found in the contemporary sailing crafts of Kerala and are probably not local in origin. It has interesting similarities with the boats of Southeast Asia in its features, particularly in the use of "lashedlug" technology.[21]

The Sangam period texts, *Purananuru*, *Ahananuru* and *Madurraikanchi* delineated different types of seagoing ships as they moved in the seas with the help of wind sails[24]. The author of *Periplus Maris Erithrei*(A.D. 60–100) mentions the ports, anchorages, direction of winds and sailing conditions of the east coast of India[25]. Pliny mentions the southwest monsoon in *Natural* History.[22]

The Sangam texts mention several watercrafts, including *kalam*, *naavaay*, *vangkam*, *timil*, *ambi* and *punai*[27] and also mentioned characteristics of different ships are mentioned in the Sangam Literature.[23]

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20 *ibid*, pp. 99-103.

21 P Y Manguin, "Relationship and Cross- Influence between South- East Asian and Chinese Ship Building Traditions", in *SPAFA Workshop on Shipping and Trade Networks in Southeast Asia- Final Report*, Bangkok, 1984, pp. 197-212.

22 E. H Warmington, *The Commerce Between the Roman Empire and India*, Vikas Publishing House, New Delhi, 1974, p.93.

23 "Greek, Tamil, Hebrw, Latin and Sanskrit: Naus, Navis and Navay Related with Navy and ship in Classical Literature" in *www.athensjournal.gr/reviews*, 2021, p.25.

Type of Ship or Boat	Characteristics
Kalam	Big ships, Merchant ships, Long distance travel.
Vangam	Big ships, Merchant ships, Long distance travel.
Navay	Merchant and War ships
Thimil	Small ship or boat used by fishermen
Ambi	Small ship or boat to carry the goods from the big ships to the shore as big ships cannot touch the shore
Thoni	A small boat for carrying the goods from the big ships to the shore.

The raft types of watercraft for fishing on the sea and backwater. While *kattumaram* does not occur in the Tamil texts, *maram* does and means ship/boat/raft[24]. Dug-out canoes are used for the transport of people and goods and fishing. *Ambi* of the Tamil texts, which exchanged fish for paddy, might be a plank-built or an extended plank-built type. It is spoken of as including faces of horses and elephants[25].The large sea-going ships, e.g. *vangkam*, *naavaay* and *kalam* with sails. *Yavanar tanta vinai maan nankalam* in *Ahananuru* 149 suggests the Roman origin of certain *kalams*[26]. The poets, not familiar with the specific names of the Roman ships, used the generic label *kalam*. The native crafts are precisely named with their functions, e.g. *kazhitthoni* and *ambi* in *Purananuru* 343[27]. *Naavaay* and *vangkam* were large seagoing vessels that the Early Historic traders perhaps manufactured.

[24] N. Subrahmanian, *Pre Pallavan Tamil Index*, University of Madras, Madras, 1966, p.645.

[25] V R Parameshwara Pilla, *Purananuru (Malayalam Translation)*, Kerala Sahithya Accadamy, Trissur, 1961, p. 445.

[26] Kaviyur Murali, *Purananuru Oru Padanam*, D C Books, Kottayam, 1999, p.73.

[27] V R Parameshwara Pilla, *op. cit*, p.445.

While the smaller crafts were the products of day-to-day demands, the larger ships were the result of long-distance trade and the capitalist enterprise of major traders and guilds or political enterprises of the states. For example, the lines of the Sangam work *Manimekalai* refer to the watercraft,

..... vangametti

Konarthidumannal……. [28]

(..... വങ്കമെറ്റി

ക്കൊനർധിടുമാന്നൾ .....)

Adai karaikkani thavanthi keduthalum

Marakkalam koduthol .....[29]

(അടൈ കരൈകണി താവണ്ടികെടുതലും

മരക്കലം കൊടുത്തോൻ.....)

Paranar, a great poet of the Sangam Age, refers to the huge ships of a chieftain named Veliyan going abroad to fetch gold. Another poet Alludes to the unchallenged supremacy of the ships of the Chera in the western seas when the ships of other powers could not even think of peeping into those waters. In the 5th decade of the first poem of the *Pathittupatu*, the poet Paranar speaks about the piracy suppressed by King Cheran Chenguttavan[30]. The king will be used vessels like ships for these purposes.

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[28] P Janardhanan Pilla, *Manimekalai(Malayalam Translation*), V R Parameswaran Pilla (Ed), Kerala Sahithya Accadamy, Trissur, 1961, p.93.

[29] *ibid*, p.548.

[30] G Vaidyanatha Ayyar , *Pathittupatu(Malayalam Translation),* Kerala Sahithya Accadamy, Trissur, 1961, pp. 115-116.

In lines from the 30th to the 34th of the 4th portion and lines from the 9th to 12th of the 29th part of the song, *Manimekalai* explains the ship's model and the materials used for the ship.

..... Makaravelaiyul

Munniyavangam mungikkedura

pachugambalathu

Thunniyathenna thodu kadaluyanthuyi[31]

(..... മകര വേലൈയുൾ

മുന്നിയ വങ്കം മുങ്കി ക്കേടുര

പൊന്നി ന്തുചി പചുകംബളത്

തുന്നിയതെന്നത്തോടുകടലുയന്തുയി)

To arrive at the form and structure of the early seagoing vessels of the pre-modern period is like solving a jigsaw puzzle from different directions. Varied forms of vessels have been described in ancient and classical literature, like *Puranas* (mythologies), *itihasas* (epics) and *natakas* (drama). However, the literary evidence on seagoing vessels is very general and often exaggerated in the poetic description. The vessels appear to have been modelled in the shapes of swam, ducks or dolphins: They were rowed by oarsmen or propelled by wind acting on sails tied to the mast. They had decorated cabins in the middle of the deck for the use of travellers.

Archaeological evidence of Indian seagoing vessels has been scant except for some clay models unearthed from Lothal. These terracotta models are rather simplistic. They depict healthy oarsmen and ships with sails, providing a more

[31] P Janardhanan Pilla, *op.cit*, pp.547-549.

realistic description. However, one interesting feature of these forms is that the vessels were flat bottomed. Sculptural evidence of ships in half or full relief have been traced in stone monuments of later Buddhist, and Hindu periods.

Abu Zayd, the Arab Traveller of the 9th century A.D., noted, "The Arabs of Umman (Oman) take the carpenters' toolbox with them and go to the place where the coconut trees grow in abundance. First, they cut down the tree and leave it to dry. When it is dry, they cut it into planks. They weave ropes of coir. With this, they tie the planks together and make them vessels. They make their mast from the same wood. The sails are made of fibre. When the boat is ready, they take a cargo of coconuts and sail for Oman. They make huge profits in this trade".[32] "The Arab Geographers, Ibn Rustah (900 AD) says that before Islam, Indian ships used to sail up the Tigris as far as Al- Madain".[33] Thus, it is clear that even before the rise of Islam in Arabia in the 7th century A.D., Arabs had close commercial relations with Western India Ports, especially with Kerala Ports, as the spices and other products of Kerala were in great demand in the markets of Western Asia and Europe.

The advancement of shipbuilding technology was one of the important impacts of the advent of the Portuguese. Marco polo explained that the Chinese ships built with fir and pine wood nailed hulls and having multiple masts and cabins could carry a load of as many as 1860 tons. Earlier, the Indian and Arabian ships

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[32] A. P Ibrahim Kunju, *Mappila Muslims of Kerala: Their History and Culture,* Sandhya Publications, Trivandrum, 1989. p.12.

[33] *ibid*, p. 12.

suffered many disadvantages, mainly because they were stitched and not nailed.[34] But the Portuguese ships were sewn with coir, and their ships were manufactured with iron nails.[35] Even a single Portuguese vessel was sufficient to defeat a fleet of several Indian ships.[36] The continuous struggle in the Mediterranean region revolutionised the use of technology to advance mechanical power and changed the shipbuilding style.[37] In contrast, Arab merchants used ancient technology for making ships. Further, using a gun in naval battles helped the Portuguese defeat their rivals without difficulty.

Different Types of Watercrafts

India has an immense variety of in-shore and near-shore fishing craft designs, ranging from rafts, *catamarams* and *terappams* to dug-out canoes and small plank-built boats, generally of less than 3 tons. Much fewer forms of coasting boats, 10 to 30 tons, like the *Toni* and *machuva* of the west coast and the keelless masula of the east coast, are also known.[38] However, the seagoing craft voyaging across the seas are much fewer in type, and technical data concerning their architecture and engineering design are meagre on account of the transmission of such details orally

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[34] Baldeo Sahai, *Indian Shipping a Historical Survey*, Publication Division Ministry of Information and Broadcasting Government of India, New Delhi, 1996, p.31.

[35] K. S. Mathew, ed., *Ship Building and Navigation in the Indian Ocean Region A.D 1400 – 1800*, Munshiram Manoharlal Publishers, New Delhi, 1997, p. 29.

[36] *ibid.*

[37] K. R. Singh, "Some pattern of Political and Maritime interaction Between Indians, Arabs and Europeans in the Arabian Sea in the First Half of the Sixteenth Century," in K. S. Mathew, ed., *Indian Ocean and Cultural Interaction (A. D. 1400- 1800)*, Pondicherry, Pondicherry University, 1996,p. 176.

[38] James Hornell, *The Origin and Ethnological Significance of Indian Boat Designs*, Memoirs of the Asiatic Society of Bengal, Calcutta, 1920, p.69.

within the family community circles; yet, living practices of the traditions still survive in many sections of the coasts. The perceptive training of the eye and meticulous care for the trivial details provide the mental vision of the morphology and anatomy of boat component nuances to a skilled boat carpenter, who works even today with the aid of traditional tools and implements.[39]

In the Arabian Sea, the vessels of the west coast fell broadly into two classes: a more truly indigenous design of Konkan and Malabar strongly reflected in the *pattemar (or pathemari*) and the *odam*; and boat forms of north Konkan, Gujarat, Kathiawad (Saurashtra) and Kutch, with solid affinities both in the form and make, with vessels of the Arab, Omani coasts.[40] Using tree nails and wooden pegs was common, but there was a total absence of iron nails. Teak from the forests of the west coast of India was the main timber used though other timber of jungle wood like mimosa or silk tree and acacia formed the ribs and inner parts. *Benteak,* silver grey wood, *Mahua* and *punnai* were also used as alternatives to teak or in combination.[41]

Duarte Barbosa records that the keeled ships leaving Calicut were without decks, without any nails and sewn with thread.[42] The Italian traveller Varthema states that though the stitched boats do not use caulking, the planks are fitted so well that they keep out the water. Moreland, discussing the Arabian Sea ships around

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39 *ibid*.

40 W.H. Moreland, The Ships of the Arabian Sea C.1500, in *Journal of the Royal Asiatic Society*, volume 71, Issue 1, 1939, pp. 63–74.

41 *ibid,* pp. 69–72..

42 *ibid.*

A.D. 1500, states that the seagoing vessels of the Arabian Sea were built all along the west coast of India but were mainly Arabs–owned. [43]

The Portuguese were the pioneers of navigation scientifically. They prepared charts and maps before their journey.[44] They used advanced technologies in their ships. Their ships were well equipped with bronze cannons and guns and manufactured with iron nails. But the Indian ships were inferior to the Portuguese ships. Even a single Portuguese-armed ship was sufficient to meet a fleet of eight Indian ships.[45]

Craft traditions in different coastal states of India provide the most suitable method for knowing the form and structure of the pre-modern period seagoing vessels. They can be categorised on a technological basis into four classes.

TYPE OF VESSELS

Category I - Folk Type Vessels

a- **Reed and skin type vessels** are of simple circular dish shape made of a reed frame covered by skin or other suitable material like palm leaf on the outside. They can carry one person from place to place and be used as a floating platform for fishing. Oars can manoeuvre them for travel. Folk tribes in Karnataka and Andhra still use such vessels.

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43 *ibid.*

44 Baldeo Sahai, *op. cit*, p. 113

45 K. S. Mathew, ed., *op. cit*, p. 29.

b- **Bundled reed vessels** are of larger sizes of a streamlined design. It is like a canoe with a bottom and sides of bundled reeds. The mid-portion is wide to accommodate a group, and the vessels' ends are narrow and raised. The bundled reed boat is used for group fishing or travel.

Reed, skin vessel, and bundled reed boat are folk inventions that require only simple technology of cutting reeds and tying them by creepers. No text describes their making or specifies their dimensions. The circular types generally have about a span diameter, and bundled reed type has a length in multiples of the span.

Category II - Country Type Vessels

a - **Tied log-type vessels** are mainly rafts built by selecting long light logs and tying them by natural creepers or twisted ropes. Being of light wood, they can be pulled ashore while not in use. Their use in ocean travels as catamaran are still, popular in Tamilnadu, Andhra and Orissa coasts for fishing purposes.

b - **Hewn or dug-out log vessels** use single logs. They are shaped like vessels by removing the central pith to the required width and depth. Sometimes fire is lit to ease the hewing process of the boat. Single logs are subjected to rolling in water; Shaping them like a flat-bottomed vessel with pointed ends and hollow middle helps to provide stability against rolling and tilting. Since there are no joints, the boat interior is impermeable and becomes ideal for transporting cargo like grains, salt, etc., which water can spoil. The size of the log decides the size and shape of the vessels. From short trunks, stout, wide vessels can be hewn out. They are used for fishing or the transport of men and cargo. From long trunks, sleek vessels can be

crafted. These boats have a smaller water contact area per volume, so they can accommodate more rowers and travel faster. Such vessels were used for warfare or competition.

Country-type vessels require versatile tools for cutting logs, shaping them, hewing the inside etc. The common tool for this was the axe, and country artisans still used the ads. The axe was introduced in Kerala from the mythological times of Parasurama, say some 2000 years ago, and this tradition has continued to date. This type of boat is categorised as country type because there are still a group of artisans in Kerala and other southern states who use only axe to shape such boats.

Category lll - Craft Type Vessels

a - The simple axe technology of the timber artisan underwent modification by the 3rd century A.D. with the Aryan migration into Kerala. We reckon the migration of Brahmins in this phase but conveniently forget the *Silpins*, weavers, metal workers, and other artisans who also come in their streams. The Arya spins introduced different methods of sawing planks out of tree trunks and a variety of joinery for lengthening, bearing and widening purposes. In Sewn plank type of boat building, the planks are jointed with straight or bevelled joints, lengthwise and width-wise and tied with ropes drilled along the edges of the planks. A system of inserting ropes inside and outside the joint as a seam was also followed before the planks are so sewn. The planks were given the required profile by keeping curvilinear frames inside the body and a firm edge member as a fender.

b - Nailed plank type - The smallest swan plank boat usually had a length equal to a man's reach, and its width was 1/5 of this length. Once the sewn plank technique was perfected, the size of the boat increased. The length was incremented by one reach each time to get longer vessels. As the width and depth of the boat were fixed by certain proportionate *(gunamsa*) principles, the width also increased. These larger vessels were given stability and strength by intermediate frames to which the planks of the outer hull could be nailed. No text describes the sewn plank or nailed plank vessel types.

Category IV - Frame and Plank Category Vessels

These vessels are called 'Frame', just like the first types. These are vessels moved by oarsmen, but under suitable condition of wind, they could also use wind power by sails tied on tall masts. The form and structure of both types are more or less similar; the important change in the structure of the frame and plank type from that of the sewn or nailed type is the appearance of the structural frame as the essential feature of the vessels. They appeared in the 7^{th} century and marked the transition from traditional to modern shipbuilding. Here there is a clean separation of the hull structure and hull cladding. The outer cladding of the vessel used in the ship construction continued to be timber, jointed together with or without a rebated joint, sewn or nailed fastening, and the joints caulked with hemp or cotton wicks and impregnated with fish or cashew shell oil. The structure of the hull, however, clearly emerged. On the outer side, the planks were to be rigidly supported without undue deflection and flexural failure. For this, the plank support was to be provided at 7 to 11 times the thickness. If the plank thickness is 1½" (4 cm), support was needed at

about 14" on average. Supposing every alternate support rib was to be firmly fixed to the basic framework, curved ribs were needed at one cubit (28") spacing. A keel became necessary to support the ribs, stem posts, and sternposts to provide a streamlined profile. Connecting the ribs crosswise appeared the joists to support the deck. Often the deck was to be provided with vertical support. Masts were to be supported on the keel or along the outer edge of the hull, and stiffening fenders were to be provided. The hull structure thus appeared as a three-dimensional frame of extreme rigidity and strength. This hull structure was retained even during the early phase of modern steamship building.

Good quality timber became an essential requirement for frame first, plank next construction. Early vessels made use of most varieties of timber, but now select timber like teak was a pre- requisite for shipbuilding. In the early period of European colonisation, the demand for teak for shipbuilding was so high that in 1842 H.V. Canoly, the then collector of the Malabar District of Madras province, initiated the Nilambur Teak plantation.

We have no text on the ship's structure or dimensions at this stage. Shipbuilding continued to be a craft supported by the wisdom of hereditary *Silpins* all over the Indian peninsula.

The coast of Kerala one can finds different types of crafts like *kattamaram, chalattadi, kambavala vallam, karamadi vallam, vallam, vanchi, toni, odam, patti, padi, paduva, paruva, uru, pattemari* and so on. These different varieties of vessels are used for various purposes like fishing, racing, cargo transportation, ferry and other purposes. References to different names of traditional vessels are seen in

certain literary works, from classical Tamil to modern literary compilations.

The geographical peculiarity of Kerala made them introduce different means of communication to maintain contact with the neighbouring areas and for transportation and fishing. The early man might have used wood logs to cross the water bodies. Later, they might have learnt to hew the tree trunk to make a dug-out canoe. It can be assumed that the dug-out canoe used by a prehistoric person might have developed from a single trunk. The size and form of the craft differ by the nature of the water bodies and the purposes for which the craft is introduced.

Different names are seen for the ones used in rivers, lakes, sea, fishing, cargo, ferry etc. Lists of Urus used for sea transportation are found.

It is also noticed that the same vessel carries different names in different regions. Linguistic adaptability has also brought changes in the names of the vessels. The terms *Vallam / Odam / Toni* are found in early Tamil literary works. The same is also found in the *Manipravalam* and later Malayalam works. The geographical peculiarities, availability of raw materials, nature of the coast, provisions of workforce and wealth and also the different functions like carrying cargoes from one region to another, ferry services, feuds of *naduvazhis* of medieval Kerala and so on may have been reasons for the introduction of a variety of crafts.

The term *Kadattu vallam* is applied to all vessels which are used for transporting passengers. *Kadattu* is a local rendering of the English term transportation. *Charakku vallam* is the vessel used for transporting cargo. This vessel is covered by a thatched roof in order to protect the cargo from rain, sun and wind. It is called *Charakku vallam* since it is used for transporting cargo. Another

type is *Valiya vallam* which means big vessels; the term *Valiya* stands for big in English. *Muri vallam* is another type of craft seen in the Coastal area. This craft got its name from its peculiar shape. As the back portion of the craft, i.e. *amaram* (stern of a vessel), is very broad, looking like a cut, this vessel is called *Muri vallam.*

Vallam, Vanchi, Odam, Toni, etc., can capsize, as the sea is too rough here, so there is little possibility for its recovery. If a person is thrown overboard due tothe roughness of the sea, he could swim and reach the craft or the shore. If the logs are separated, each log will float separately, enabling the fisherman to survive by clinging to one of them.

Chundan vallam is the biggest among the race boats. It is the most important and costly vessel among the race boats amounting from one to twenty lakhs of rupees for its construction. Its annual maintenance is also very expensive. More than 100 rowers can row at a time in the *Chundan vallam.*

Manchi / vanchi, cheru toni, ozhukkan vallam, odam, chundan vallam etc. are seen at Parappanangadi regions. *Manchi / vanchi* are commonly used. *Cheru Thoni* is used for transportation as well as for fishing. The use of *Ozhukkan vallam* is to catch fish with a hook. Odam is a cargo vessel. *Chundan vallams* of Parappanangadi regions are used for fishing with a shape like a curve. It is a plank-built boat and is very costly too.

Rich and vast carpentry skills are seen in the boat building of Malabar. Technical skill, know-how and design of the crafts built at Beypore are recognized as the best even today. All categories of crafts are built here. *Uru* and *Pathemari* are the two types of traditional crafts constructed in Beypore. *Urus* are of different

shapes and designs: *Boom, Bottia, Kotia, Kappal, Patava, Parao, Sambook, Berieck,* etc. The specialty of *Boom* is its elevated *aniyam* and *amaram.* This vessel is the favourite of Kutch people and the Arabs. Its specialty is that it tapers towards *amaram. Sambook* has a flat bottom as well as a flat *amaram.* It is mostly used for fishing and transportation. References to *Sambook* are found in the travel accounts of Varthema. He wrote, "As to the names of ships, some are called *Sambuchi* and these are flat-bottomed". Fra Paulina Da San Bartolomeo also refers to *Camboca* as a broad boat perfectly flat at the bottom. The *amaram* of *Berieck* was constructed both in Indian and Arabian models. The nature of the sea greatly influences the design of the *Uru.* For example, the *Uru* constructed for Lakshadweep needs a flat bottom. The merit of the flat-bottomed vessel is that it suits shallow waters. But, this type is not durable. When the width of the vessel increases, its speed decreases.

The crafts of North Malabar Coast are used for different purposes like fishing, transporting cargo and passengers and warfare. Small type crafts *like Toni, Vanchi, Kochuvallam Chini, etc. and wide varieties like Kappal, Vallam,Marakalam, Uru, Odam* and *Pathemari* are found. *Kettu Vallangal* is another variety seen here. *Vanchi* is very small and can board only two people at a time. It is mainly used for fishing. *Vallam* is a later introduction. It is plank-built vessel. Toni is a flat-bottomed craft. Flat-bottomed crafts are ideal for movement in shallow waters. Odam is a curved type of craft. It, like *vallam,* is also a later introduction here. *Vanchi, Vallam, Odam* and *Toni* are used in inland waters for fishing and transportation. *Kappal, Marakalam, Uru* and *Pathemari* are plank-built vessels. They are used as cargo vessels. It serves to cross the sea. *Kettu Vallangal* is stitched plank-built vessels used for the transportation of cargo as well as passengers. *Kettu*

means stitch. So this craft is called *Kettu Vallangal. Kettu Vallangal* is not seen in these areas due to changes in the means of transport. Nowadays people depend more on rail and road than on water transport.

A Raft comprises a number of roughly shaped logs fastened together to float down a river or to serve as a boat. This raft is made up of wood tied together by ropes. This was the earliest design of a ply over rivers and lakes.

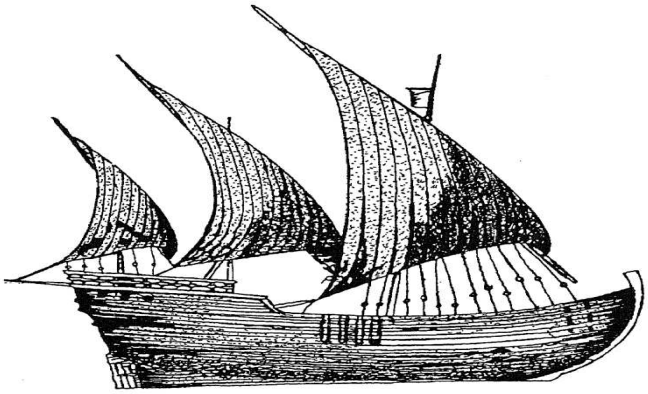
The primitive type of craft is the dug-out canoe in which a single log of wood is scooped out in the middle. The Stone Age man fashioned the dug-out canoe from a single tree trunk. This might have been the earlier *Toni* referred to in Sangam literature. The word *Toni* in Tamil appears to have been derived from the root 'tol', which means 'to dig'. The words *'Thonduka', 'Tholuka'* etc., are prevalent events today, which means 'scooping out' and 'taking out'. *Droni* in Sanskrit and *Doni* Prakrit are the equivalent terms used for *Toni.* Toni is derived from *Droni. Toni* is referred to as *Valiya Vallam* and *Vanchi* in Sabdatharavali or Malayalam Dictionary. The word meaning of Toni Malayalam Lexicon is a vehicle used to cross water bodies, which is made either by scooping the log or by plying planks. Dug-out canoes are employed all over Kerala for catching fish and transporting passengers and cargo. The bottom of this craft is generally thicker than the sides. *Toni, Vepputtoni, Odam, Ottattadi Vallam, Kochu Vanchi / Cheru Vanchi, Vichuttoni* and *Chini Vallam* are the dug- out canoes seen along the Kerala coast. These names vary according to the size ofthe dugout. *Ottattadi Vallam* is called so because it is built from a single log. The name *Chini maram (Samanea Saman). Vepputtoni* is used for hook- and-line fishing and launching gill nets. *Odam* and *Vanchi* are other names used for dug-out canoes all along the northern coast of Kerala. The term

Odam might have derived from *'Oduka'*. The word meaning of *'Oduka'* is found as 'to run'. and more vessels were found in different areas of the Kerala coast.

The large-sized ships used in favourable deep l and-locked harbours like Kochi during the 15th and 16th centuries by the Portuguese as both merchant ships, as well as a battleship, was *Carrack* which was broad, bluff and heavily built to enforce their right to trade, armed with guns and fighting men; largest of the Carracks could carry 2000 tons of cargo. The great Carracks sailed between Kochi, Macao and Nagasaki.[46]

For exploration, the Portuguese used smaller ships called Caravel, which had the advantage of small size and were spacious to carry commodities.

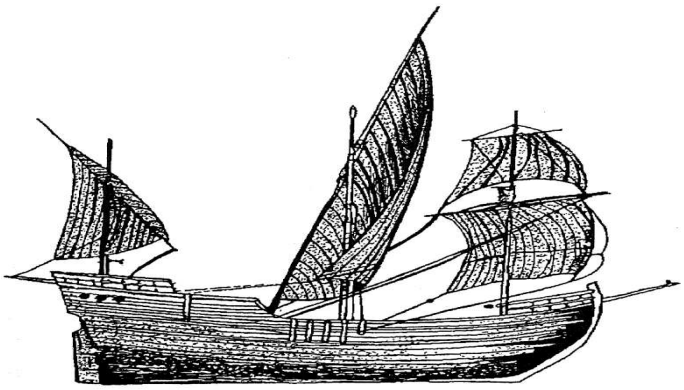
Fig No.1



Caravela latina

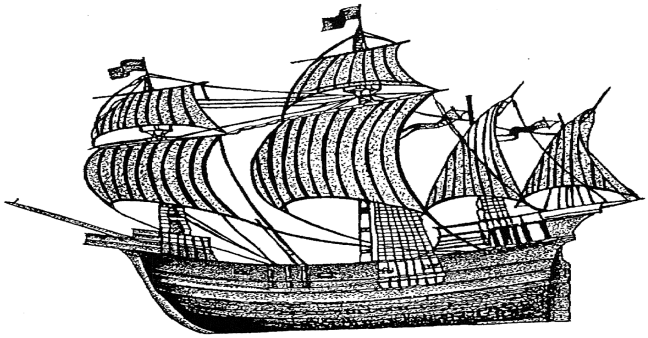
[46] Joseph.C.C., *Ship building and Navigation in India and the Portuguese during the Sixteenth and seventeenth centuries*, Ph.D (History) Thesis submitted to The University of Pondicherry, 2003, p.5.

Fig No.2



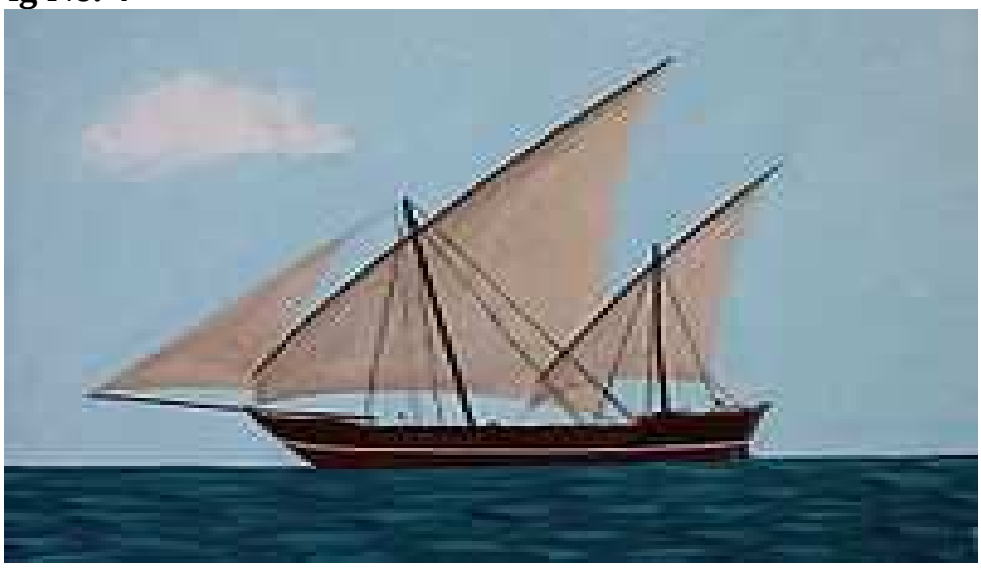
Caravela redonda

Fig No. 3



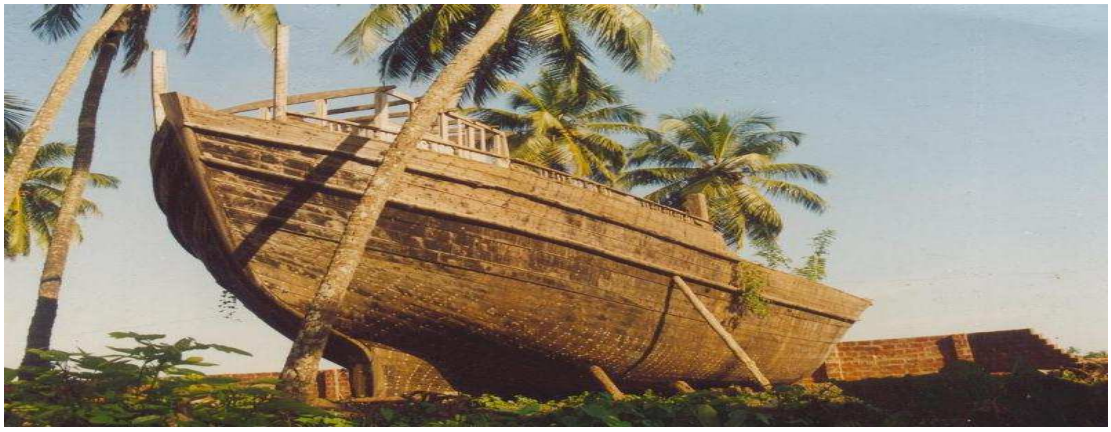
Carrack

Fig No. 4



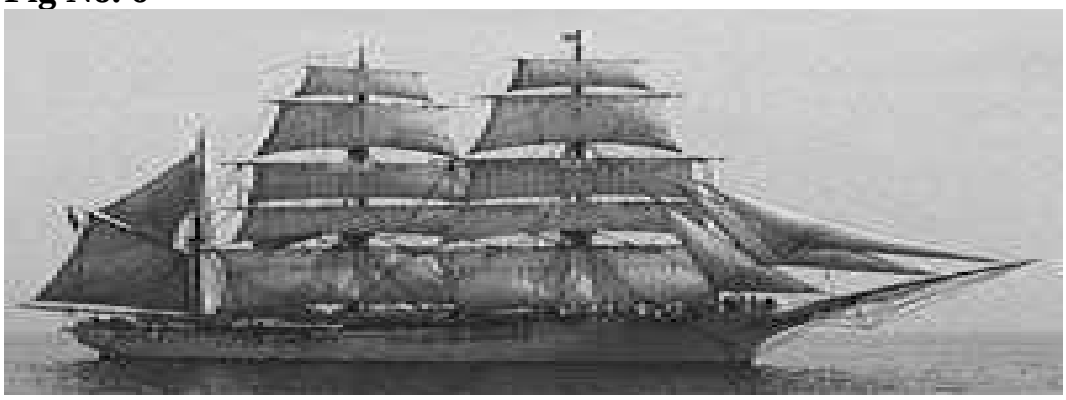
Boom

Fig No. 5



Dhow

Fig No. 6



Barque

Fig No. 7

Catamaram

TECHNIQUES OF SHIPBUILDING

The Indian Ocean trade brought merchants and watercraft from different parts of the world to Kerala, which might have led to the hybridisation of boat-building technologies. Reference to "the well-crafted vessels given by the Yavanar" in Tamil *Akananuru* poem 149 suggests that particular ships were Greco-Roman in origin.[47] The indigenous ships were also used in long-distance trade. Paranar, a great poet of the Sangam Age, refers to the huge ships of a chieftain named Veliyan going abroad to fetch gold.

The Scientific way of shipbuilding was describing in the ancient literary sources of Greeks- 'Wide as a man well-skilled in carpentry marks out the curve of the hull of a freight-ship, broad of beam, even so wide did Odysseus make his raft. and he set up the deck-beam, bolting them to the close-set rib and laboured on; and he finished the raft with long gunwales. In it he set a mast and a yard-arm, fitted to it and furthermore made him a steering-oar, wherewith to steer. Then he fenced in the whole from stem to stern with willow withes to be a defense against the wave and strewed much brush thereon. Meanwhile Calypso, the beautiful goddess, brought him cloth to make him a sail and he fashioned that too with skill. and he made fast in the raft braces and halyards and sheets and then with levers forced it down into the bright sea'.[48]

Watercraft technology includes the collection of techniques, skills, methods

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47 Kaviyur Murali, *Purananuru Oru Padanam*, D C Books, Kottayam, 1999, p.73.

48 A T., Murray, *Homer's The Odyssey*, Cambridge, Harvard University Press, London, 1919, pp.255-256.

and processes used to construct vessels which travel overseas, lakes or rivers. primitive type of craft is the dug-out canoe in which a single log of wood is scooped out in the middle. The Stone Age man fashioned the dug-out canoe from a single tree trunk. This might have been the earlier '*Toni*' referred to in Sangam literature. The word meaning of *Toni* Malayalam Lexicon is a vehicle used to cross water bodies, which is made either by scooping the log or by plying planks. Dug-out canoes are employed all over Kerala for catching fish and transporting passengers and cargo. The bottom of this craft is generally thicker than the sides.

RITUALS RELATED TO URU MAKING

Those who built the ships and those who purchased them took special care in ensuring the grace of God, for which they observed several rituals before and after constructing them and releasing them into the deep waters. At the time of cutting the woods, it was a common practice that certain ceremonies were performed by '*Thachan*' under the leadership of the *Maistiry*, to apologize for cutting the woods and make prayers for the easy escape of the birds nesting on them to get them new homes. The *Thachan* does *Vasthu pooja* at the time of putting the keel, which is the backbone of the *Uru. Poojas* are done in the presence of tender coconut, *badradeepam, avil, malar*, banana, sandal, etc. The producer offers an amount to the *Maistiry,* betel leaves and areca nut. Meanwhile, others who are present on occasion throw rice on the *deepam*. With this, the work of the *Uru* is started.

Odam making in Lakshadweep also was accompanied by similar rituals. The Rashi day, tidal motions etc., are estimated for the best time by the *Malmis* and on the auspicious occasion with the presence of the *Zamindars,* scholars, kith and kin,

the '*Thalabandavi*' (main craftsman) laid the keel for the *Odam*. In the meantime, a feast is arranged for all the gathered people (for which curry made by the kevi with the flesh of a goat is a must). The *Thalabandavi* is presented with a money purse and sweets. With this, the work of Odam started.[49]

On the occasion of the ship's launching into the water, *Thantri* does poojas are being done and the ship is decorated with tender coconut leaves. The *Thangals* make recitation of the holy book and other prayers. The occasion creates a festive mood in and around. A ritual called '*Odam Kanal'* is celebrated during which *Kaikottipattu* by women and *Kolkali* and *Parijakali* by men are performed. It also comprises food offerings and a collection of money received as gifts. On the occasion of the launching of the *Odam*, after prayers offered by the Muslim priests, *Thalabandavi* wearing a new dress, takes the mutt of the *Odam*. The Odam is launched with songs sung by people in the chorus. The *Kevi* gives one gold coin as a *Dakshina* to *Thalabandavi*.[50]

RAW MATERIALS USED FOR URU MAKING

Woods[51]

Woods are the primary raw materials of *Uru*. The collection of woods required for the *Uru* is the most expensive part. Trees like teak, jack, *venkumiy, karimaruth, kayani, venga, maruth are generally used. Venteak, venga, dried irul,*

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[49] N. Koya Haji, *Sagaratheerathe Paitrukam Thedi: Lakshwadeepinte Charitravum Samskaravum,* Current Books, Kottayam, 2007, pp.17-19.

[50] *ibid*, pp.20 – 21.

[51] See *Appendix (No:1).*

Malaysian marbo, koyil are also used. *Anjili* woods are used, but they are not accessible to iron nails. *Poovam* woods are generally used for making the machinery necessary for launching the *Uru*. Now a day *koyil* wood is also used for this purpose.[52] Due to the lack of lengthy local trees, imported woods from Malaysia, Ghana and Burma are now used for this purpose.[53] *Coconut trees, Punna, Kadaplavu, Poovarash, Kattuparuth* and Banyan trees are used in the Lakshadweep for making *Odams*.[54]

Teak is the common name for the tropical hardwood tree species ***Tectona grandis***. It is grown in India, Indonesia, Malaysia, and Myanmar. Myanmar accounts for nearly one-third of the world's total teak production. The word teak comes from the Malayalam (in the Malabar region) word *theka* or *tekka*. The original word comes from *Thekkam* in Tamil. This tree is mentioned in Tamil's seventh-century literature, popularly known as *Tevaram*. Teak is a yellowish-brown timber with good grains and texture. It is used to manufacture outdoor furniture, boat decks, and other articles where weather resistance is desired.

Other Materials

Things like nails, bolts and gum are used to attach the wood. Usually, nails, which are 9.5 and 11.5 inches, are used for this purpose. Small nails were used for joining the legs and wooden planks of the *Uru* and big nails were used for joining the inner planks and outer planks with these legs. These planks have a thickness of 2.5 inches. Wooden nails made from teak wood are used to fill the gaps or any

[52] Interview, Abdul Gafoor, Chairman of Binafa Enterprises, Beypore, April 20, 2016.

[53] Interview, Alikkoya, Beypore, March 16, 2016.

[54] N.Koya Haji, *op. cit*, p.16.

excess holes. Wooden nails are also called *'Kuduthis'*. Another type of nail is called '*Kabers*', which has a rectangular-shaped head. It is used to decrease the gaps between the wood and nail holes.[55]

In ancient times, nails were usually made from bamboo and wooden pieces. After the invention of the iron, wooden nails were replaced by iron nails. Nails used for *Uru* making are designed specially. Firstly they are made according to the measurements and then washed in a mixture of water and sulfuric acid, dried after dipping in Ammonium Chloride (*Navasaram)* and then dipped in heated Tin. This is done to prevent corrosion.[56] Many centres are found in and around Beypore for preparing this type of nail with great concentration. Also, bolts and anchors required for the ship are available here.

Cotton, oils, animal ghee and lime are used to prepare *Uru*. They used special mixture called '*Paruthiyum Panthavum'* in order to check the leakage of water in to the ship through the gaps (*cherps*). This mixture is made using cotton, neem oil and pine oil. The cotton after dipping it in pine oil and apply to the areas where there is a leakage. A Cotton thread dipped in pine oil is used to keep the holes undamaged and the iron nails not to go rusty. Another mixture, made of lime (*chunnamb*) and grease, is used to kill termites and other insects. A mixture of animal ghee and lime is used to paint the '*Cheruvi*' up to the level of the dipping area of a *Dhow*.[57]

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[55] Interview, Chandran, Carpenter of Uru building, Beypore, April 21, 2015.

[56] Interview, Bapputty, Iron smith, Beypore, April 16, 2015.

[57] Interview, Satyan Maistiry, Beypore, April 09, 2015.

Steel bars are now used for making the deck in *Urus* instead of wood because of the unavailability of lengthy wooden pieces. These types of bars are made in Beypore itself.[58]

Before the invention of the diesel engine by Rudolf Diesel in 1893, Urus travelled with the help of cotton cloth (*Paya*) tied to the mast *(Pamaram*). One or two *Pamarams* are used according to the size of the *Uru*. The direction of the wind on the *Paya* controlled the motions of the *Urus.* Its importance decreased with the arrival of engines. *Urus* prepared now from Beypore does not have masts or cotton clothes; instead, the engine room is added to them. Engines are not made at Beypore; they are brought from other countries.[59]

The type of *Uru* and its capacity to hold the weight of the cargo is determined by the taste of those who invest money in its construction. So the *Urus*, which has some length, will have different capacities and measurements. Two *Urus* built under the supervision of two different *Maistries* will slightly vary their technical details. But there is a limit to increasing the height of the *Uru*. It should be keeping the equilibrium, and there should not be any defect in its equipment. The nature of the sea and the port will indeed influence the *Uru* building.

Urus of 40-140 feet is made in Beypore. The tonnages of *Urus* used for trade purposes were based on the product of the density of the ship and the weight of the things enclosed. The first phase in *Uru* making is preparing a still model of the

[58] Interview, Alikkoya, *op. Cit,* March 16, 2016.

[59] Interview, Mani, Teacher of Ship Building Technology Centre, Beypore, March 24, 2015.

required *Uru. Maistiry* makes a half design of the *Uru* by arranging 5 or 6 wooden pieces, one above the other. This is a very secret aspect that he will not disclose to others. One foot is calculated as $1/4^{th}$ inch in this method. Likewise, the whole model of the *Uru* was designed by drawing pictures part by part on wooden planks of a mango tree. Recently, plywood pieces have been used for this purpose. The curved shape models of *Uru* are now designed with the help of curved iron bars. Hand-saw workers design this model with wood likewise.[60]

Uru building is based on a 'right-angled triangle' principle. At first, the length, width and height are calculated. Then a decision is taken about the Keel, and ribs are put across either very close or according to the ship's shape. The ribs on both sides of the keel are kept in uniform size, height and slope, measuring them precisely with the help of a balancing instrument called '*Thookku Katta'*. The planks were fitted on the long side of this right-angled triangle and filled, measuring the height and shape of the sides very precisely. In the construction method, the centre of gravity is always kept in the middle of the ship. If it is not done carefully, the *Uru* will be lopsided when it is released into the water. The larger the bent of the *Uru,* the lesser the plank's width.[61] Arch-shaped legs are fixed on the sides of Uru with a gap of three inches. They prepare the '*Mattam'* or structure of the *Uru* before fixing the legs. '*Aniyam'* and '*Amaram*' are fixed before the fixing of the legs. Two pieces of timber bound together to balance the weight are called '*Aniyam*' and '*Amaram'*. The timber at the tip of the *Uru* is called '*Tharthala'* and the inner one as

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60 Interview, Raju Maistiry, Beypore, April 16, 2015.

61 K.M. Bahavuddin, , "Kozhikkotte Kappal Nirmanam" in *Kerala Muslimkal: Cheruthunilpinte Charitram*, Islamic Publishing House, Calicut, 1995, p 271.

'*Parameel*'.[62] Even the older '*Maistries'* were ignorant about the 'metacentric' height, buoyancy, centre of gravity, structural analysis and other necessary technical knowledge.[63] But they were highly skilled in using the principles of geometry and space geometry. They were ignorant about stress, strain, a moment of inertia, modules of elasticity and rigidity. And their skill is unequalled in the field of carpentry.

The number of nails used is relatively proportionate to the number of timbers and the size of the *Uru*. Nails were used for joining the legs, inner and outer planks and the wooden planks of the *Uru.*

Before the *Uru* is released into the water, the *Kammalis* make it safe by thrusting cotton into the gaps of every plank used to build the body of Uru. This process is called cloaking or *Kalpath.* The person who does this work is known as '*Kalpath Kammali'*. Then *Kammalis* polish the under part of the Uru using a chemical called 'Antifouling' and the topside with fish oil to protect the Uru from any ruin. *Kammalis* also paint the '*Cheruvi*' up to the mark of the dipping point. A mixture of animal ghee, lime and oil is coated to make it waterproof. This will help protect the *Uru* for three months. 150kg lime, 150kg ghee and 15kg sea cord oil are required for an *Uru* of 60 feet.[64]

When the *Uru* is launched, the significant parts of it will be below the water

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[62] V.H. Dirar, "Beypoorile Uru nirmanam", T.T. Sreekumar(Ed), *Kadalarivukal*, D.C Books, Kottayam, 2004, p. 67.

[63] See *Appendix (No:2).*

[64] Interview, Sideeq Moopan, Beypore, April 19, 2016.

level. Most of the remaining parts will be load level and the rest is *Aruthi.* Goods are loaded in an important area in this *Aruthi,* called '*Pack*'. This *Pack* will have several inner chambers. One of these chambers will be the engine room and the rest for keeping the goods. The *'Aniya Pack'* and '*Amara Pack'* are situated on both edges of the *Uru* just above the major *Pack.* Anchor and Steering are fixed in the *Aniya Pack* and *Amara Pack,* respectively.[65]

Urus bound to Lakshadweep will have a flat and vast underside. It will facilitate the anchoring of the Urus there. The water level of this type of Uru is 44.5 feet, whereas an *Uru* with the same tonnage will be 66.5 if the *Uru* has a pointed underside. At the same time, we can increase an *Uru*'s effectiveness by broadening its underside's vastness. The two inner sides of the *Uru* on both sides of the Keel project more towards the poles or sides will affect the *Uru*'s capacity to carry weight. It would affect the life of the Uru and these types of *Urus* won't last long. Though they are unaware of the scientific and theoretical aspects of shipbuilding, their work follows them in practice and the basis of which is learnt from tradition.[66]

TECHNIQUES FOR LAUNCHING THE URU

With the help of the *Khalasis,* the Urus are released into the water after they are built. They use *Urulas,* a device made of rolling *'Poovam'* woods, Wooden Bars, Pulleys and Iron Ropes for this operation. At this time, the wooden logs are tied together, known as *"Nandh Kettal"*. There is another activity called *"Baloos"* or

[65] V.H. Dirar, *op. cit,* p.68.

[66] *ibid.*

"*Makkidi Tharakkal*", in which wood is split into two lengthwise and a peg or *Makkidi* thrust.[67]

The ground through which the boat has to be moved is first levelled and wooden planks of two-inch thickness are paved. Above these planks, wooden rollers are placed; the boat, supported on either side by two heavy logs of *Poovam* wood, which keep the boat above the ground, is slowly placed over rollers. Then the boat is tied to the *Davar* and as the *Kazhas* of *Davar* are rotated, the boat moves towards thewater. The *Uru* is launched with *Amba* and *Jawab.*

TECHNOLOGICAL STEPS OF URU BUILDING IN MALABAR COAST[68]

KEEL:

Keel is the main part of the ship. It is the backbone of the ship. The biggest keel is known as 'BAR KEEL'. It is longitudinal and forms the foundational part of the uru. Normally a long timber with a thickness of 12 x 12 square inches is used for Keel. For making Keel, lengthy pieces of wood are preferred, but pieces joined together are also used when single pieces are not available. The interlock mechanism that joins it is called a Scarped to join traditionally. It is joined by a certain gum made with a secretion from the pine tree boiled in coconut oil or some other oil. It is locally called "*pantham*". Coconut oil is added to make it pasty.

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67 Interview, Muhammed Koya Moopan, Beypore, April 25, 2016.

68 "Ship Building on the Malabar Coast before the 16th century" by C.C. Jose (*Journal of the Institute for Research in Social Science & Humanities Vol. 2*, Refereed Biannual Research Publication, November 1 January – June 2007, pp.78 – 90) gives a full description of ship buildings techniques and the raw materials used for it.

The first stage of building a vessel is the work of a keel. Keel is rectangular in form or shape. It will be a square piece if we take a portion of it. The Center line is marked on top of the keel. Keel is placed on a Bilge block for the convenience of construction; it may be a round wooden piece or a big wood. The right side of a vessel is known as the starboard, and the left side is known as the port side. The top portion of the keel corner is at a right angle; the bottom portion of the bar keel is not. There is a curvature in the corners (Bottom side). It will reduce the friction while moving the vessel in the water and at the time of launching also, the curvature helps it to roll freely.

JOINING METHODS:

First, take the stem and stern portion of the keel to be bilge block and ensure it is cutting correctly and joining well, and then take it out. Then add to traditional pasty gum prepared early (secreted from pine) called locally *"pantham"*. And apply its pasty gum on the joining side of both stem and stern using a stick, end rounded by cotton cloth. After pasting correctly and fully, place a cotton cloth piece cover covering both ends of the joining sides. Then stern is placed to the stem secretion. Fit well to the joint by using a hammer, simultaneously hitting both sides of the keel. Then, nails were placed at both ends of the keel, connected two nails with twine, and checked it was laid straight. After being fit/interlocked well, it locks with a wedge.

STEM POST:

A stem post is a forward member in the backbone assembly of a member. The bottom portion is wider than the top point. This stands for the top position. The

stem post should be a single member and have good wood quality. The stem post determines the forward shape of the vessel according to the angle of an inclination concerning the keel. The stem post and keel are joined with another part called the forefoot knee.

STERN POST:

Stem post to the backbone member fitted in the aft part of the vessel. It should be a single piece. Its width in the bottom part is larger than the upper part. The stern post's length is the vessel's height in the Aft. Aft end arrangement is concise of shaft log, horn timber, stern post and transom.

FOREFOOT KNEE:

It is the joined piece. It joins the stem, bar keel and Log keel.

SHAFT LOG:

The shaft log is the single wooden plank fitted to the keel by bolting. It is bored, and a stem tube is fitted through it. The stern tube will have a stuffing box and necessary bush. The shaft log is connected to a horn timber, or it may be a single member.

Other important Parts are:

- **Bow** - the front and generally sharp end of the hull. It is designed to reduce the resistance of the hull cutting through water and should be tall enough to prevent water from easily washing over the top of the hull.

- **Bulkhead** - the internal walls of the hull.
- **Deck** - the top surface of the hull keeps water and weather out of the hull and allows the crew to stand safely and operate the boat more easily. It stiffens an enclosed hull.
- **Gunwale** - The upper longitudinal structural member of the hull.
- **Keelson** - an internal beam fixed to the top of the keel to strengthen the joint of the upper members of the boat to the keel.
- **Rudder** - a steering device at the rear of the hull created by a turnable blade on a vertical axis.
- **Sheer** - the generally curved shape of the top of the hull. Sheers can be reversed, higher in the middle, to maximise space inside, straight, or a combination of shapes. The sheer is traditionally the lowest amidships to maximise freeboard at the ends of the hull.
- **Transom** - a wide, flat, sometimes vertical board at the rear of the hull, which, on small power boats, is often designed to carry an outboard motor. Transoms increase the width and also buoyancy at the stern.
- **Wood** - The traditional boat-building material that was and is still used for hull and spar construction. It is buoyant, cheap, widely available and easily worked. As such, it is a popular material for amateur builders, especially for small boats (of, e.g. 6-metre lengths, such as dinghies and Sharpies). It is not particularly abrasion-resistant and can deteriorate if freshwater or

marine organisms are allowed to penetrate the wood. The hull of a wooden boat usually consists of planking fastened to frames and a keel. Keel and frames are traditionally made of hardwoods such as oak, while planking can be oak but is more often softwood such as pine, larch, or cedar. Plywood is especially popular for amateur construction. *Teak or Anjili, Irul* is usually used to create the deck and any superstructure. Glue, screws, rivets, and nails join the wooden compounds.

The Tamil literature explained different types of ships, the workers of a ship, shipbuilders, captains, the mast and rope of the ship, the ship's iron pin, etc. The word *'Kalam Cheykammiyar'* denotes the workers of shipbuilding. Lines 121 to 126 of the Manimekalai song 25th refer to the shipbuilding workers, the oceanic travelling and the story of the voyages.[74] Line 70th of the 7th portion of Manimekalai refers to the word *Kalam Punar Kammiyar* denotes workers of the ships and the port[69]. Lines 28 and 29 of the 4th portion of the *Manimekalai* speak about a Captain sitting on the upper portion of the ship, lines from 30th to 34th of the 4th portion and lines from 9th to 12th of the 29th part of the song explain the ships model and the materials used for the ship.[70]

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69 *ibid,* p.156.

70 *ibid,* p. 94.

PROCESS OF SHIPBUILDING

Planning and Design

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Preparing the Site

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Procurement of Materials

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Ritual Ceremonies

↓

Frame Construction

↓

Joining Methods and Cloaking Works

↓

Installing Deck and Mast

↓

Interior and Finishing Work

↓

Painting *Cheruvi*

↓

Launching of Ship

CHAPTER V

SHIPBUILDING AND SOCIAL LIFE

In Tamil Sangam literature, the *Neithal Tinai* is described as a region that refersto a coastal region, its proximity to the sea, sandy beaches, seashells and the rhythmic sound of ocean waves. It represents the coastal ecosystem and the activities associated with coastal life.[1] During the Sangam age people like *Minavar, Parathavar, Nulayar* and *Arayar* etc. were engaged in fishing. The *Neithal* region was often associated with fishing communities and maritime livelihoods. Fishermen relied on ships, boats and other vessels to venture into the sea for fishing expeditions. These ships were vital for sustaining the coastal communities, providing a means of livelihood and sustenance.[2] Ships were inseparable from the coastal landscape, shaping the way of life and economic activities of the communities inhabiting the *Neithal* region.

Malabar is a historical and geographic region on the southwestern coast of the Indian subcontinent. The region is intercrossed by several rivers that originate in the Western Ghats and flow westward into the Arabian Sea. Some prominent rivers include the Bharathapuzha (also known as the River Nila), the Chaliyar River and the Valapattanam River. Malabar has a long history of trade and cultural exchange.

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1 Saraswathy Antharjanam, "Tinai Concept: Aesthetics Of Ancient Tamil Poetics Tolkappiyam", Journal of Positive School Psychology http://journalppw.com 2022, Vol. 6, No. 8, pp.779-792.

2 Details of coastal life has already mention in chapters, *passim*, pp. 79-80, 105-110, 133-135, 170-171.

It was a prominent center of the spice trade during ancient and medieval times, attracting traders from different parts of the world.[3]

Excavations in pattanam has brought out substantial quantity of antiquities represents the maritime contacts of the site with Mediterranean, Red sea and Indian Ocean from the pre-8th century C.E period[4].The important pottery materials got from the excavation show that they were made in West Asia. Artefacts like the Arabian Torpido Jars and Parthiyan, Sassanian Bowls which were got from the *Muciri* excavation. Parthiyan Sassanian kings were the pre Islamic Persian Kings who ruled the parts of Arabia.[5]

Malabar is dotted with several port towns along its coastline. Ibin Batuta (1324 AD), the Morocan traveller vividly narrates the ports of the Malabar such as *Helli* (Ezhimala), *Dahfattan* (Dharmadam), *Badfatan* (Valapatanam), *Calikkooth* (Calicut), etc. He recorded the life and culture of this region[6]. Boats and ships have historically played a crucial role in connecting different regions of Malabar, particularly in areas with numerous water bodies. They have used boats as a means of transportation for people, goods, and even livestock. In some remote areas, boats are still the primary mode of transport and also boats used to providing access to villages and islands that are otherwise difficult to reach by road.

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3 Pius Malekandathil, *Maritime Malabar: Trade, Culture and Power*, Primus books, 2022, p.6.

4 P.J. Cheriyan(ed.), *The heart and soul of objects,* KCHR Annual Report, 2010-11, pp. 9,10

5 P J Cherian, V Selvakumar et al.,"Evidence for the Ancient port of Muciri", in *Chemmozhi* 2(1), 2007,pp. 26-27.

6 Quoted Velayudhan Panikkassery, in, Sancharikal Kanda Keralam (Mal.), Current Books, Kottayam, 2001, pp. 163-64.

The water has been a crucial source of livelihood for Malabar region. Fishing has been a primary and traditional occupation for *the Mukkuvans, the Aryans, the Valans, the Mukayans, the Valluvans, the Ammukkuvans*[7] communities in Kerala and providing sustenance and income for numerous coastal communities and boats are essential tools for fishing activities. Among these the *Aryans* and the *Ammukkuvans* are concentrated in Kochi and southern Kerala. The *Valans* on the other hand, migrated from Kochi and settled in some parts of Malabar region at a later period. Among the traditional fishing communities the *Mukkuvans* formed the major group in this area. They are settled along the sea coast but others are at river valleys. Along the coast of Malabar, numerous fishing villages can be found. These villages are closely tied to the ocean. The communities in these villages often have a strong social bonding centered on their profession and their lifestyle reflects a deep connection with the sea. Francis Buchanan recorded:

> *"The mucua or in the plural mucuvar are a tribe who live near the sea-coast of Malayala, to the inland parts of which they seldom go, and beyond its limits any way they rarely venture. Their proper business is that of fishermen, or Palanquin-bearers for persons of low birth, or of no caste, but they serve also are boatmen. They have hereditary chiefs called 'Arayan' who settle disputes, and with the assistance of a council,*

[7] Traditional fishing castes of Malabar.

punish by fine or excommunication those transgress the rules of the caste."[8]

Fishermen rely on boats both traditional and modern to venture into the sea or navigate the backwaters for fishing. Fishing not only provides livelihoods for thousands of people but also contributes to the local economy and the availability of seafood. The fishing industry contributes significantly to the state's economy, and fish products are an essential part of the local diet. Traditional fishing methods such as small-scale net fishing, hook and line fishing and the use of traditional fishing crafts like *catamarams* are still practiced alongside modern techniques.[9] Most common traditional crafts of Malabar are: (1) Dugout[10] such as *Odam, Thoni, Beputhoni* (2) Plank –built canoe[11] and (3) Raft Catamaram[12]. [13] The construction of these crafts is done by the local carpenters who are expert in making such implements.[14] The region's fishermen rely on the sea for their livelihoods and supplying fresh seafood to local markets and contributing to the economy.

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8 Francis Buchanan, *A Journey from Madras Through the Countries of Mysore, Canara and Malabar*, Asian Educational Services, New Delhi, 1999, pp.527-28.

9 Johnsy Mathews, *Economy and Society in Medieval Malabar (A.D. 1500-1600)*, St. Mary's Press and Book Depot, Changanassery, 1996, p.145.

10 These are mainly constructed by scooping the single logs of trees like mango and *aini*.

11 It built with planks which are sewn with coir ropes. There are two types of plank-built canoes, the larger one with the length of 12m and the smaller one with 7m length.

12 It constructed by tying 3-5 logs of soft wood with coir ropes and propelled by split bamboo oars and sails.

13 Types of ships and boats has already mention in chapters, *passim*, pp. 168-169, 173-186.

14 S.L. Shanbhogue, *Marine Fisheries of India*, Indian Council of Agricultural Research, New Delhi, 2000, p.14.

Ships and maritime activities had an impact on the region's social structure, including the public arbitrations and the matrilineal system of Malabar. The coastal communities remained in an autonomous status with judicial security out of bound their social economic inferior life. *Kadavasal*, a form of public arbitration, was prevalent in coastal regions, including Malabar. It involved the disputing parties presenting their cases in public gatherings, often in the presence of local community members. The *Kadavasal* process allowed for a public hearing and the involvement of respected individuals in finding a resolution.

Social practice called *Kadakkodi* had been presided over by *Arayan* or *Karanavan* [15]. This organization was powerful enough to settle community disputes, including the granting of divorces. In early days some local Chieftains had granted to them such privileges of the use of palm leaf umbrella, a stick of authority and a red silk sash. The consent of them was necessary for regularization of marriages[16].

The *Mappila* Muslim community in coastal Malabar followed Islamic law (*Shariah)* for personal and family matters. *Shariah courts*, known as *Kazi courts or Qadi courts*, existed to resolve disputes related to marriage, divorce, inheritance, and other issues governed by Islamic principles. These courts were presided over by *Qadis or Kazis*, who were Islamic judges or jurists appointed to administer justice based on *Shariah.*[17]

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15 Village Headman.

16 T. Madhava Menon (ed.), *A Handbook of Kerala Vol.II*, International School of Dravidian Linguistics, Thiruvananthapuram, 2002, p.771.

17 Stephen Dale, *Islamic Society on the South Asian Frontier: The Mappilas of Malabar 1498-1922* , Oxford Clarendon Press, 1980, pp.65-67.

Various communities in Malabar traced their descent through female line and followed *Marumakkathayam* or matrilineal system of inheritance. *Marumakkatayam* system of inheritance especially in the coastal belts of Calicut and in northern parts of Malabar.[18] Similar to matrilineal Nayars who lived in a number of matrilineal joint families, some of the groups among the *Mappilas* such as *Keyis of Talasherry, Koyas of Kozhikode* (land owning class which received trading rights from native rulers), Arakkal royal family of Kannur, Baramis and Themims are matrilineal. Elements of matriliny can be found among Malabari's such as *Puyislams*. [19]The joint household among matrilineal *Mappilas* is called *Tharavad.* Inheritance of *Tharavad* is through female line. The residence pattern is matrilocal. Women continue to stay in their maternal *Tharavads* along with their husbands.

Brahmins and *Nairs* of Malabar followed strict rules of purity and may have avoided crossing the ocean to maintain their ritual purity. So that, the matrilineal communities, such as the *Mappilas* were actively engaged in maritime trade.[20] The *Mappila* merchants and traders, who followed the matrilineal system, played a significant role in coastal Malabar's maritime activities. The economic prosperity and social standing gained through their involvement in trade could have reinforced and supported the matrilineal system within their community.

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[18] Sebastian, Aleena. "Matrilineal Practices along the Coasts of Malabar." *Sociological Bulletin*, vol. 65, no. 1, 2016, pp. 89–106.

[19] *ibid*, p.103.

[20] Lakshmi, L R S, *The Malabar Muslims: A Different Perspective*, Cambridge University Press India Pvt. Ltd., New Delhi, 2012, p.47.

The coastal communities in Malabar, particularly those engaged in fishing hold a distinct social positioning within the region. The occupation of fishing and other maritime activities have traditionally been associated with lower castes in the social order. They have historically occupied lower positions in the caste hierarchy. They often have a close-knit community structure where social relationships and traditions are deeply intertwined with their occupation. The fishing communities are an integral part of the local culture and contribute to the socio-economic fabric of Malabar.

The sea has greatly influenced the dietary traditions of Malabar. Seafood including fish, shrimp, crab, and shellfish is an integral part of the local diet. Malabar's cooking is known for its use of spices, and the oceanic trade history has contributed to the availability and diversity of spices that enhance the flavors of traditional dishes.

Fishing festivals are an important part of the social and cultural fabric of Malabar. These festivals, often associated with religious or cultural events, celebrate the fishing community's relationship with the sea. They involve colorful processions, traditional rituals and feasts showcasing the significance of fishing in the local culture. Many coastal communities have rituals and festivals dedicated to the sea and marine deities. For example, the *Vishu festival* in Kerala often involves an offering of a special meal to the deity *Varuna,* associated with the sea.

Malabar has a rich history of maritime trade and cultural exchange with various civilizations. Malabar has been a significant center of trade since ancient times. The region's strategic location on the Arabian Sea made it a hub for

merchants from the Middle East, Europe, and other parts of the world.[21] Boats and ships played a crucial role in facilitating trade and commerce. The coastal location of Malabar made it an important trading center, attracting merchants from different parts of the world. The ships have facilitated trade relations with various regions, including the Arab world, China, Europe, and other parts of India. Spices, particularly black pepper, were highly sought-after commodities that attracted traders to the Malabar Coast[22]. The Phoenicians and Romans were among the earliest traders to establish contact with Malabar. They exported spices, silk and other valuable goods from the Malabar region. The coastal towns like Kochi, Kozhikode, Ponnani and Panthalayani Kollam were important centers of trade and commerce attracting merchants from different cultures and contributing to the growth of the economy. These early interactions with foreign traders introduced new cultural elements such as architectural styles, languages and religious practices. The region's mosques, palaces, and houses exhibit a fusion of indigenous and foreign architectural elements. The influence of Islamic and European architectural styles can be seen in the use of domes, arches, and ornate decorations in the buildings of Malabar.

The trade connections in Malabar also facilitated intellectual and cultural exchanges. Scholars, explorers, and travelers from different parts of the world visited Malabar to fostering the exchange of ideas, knowledge, and philosophies. Traders and merchants involved in coastal and overseas trade have held prominent

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[21] A. Sreedhara Menon, *A survey of Kerala History*, DC Books, Kottayam, 2012, p.73.

[22] Jamal Kochangadi, *Kerala Samskarathile Adana Pradanagal,* Vachanam Books, Calicut, 2006,p.18

positions in the social hierarchy due to their economic influence and connections with foreign cultures.[23]

Arab traders had a profound impact on Malabar's cultural transformation. They arrived in the region during the medieval period and established extensive trade networks. The Arab merchants introduced Islam to the Malabar Coast, leading to the conversion of some local communities.[24] Arabic language, customs and traditions also found their way into the local culture. The arrival of European colonial powers in Malabar during the 15th century brought significant cultural changes. The Portuguese were the first to establish a colonial presence followed by the Dutch, French and British. These European powers not only sought trade but also competed for dominance in the region. Their influence is evident in the architecture, cuisine, language and religious practices of Malabar. The cultural transformation of Malabar was not just a one-way process. The interactions between various traders and communities led to the emergence of a synergetic culture. The indigenous traditions of Malabar merged with foreign influences, resulting in a unique blend. This can be identified in the synergetic art forms, music, dance, and festivals that developed in the region.

SOCIAL ASPECTS OF SHIP BUILDING PROCESS IN MALABAR

Boats and ships hold significant cultural value in Malabar society. Traditional boat-building techniques and designs have been passed down through

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[23] Sanjay Subrahmanyam, *The Political Economy of Commerce: Southern India 1500-1650,* Cambridge University Press, New York, 1990, p.45.

[24] P.J.Cheriyan(ed.), *op.cit,* p.9.

generations, representing the unique craftsmanship and heritage of the region.

The process of shipbuilding involves various social aspects that shape the local communities and their way of life. Local communities, especially in coastal areas possess specialized knowledge about timber selection, boat design, and construction techniques. This expertise is acquired and transmitted within families or specific communities, creating a sense of identity and pride. Shipbuilding in Malabar often involves community collaboration and cooperation. It is a collective effort that brings together craftsmen, carpenters, blacksmiths, and other skilled individuals. The shipbuilding process requires close coordination and teamwork, with each person contributing their specific expertise. This collaborative approach fosters a sense of community and strengthens social bonds among the workers.

COLLECTION OF RAW MATERIALS OF SHIP BUILDING

Timber is a crucial raw material for shipbuilding. The dem and for high-quality timber for shipbuilding and construction purposes contributed to the growth of the timber trade in Malabar. Timbers like teak, rosewood, sandalwood and other hardwoods were highly sought after for their quality and durability. In Malabar, the collection process often relies on traditional practices passed down through generations. Local communities, including skilled craftsmen and forest dwellers, have a deep understanding of the forests and the suitable tree species for shipbuilding. The collection process of timber often involves the active participation of local communities. It can be a collaborative effort with community members working together to identify suitable trees, plan the gathering and coordinate the logistics. This engagement fosters a sense of ownership, empowerment and shared

responsibility among the community members.

During the ancient and medieval periods, various local kingdoms were the owners of forests. They h and over their area or forest in the way of *'Pattam'* for the permit or authorization granted for the cutting of trees or timber. It is a legal document that allows individuals or organizations to engage in timber-gathering activities. Local rulers and merchants engaged in timber cutting for various purposes, including construction, shipbuilding and trade. Timber was extractedfrom forests using traditional methods and transported through land and river routes to the coastal regions. The '*Moopan*' plays a crucial role in making decisions regarding timber gathering, including identifying suitable areas for logging determining the quantity and quality of timber to be extracted and transportation of timbers.

Wood cutting is performed at specific auspicious times or dates determined by astrological or spiritual considerations. These timings are believed to enhance the quality and usefulness of the gathered wood and ensure a favorable outcome. Specific rituals and practices are performed by '*Thachan'* under the leadership of '*Maistiry*' before cutting wood. These rituals vary across regions and traditions, but they often serve as a way to show respect for nature, seek blessings and ensure a successful and harmonious wood-cutting process. These prayers seek blessings from deities or spirits associated with the forest or nature. It is a way to express gratitude, seek permission and ask for a safe and fruitful harvest.

The woodcutting communities typically comprise individuals or groups involved in the gathering and processing of timber. They possess specialized skills and knowledge related to tree identification, felling techniques and timber

processing. The community members often work in forests or wooded areas and they selectively cut down trees according to their specific needs. In Malabar, the woodcutting communities have traditionally included indigenous tribes and local communities with a close connection to forests and their resources. These communities have relied on woodcutting as a primary livelihood and utilizing the timber for their own use or for trade within local and regional markets.

Man could drag wood logs to water with the help of buffaloes or bullocks; often the big logs were dragged to water by elephants. Skilled elephant handlers would guide the elephants to selectively uproot or drag felled logs using ropes and chains. Elephants would then carry the logs, walking along designated paths or trails to transport them to nearby riverbanks.[25]

Rivers played a significant role in transporting timber from the forests of Malabar to coastal regions. Timber logs were often floated downstream or transported in boats and rafts through the river networks. The logs were bound together using ropes or strong vines known as '*Therappam'* in Malayalam. The raft was carefully constructed to ensure stability and to prevent the logs from coming apart during transportation. Rafts were often guided and controlled by individuals who would navigate the water using poles or oars. These methods allowed for the efficient movement of timber from the forests to downstream areas or timber collection points.[26]

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[25] A Sreedhara Menon, *Kerala district Gazatteers: Kozhikode*, Superintendent of Government press, Trivandrum, 1962, p.338.

[26] V. Kunhali, *Timber Industry Related to Ship Building in Kerala: History of Traditional Navigation*, G. Victor Rajamanikkam (Ed) Tanjavur, 1998, p.159.

Rope is another raw material for timber transportations and shipbuilding. In Malabar, the traditional craft of making ropes from coconut husks is practiced by a community known as "*Ezhavas" or "Thiyyas"*. The first step involves collecting coconut husks which are the fibrous outer covering of coconuts. The husks are then soaked in water to soften them, making them easier to extract the fibers. After soaking, the husks are beaten using a wooden mallet or a mechanical device to separate the fibers from the outer husk. This process is called "retting." The fibers are carefully extracted by h and or with the help of simple tools. Once the fibers are dry, they are spun into yarns by twisting them together. This can be done manually using a spinning wheel or by using mechanical devices. The thickness and strength of the rope depend on the number of fibers twisted together. The dem and for traditional coconut husk ropes has decreased with the availability of modern synthetic ropes. There are still artisans and craftsmen in Malabar who continue to practice and preserve this traditional craft. The collection process of raw materials like timber for shipbuilding has a social impact on the local communities in Malabar. It provides livelihood opportunities for skilled craftsmen, forest workers and allied industries involved in the timber trade. The sustainable collection of raw materials supports the economic well-being of these communities and contributes to the local economy.

Different kinds of relations among the participation of procurement, woodworking, crafting and transportation of raw materials in the shipbuilding process.

SHIPBUILDING PROCESS

The traditional wooden sailing vessels, known as "*Urus"* were used for transporting goods like spices, coir, timber and other commodities. The maritime trade contributed to the economic prosperity of the region and influenced its cultural exchange with other societies. The ships used for trade in the Malabar region varied over time, depending on the era and the dominant maritime powers. Traditional wooden sailing vessels, such as the "*Uru"* and the "*Pathamar*," were commonly used by Arab and local traders for coastal and regional trade.[27] These ships were adept at navigating the shallow backwaters and river estuaries of the region.

The construction of traditional boats reflects the cultural heritage of the community. These boats often have unique designs, ornate carvings and symbolic motifs that showcase the artistic traditions of the region. The preservation of these traditional practices helps in maintaining cultural heritage and pride.

The construction of urus involves a combination of skilled craftsmanship, traditional knowledge and community collaboration.

Many Muslim families in Malabar are the contractors such as Baramis, P.I. Ahammed Koya and Sons, Al – Basheer, P.N.Hamza Koya and Company, Yusuf Sager and Company, Jiffry and Kareem Company, Bichu and Company and Binafa Enterprises of *Uru* making. These companies got a contract from wealthy foreign merchants especially Arabs for building *Urus.* Firstly, they collected Raw

[27] K.M. Bahavuddin, "Kozhikkotte Kappal Nirmanam" in *Kerala Muslimkal: Cheruthunilpinte Charitram*, Islamic Publishing House, Calicut, 1995, p.270.

materials to make a wooden ship, such as wood, nails, coir, fish oils, *charuvi* and anchor etc. Then they arranged the site, the workers and other facilities for the same.

The traditional *Uru*-making experts belonging to the carpenter caste are called Vishwakarma. The *Tachans or Asaris* were artisans who followed the occupation associated with woodwork. They have engaged the building construction and also professionalized in shipbuilding. For navigation purposes, *Asaris* constructed different types of boats and ships. They were traditionally called *"Odayees",* a sub-caste carpenter community group. As they were engaged in the construction of '*Odams'*, that is, boats, they came to be known as "*Odayees*". They got much respect and recognition in the community and society. Many families having the tradition of *Uru* building are still found in Malabar. Some such families are *Edathumpadikkal, Vattakakk andathil, Muduvanachalil and Kandamparambil*. But it is important to note that the new generation of these traditional families is least interested in continuing their ancestral heritage. Instead, men from outside, from other carpenter families and non-carpenters, have started developing as new *Maistiries.*

The *Uru* building process is led by master craftsmen known as "*Maistiries"*. These individuals have extensive experience and expertise in designing and constructing urus. They possess knowledge of traditional boatbuilding techniques. All calculations ranging from the specifications of the vessels to their floating capacity and speed would be at their fingertips. They require no charts or sketches.

Uru building engages a community of skilled carpenters and woodworkers who work under the guidance of the master craftsmen. These artisans are adept at

working with different types of wood, shaping the hull, and creating intricate wooden elements. *Kammalis* are the helpers in *Uru* making. They do works like arranging the woods in the workshop, applying sea cord oil on both sides of *Uru*, cloaking work on the gaps, painting '*cheruvi'* on the *Urus* and raising and lowering the sails. *Khalasis* are workers of a ship or boat going to the sea, pulling the boat to the sea shore, loading and unloading the cargo, shifting goods from the harbour to wagons etc. They also worked as labourers or assistants in various occupations, including trade, agriculture and other manual labour-intensive jobs.[28]

Uru construction often involves the inclusion of ornate wooden carvings and decorative elements. Artisans and carvers within the community contribute their skills to create intricate designs, motifs and embellishments that enhance the aesthetic appeal of the *Uru.*

The *Uru* building process is characterized by a collective effort and community collaboration. It combines the expertise of master craftsmen, the skills of carpenters and woodworkers, the artistry of carvers and the contributions of supporting communities. This collaborative approach ensures the preservation of traditional knowledge and skills while fostering a sense of community identity and pride in the art of *Uru* building.

Shipbuilding is often associated with festivals and rituals in the coastal communities of Malabar. The *Thachan* does *Vasthu pooja* at the time of putting the keel, which is the backbone of the *Uru. Poojas* are done in the presence of

[28] The services of *Khalasis* has already mention in chapters, *passim*, pp. 152-158.

tender coconut, *badradeepam, avil, malar*, banana, sandal, etc. The producer offers an amount to the *Maistiry*, betel leaves, and areca nut. Meanwhile, others who are present on occasion throw rice on the deepam. With this, the work of the *Uru* is started.

Launching a newly built ship is a significant event celebrated with great enthusiasm. These ceremonies involve prayers, blessings and traditional rituals to ensure the vessel's safety and prosperity. The *Thangals* make recitation of the holy book and other prayers. Festivals and rituals connected to shipbuilding strengthen community bonds and promote a sense of collective identity.

Different social groups like *Maistiry, Thachan, Thangal, Asaris, carpenters, Burma panikkar, khalasis, kammalis, rope makers* etc have engaged with the shipbuilding process. Various caste groups have jointly worked and mingled in the well ersed making of wooden craft in transcendence of their Jati boundary.

In the influence of Varna system, the caste or Jati system emerged as a social hierarchy that categorizes individuals into different groups based on birth, occupation and social status. Each caste had its own traditional occupation and individuals were expected to follow the occupation associated with their caste. [29]The jati system created a hierarchical social structure in Malabar society with certain castes considered higher in status than others. In the influence of ships and ship building in the Malabar region arising the relationship between different occupational class with or without caste discrimination. For example, *Odayees* have

[29] Eric J Miller, *Caste and Territory in Malabar*, Cambridge university press, England, 1954, pp. 410-412.

engaged the building construction and also professionalized in shipbuilding and they got much respect and recognition in the community and society. But the *Khalasis,* boat pullers of Malabar were given an inferior status due to their low-income status and the nature of their work.

The social aspects of shipbuilding in Malabar encompass a sense of community, traditional knowledge, cultural preservation, and economic sustainability. The craft not only provides livelihoods but also shapes the identity and social fabric of the coastal communities.

The presence of ships and travelers in the coastal areas created economic opportunities for the local communities. Coastal towns and villages became important trading centers, offering services and goods to the travelers. The exchange of goods and services between travelers and locals contributed to the economic growth of the region.

The interaction between travelers and the coastal communities has fostered social and intercultural exchanges. It has given the locals an opportunity to learn about different cultures, languages, and perspectives. These interactions have also influenced local traditions, cuisine, and social norms, leading to a diverse and multicultural society.

The relationship between travelers of ships and the coastal communities of Malabar has been dynamic and mutually beneficial. It has contributed to the region's economic growth, cultural diversity, and social development.

The introduction of ships and maritime trade had a profound impact on the society of Malabar. It brought about cultural exchanges, economic growth, and the infusion of foreign influences. The arrival of traders from different regions led to the development of cosmopolitan port cities such as Kozhikode (Calicut) and Kochi (Cochin), which became melting pots of various cultures and ideas.

During the colonial period, European powers introduced larger and more advanced ships to the region. The Portuguese, Dutch, and British brought in their own vessels, such as galleons and carracks, which played a crucial role in expanding trade networks and establishing their dominance in the region.

The influence of ships and maritime trade on Malabar society can be observed in various aspects, including language, architecture, cuisine and religious practices. Name of *Uru Sambook* come from Persian word *Sanbuk* and *Safeena* originated from Urdu language. *Boom* is an Arabic word of deep sea ship and *Machwa* is borrowed from Arabic word *Masua.*[30] The '*Khalasi'* is come from a Arabic word '*Khalas'*, which means 'release', 'relief' etc.[31] The region's cuisine, for example, incorporates diverse flavors and ingredients from different cultures, reflecting the culinary exchanges that occurred through trade. The architectural styles of Malabar, particularly in coastal areas, often showcase a blend of indigenous designs and foreign influences. The roofing styles in traditional Malabar houses often exhibit similarities with the construction of ship decks. Both incorporate the use of wooden planks or tiles placed closely together, forming a tight and secure

30 A kind of single-masted fishing boat.

31 Alex George,"Traditional Technology of Malabar Khalasis", in *Economic and Political Weekly,* May 6, 1989.

roofing structure. This similarity is evident in the design and arrangement of roof elements in both shipbuilding and traditional housing styles.

Oceanic relations have had a profound impact on the cultural transformation of Malabar. As a coastal region, Malabar has a long history of maritime trade and interaction with various cultures across the Indian Ocean. These oceanic connections have influenced the society, language, art, architecture, religion, and cuisine of the region.

The Indian Ocean trade routes connected Malabar with Arab traders, Chinese merchants, European colonial powers, and other regions of the world. These interactions facilitated the exchange of goods, ideas, and cultural practices. Malabar became a melting pot of diverse cultures, resulting in the blending of traditions and the creation of a unique cultural identity.

The contact with different cultures through maritime trade influenced the linguistic landscape of Malabar. Arabic, Persian, and later European languages left their imprint on the local Malayalam language. The vocabulary, syntax, and literary traditions of Malayalam were enriched by the interactions with foreign traders and scholars.

Oceanic relations influenced various cultural practices and festivals in Malabar. The traditional performing arts forms, such as *Theyyam* and *Kathakali*, were influenced by the interactions with foreign cultures. Additionally, the region's festivals, like the *Mappila Pattu and Pooram festivals*, exhibit a blend of indigenous traditions with Islamic and other external influences.

Ships have played a crucial role in the cultural transformation of Malabar. The interactions with different cultures through maritime trade have resulted in a rich and diverse cultural heritage that continues to shape the society of the region.

Ships and coastal communities have played a crucial role in promoting tourism in Malabar. The scenic beauty, cultural heritage and historical significance of the region attract tourists who arrive by sea. This influx of tourists has a positive impact on the local economy, as it boosts tourism-related businesses and creates employment opportunities.

Social Relations and Labour Participation In Shipbuilding

Stage of Shipbuilding	Labour Participation	Social Relations Involved	Description
1. Planning and Design	- *Maistiry* or Main Architect	- Customer, Contractors, *Maistiry*	The *Maistiry* worked with contractors, understood the needs of the customer and planned the ship's structure using mental calculations.
2. Preparing the Site	-Contractors	- Contractors, local inhabitants.	Contractors prepare the shipbuilding site near the waterbody with the support of local inhabitants from the region.
3. Procurement of Materials	- woodworkers and artisans like nails, coir, cotton, fish oil so on.	- Local kingdoms, Contractors, merchants, labourers	Contractors collect raw materials through local networks and transport them to shipbuilding centres with the support of labourers, facilitated by the relationships between local rulers, merchants and artisan groups.
4. Ritual Ceremonies	*Thachan, Thangal*	-Customer, *Maistiry,* Contractors, Labourers,local inhabitants,	The *Thachan* performs the *Vasthu Pooja* and the *Thangal* recites the holy book and offers other prayers at the beginning of

Stage of Shipbuilding	Labour Participation	Social Relations Involved	Description
		Thachan, Thangal.	the ship-making process, in the presence of the customer, *Maistiry,* contractors, labourers, local inhabitants and others.
4. Frame Construction	- *Maistiry,* Carpenters	- *Maistiry,* Carpenters, Hand saw workers, *Burma Panikkar* or Drill workers, *Kammalis*	In the beginning, the *Maistiry* and carpenters lay the keel, the backbone of the Ship and start the making of a ship with the support of other workers. The *Kammalis* help in ship-making by arranging the wood at the workplace. Handsaw workers prepared model wood for the construction of the ship, while the *Burma Panikkar* helped by drilling the wooden planks and driving nails.
5. Joining Methods and Cloaking Works	-Carpenters, *Kammalis*	- *Maistiry,* Carpenters, *Kammalis*	Carpenters work on joining the stem and stern portions of ships using nails, while *Kammalis* apply pastry gum *(Panthavum Paruthiyum*) to fill the gaps between wooden blocks, under the supervision of *Maistiry.*
6. Installing Deck and Mast	- Carpenters, Labourers	- Maistiry, Carpenters, Labourers	Carpenters install the deck and mast, with the support of labourers under the supervision of *Maistiry*.
7. Interior and Finishing Work	- Carpenters, Labourers, *Kammalis*	- *Maistiry,* Carpenters, Labourers, *Kammalis*	Carpenters handled the interior and finishing work of shipbuilding with the help of labourers, under the supervision of *Maistiry*. *Kammalis* also applied sea cord oil or a mixture of lime and grease to both sides of the ship, which is used to kill termites and other insects.

Stage of Shipbuilding	Labour Participation	Social Relations Involved	Description
8. Painting *Cheruvi*	- *Kammalis*	- *Maistiry, Kammalis*	In the final touch of the shipbuilding, *Kammalis* applied a mixture of animal ghee and lime used paint up to the level of the dipping area of the ship under the supervision of *Maistiry*.
9. Launching of Ship	- *Khalasis*	- Customer, *Maistiry,* Contractors, *Khalasis*, Labourers, local inhabitants, *Thantri, Thangal*.	The *Thantri* performs the pooja, while the *Thangal* recites prayers, creating a festive atmosphere to celebrate the occasion of the ship's launch into the water. This event takes place in the presence of the customer, *Maistiry,* contractors, labourers, local inhabitants and others. The *Khalasis* release the ship into the sea using their traditional tools, such as *Davar, Kazhas*, wooden bars, pulleys and ropes, relying on their skill and the strength of their hands with the leadership of *Moopan.*

CONCLUSION

The Indian shipping industry has a long history from ancient civilizations onwards. Lothal is known as the port city of this civilization. The remains of a drawing of a ship from one seal of the Harappan site, Lothal also provide evidence of a dockyard, suggesting shipping and trade. India carried her trade relations with most of the world, including Europe, Africa and Arabian countries. Through this relationship, the food products are exported and Indian vessels into other countries. Thus, from ancient times onwards, India had a position in shipping and foreign trade.

Malabar played a vital role in maritime activities in the world. It is an important centre of natural resources like pepper, cardamom, cinnamon, timber, iron, etc. Malabar's long Coastal lines have provided its naval tradition and many natural ports. Malabar coasts like Calicut, Panthalayani Kollam, Kasargod, Kumbala, Neeleshwaram, Dharmapattanam, Ezhimala, Badagara, Parappanagady, Beypore, Ponnani etc., were famous for different parts of the world with its Geographical specialties, fertile soil, availability of spices and so on. The ships easily anchored in the region, developing the Indian Ocean maritime trade.

Malabar developed into an important centre of wooden shipbuilding construction right from the medieval period due to its location features; as an estuary, the river was deep and the water was less salty like Beypore; Malabar gave lasting force to the *Urus*. So Malabar was a favourable place for the building and launching of urus. The *Uru* construction model in Beypore describing Sumerian

uniform tablet descends about 5000 years of the mastery of *Uru* construction of Beypore.

The *pandi* or keel of an *Uru* is made up of *teak or karimaruth*. The availability of best quality teakwood from Nilambur and Wayanad, the role of rivers like Chaliyar as convenient channels to float them to the destination point and the availability of skilled carpenters and *Khalasis* have made *Uru* building a lucrative industry. The long durability of the Uru is also an attractive factor behind the Uru. It has existed for forty or fifty years with its maintenance and again existed for a long period.

The master craftsmen (*Maistiries)* fabricated these wonderful ships with no modern tools and techniques but simply through traditional craftsmanship and mental calculations. This sort of *Urus*, made mainly in the use of woods, purely in a traditional manner under the leadership of *Maistiries* for months or years with the assistance of carpenters and other workers, reveals the ability and tradition of Malabar. What makes the ships of Malabar unique is the handwork of 'Carpenters', the perseverance of 'Hand Saw Workers' and the special expertise of *'Khalasis'* in releasing them into the waters. This sort of expertise, perseverance and tradition implies historical importance to Malabar.

The labourers involved in *Uru* making came from different religions, classes and castes. The carpenters are from the Viswakarma community. *Asari* community's service for the emergence of Malabar's shipbuilding industry should be mentioned here. They concentrated in and around the port towns of Malabar. In Malabar, the Uru making or construction companies are under the control of Muslims. At the

same time, the carpenters are from other communities. Thus, the construction of *Uru* is a social gathering. Also, the role of *Mappila Khalasis* is unavoidable in work. *Khalasis* are a mixture of black and white. There are different interpretations of these *Khalasis.* The main duty of *Khalasis* is lifting the wood. *Khalasis* became important when the launching of the *Uru.* The launching process is a festive occasion for the natives and all others. The traditional technology of those groups of *Khalasis* is well-known all over the world.

Khlasis have their own songs referring to their technology. They have mastered the use of capstan and pulleys. They use traditional techniques in their works. The shipbuilding *Khalasis* also engage in bridge construction. Now, most *Khalasis* have migrated to other places for other work. But at the time of the launching of *Uru*, the presence of these *Khalasis* can be seen. The *Khalasis* are the important working group in *Uru* making of Malabar.

There are many rituals conducted as a part of the *Uru* construction. These rituals will start with the tree cutting for *Uru* making and till the *Uru* launching into the water.

The historical root of the *Uru*-building tradition is not clear. We do not have written evidence and there are different opinions about its origin. Some people believe that the Arabs, who did have the tradition of Noah, had planted the seeds of the Uru construction of Malabar in the Middle ages. There is another view that it wasthe contribution of *Gujarathi Maistiries* called '*Kaithars'*. Yet another argument favours the indigenous origin; the *Maistiries* of Malabar hold that ships quite similar to Noah's ark were made here from ancient days.

A striking similarity between the *Odams* of Lakshwadeep and the Urus of Malabar has often been noticed and the method used for the construction in both cases is almost the same. But the former was smaller in size and had a lesser amount of technical perfection. Moreover, while native people used *Odams* for local purposes, Urus was constructed exclusively for overseas trade and travel.

The Indian Teak played a prominent role in the shipbuilding activities of Great Britain. Due to the increasing need for teak timber, they even started a plantation in Malabar, later known as the *Connolly teak plantation*, named after the then-district collector of Malabar. Forest conservation in India and Malabar was not a part of the knowledge of forestry and the importance of forest preservation. But it was the material need for the East India Company ironically when the knowledge of the forest resources occurred in Malabar during the early 19^{th} century.

The development and spread of artisan communities like *Asari or Tachans, Kollans* etc., in and around the port towns in the Malabar region based on the shipbuilding industry. Malabar was also a trade centre for Westerners from ancient times.

The development of port centres in this region promoted more employment opportunities for society and encouraged the service of skilled and unskilled labourers. So, there was a dem and for the service of *Asaris* and *Kollans* for the construction of ships and port centres.

A significant feature of the *Uru* tradition is that very little change has occurred in the nature and technique of its construction over the ages. Recently foreign timbers like Malaysian Marbo woods and teak have been increasingly used

as material for *Uru* construction due to the shortage of large and long Nilambur teak. Steel bars and steel are also used to construct Deck and Davar. The noticeable modern additions worth mentioning are the use of iron nails instead of wooden nails, plastic and iron ropes instead of traditional ropes and an iron pulley. Recently motor engines have replaced the use of wind mats (Masts). The rise of contract companies and the appearance of expert *Maistiries* from other castes is a welcome change of recent times. Apart from these, the techniques and nature of craft involved in the construction process remained antique. This specialty helps to sustain the unique tradition of Malabar.

Though *Uru* construction had started for overseas trade, today, the situation has completely changed. While sea-borne trade is carried out in huge modern ships today, Urus has developed into luxurious vessels used mainly for tourism purposes. They are purchased by the aristocratic groups of Middle East countries, especially for chartering picnic journeys or for running floating hotels. The dem and for Uru is mainly from Qatar because the Arabs consider the Malabar wooden vessel as a sign of their social status. Thus, the Malabar wooden vessels are more attractive to the Arabs. However, Urus of Malabar is still highly in dem and for its exquisite beauty and extraordinary technical perfection.

Despite all these, this great heritage and the age-old tradition of Malabar as the centre of the *Uru* building is now facing a serious crisis. The shortage of strong and quality timber, the lack of expert *Maistiries*, the unavailability of workers, the mounting labour charges, the shrinking physical space for workspace, etc., are causing trouble in the progress of this industry. We need powerful state support and encouragement to overcome these difficulties; the Heritage Shipbuilding Project of

Beypore, started with this end in view, has been suspended and the state government shows little interest in it now. Recently alternate centres of *Uru* construction have developed – at Mangalore, the Kuch in Gujarat and a few places in the Gulf countries. Expert workers of Malabar have now started moving to these locations. Unless the government takes strong measures to protect this cherished native tradition, there is every possibility to believe that the heritage as such will soon disappear from the land of Malabar. *Uru* making is complete due to social gathering, harmony and hard work of the society. All these factors are evident in the history of *Uru.*

GLOSSARY

Amaram	:	Stern of a ship.
Amba Chollal	:	Particular couplets of *Beypore Khalasis*, which they used to sing while they are engaged in their work.
Aniyam	:	Prow of a ship.
Aruthi	:	Top plank of an Uru.
Ashari	:	A traditional skilled carpenter.
Badra Deepam	:	Lightening lamb, which use in ritual time.
Baloos	:	A type of work in which a wood is split in the middle and a peg or *Makkidi* is thrust into it.
Baramis	:	Descendants of Arab traders came from Yamen.
Burma Panikkar	:	Drill workers of *Uru* building.
Catamaram	:	Tied logs
Cheruvi	:	Mixture of animal ghee, lime and oils, used for waterproof in the area of ship.
Cherps	:	Gaps between joined wooden planks.
Dakshina	:	Offering of gift, offering, or fee given out of respect, gratitude, or as part of a ritual.
Davar	:	One of the wooden instruments of *Beypore Khalasis.*
Jadka	:	A type of craft drawn by a single horse.

Jawab	:	The practice of repeating the song sung by *Ambakaran.*
Kabers	:	Type of nails, which head shaped rectangular model.
Kaikottipattu	:	The traditional song sung during the performance of *Kaikottikali* (also known as *Thiruvathirakali*), a popular folk dance of Kerala.
Kaithars	:	Title of *Gujarathi Asharies.*
Kalpath Kammali	:	A type of gap filling work between the planks of Urus with cotton.
Kammalis	:	A group of workers who are engaged in grounding and releasing of boats.
Kavus	:	A garden around a deity which comprises some holyplants.
Kazha	:	Long wooden bar made of teak.
Keel	:	The lowest and largest timber of a ship.
Kevi	:	*Odam* owner of Lakshadweep.
Khalasis	:	An Arabic word used for a group of labourers whowere mainly related with ships.
Kolkali	:	Traditional folk-dance form of Kerala or Stick Dance.
Kuduthis	:	Wooden nails.
Maistiry	:	Supervisor or foreman.

Makkidi	:	A tool for joining the oval wooden planks with the bottom of *Uru.*
Makkidi Tharakkal	:	A method of joining the Baloos of two sides of *Uru* with the rope.
Malmis	:	Muslim religious scholar of Lakshadweep.
Mattam	:	Design.
Mooppan	:	The chief.
Nand Kettal	:	The work of binding two pieces of woods together which had been placed under the *Urus.*
Odam	:	The indigenous wooden ship of Lakshadweep.
Odam Kanal	:	A ceremony conducted in a day when *Odam* wasreleased.
Pack	:	An area for loading the goods.
Pamaram	:	Mast.
Parameel	:	The timber at the inner of the *Uru* which is used forbalancing the weight.
Parijakali	:	Traditional martial dance form from Kerala, India, deeply rooted in its cultural and religious traditions.
Panthavum Paruthiyum	:	A solid material made of secretion of *payni* and cotton.
Pathemari	:	A native vessel larger than a cargo boat.
Paya	:	Cottan cloth used for Mast.
Thachan	:	Master of traditional carpenters.

Thalabandavi	:	Main Ashari of Odam.
Thangal	:	A Malayalam title of descendants of the prophet Muhammed.
Tharthala	:	The timber at the tip of the *Uru* which is used for balancing the weight.
Thantri	:	Responsible for performing and supervising rituals, maintaining the temple's spiritual sanctity, and ensuring that religious practices.
Therappan	:	The method of bunting woods from jungle through river.
Thooku Katta	:	A tool used by the carpenters to measure the degree of stem and stern.
Thuruth	:	A small island in a river.
Uru	:	The indigenous wooden ship.
Urula	:	A device made out of rolled *poovam* timber used bythe *Khalasis*.
Winch	:	A machine for hoisting heavy of objects by means ofa rope or chain wound around a drum.

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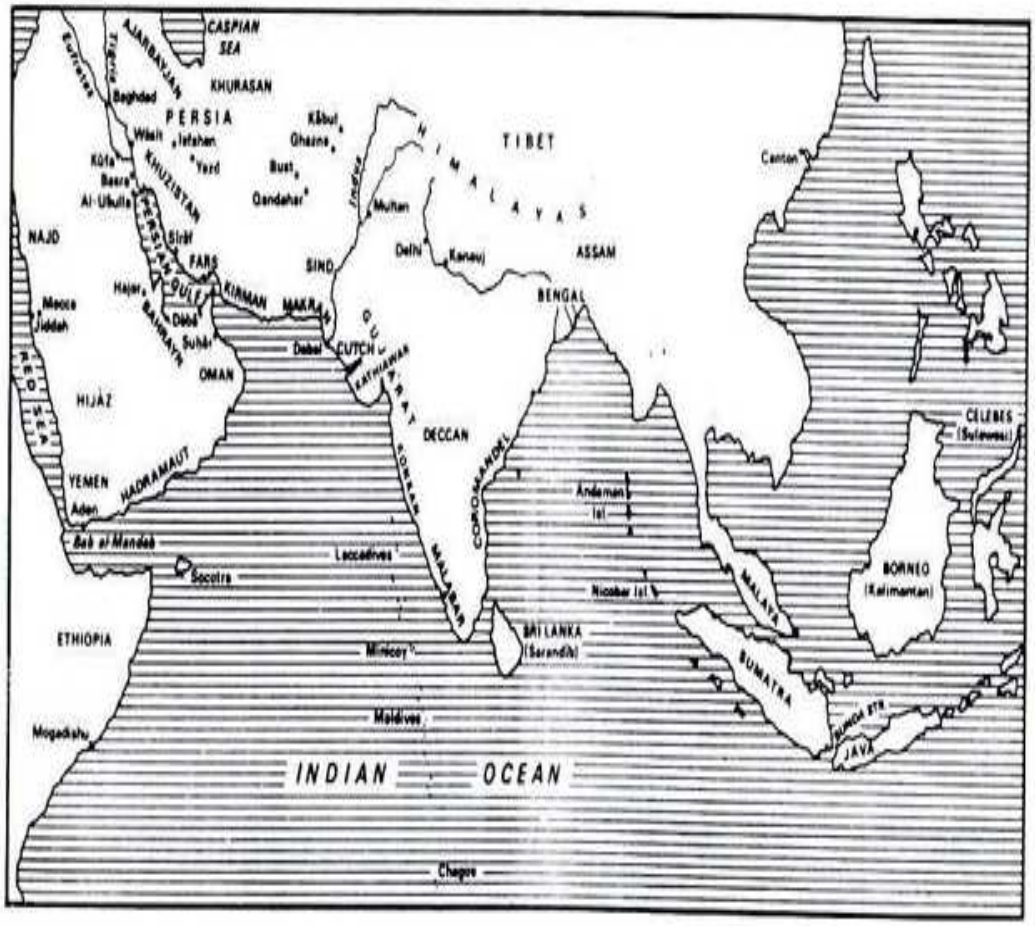
MAPS & ILLUSTRATIONS



THE INDIAN OCEAN WORLD

MALABAR

BEYPORE PORT

KALLAI RIVER

KALLAI TIMBER MART

OLD RAILWAY STATION, CHALIYAM

NILAMBUR TEAK

MALABAR KHALASIS

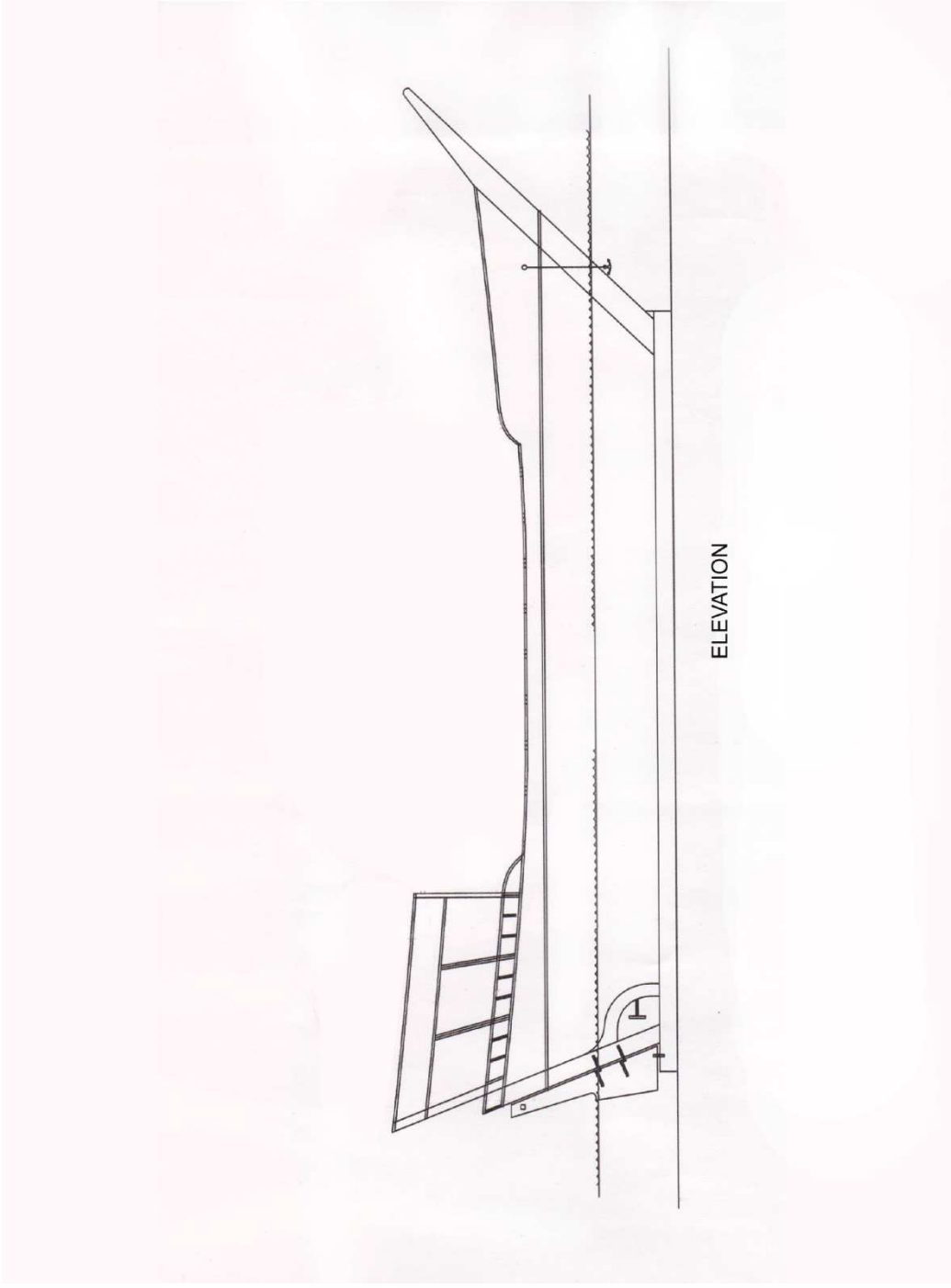
RITUALS AT THE TIME OF URU LAUNCHING

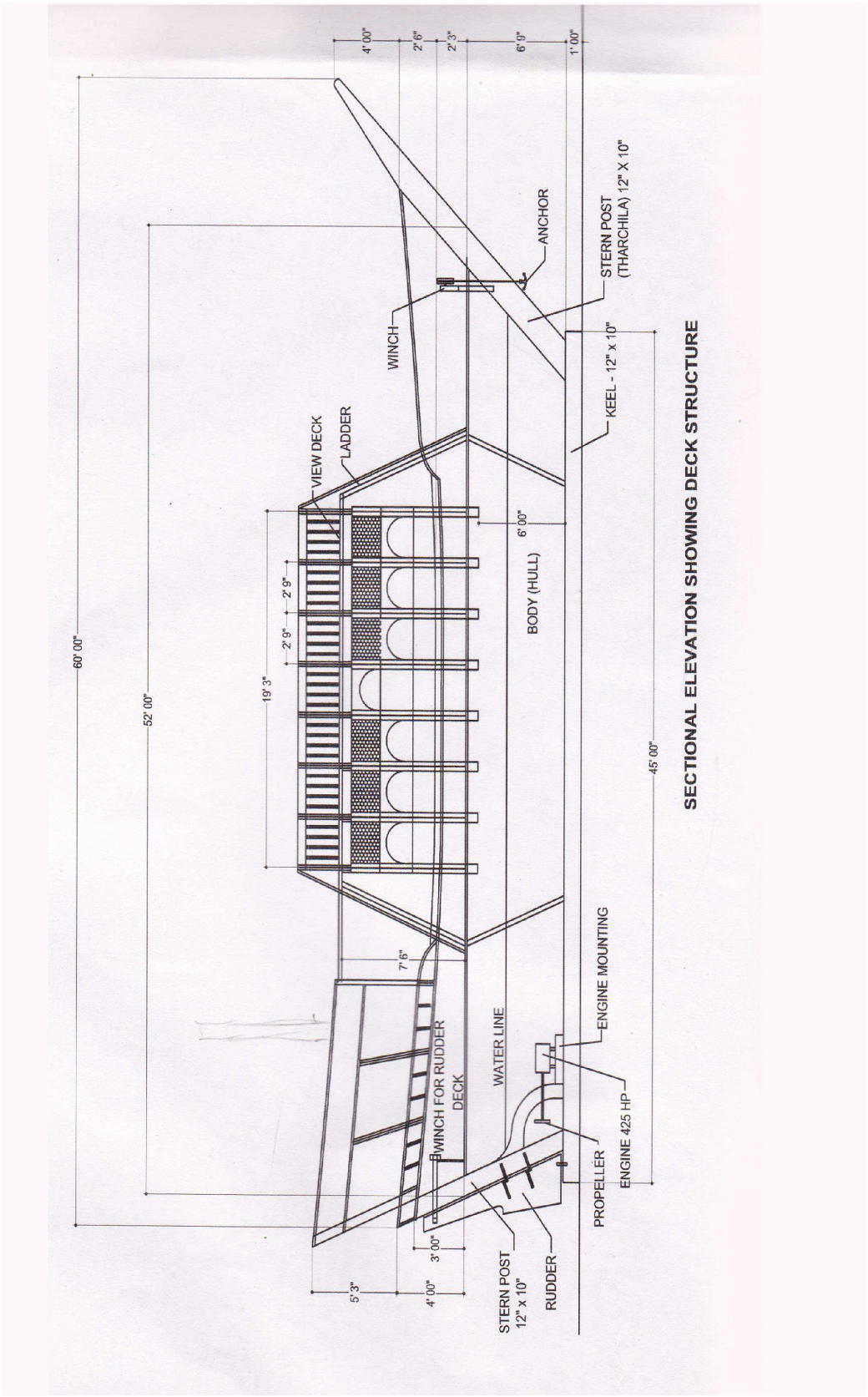
URU BUILDING SITES

URU MAKING LOGS

LAUNCHING URU IN BEYPORE RIVER

DESIGNS OF URU





(Source: Researcher Collected from the field)

DIFFERENT STAGES OF URU BUILDING

Frame Construction (Source: Photograph by Researcher)

Joining methods and Cloaking works
(Source: Photograph by Researcher)

Interior Work (Source: Photograph by Researcher)

Exterior work (Source: Photograph by Researcher)

Launching Process (Source: Photograph by Researcher)

Launching of *Uru* (Source: Photograph by Researcher, 16.04.2015)

***Uru* in the river** (Source: Photograph by Researcher)

APPENDICES

Appendix I

LIST OF TIMBER TREES USED FOR SHIP MAKING

There are over 150 species of timber which are produced in India. Following are the chief varieties of timber trees which are used for ship making purposes:

Common name	Binomial nomenclature	Colour	Density	Location	Characteristics, Usage and Status
Aini or Aangili	*Artocarpus hirsutus*	Yellowish brown	595 kg/m³	Maharashtra, Andhra Pradesh TamilNadu, Karnataka, Kerala	Elastic, close-grained, and strong. It is shining. It is best for building parts which lay under water. It is also used for constructing ordinary buildings and furniture.
Bamboo	Family Poaceae, tribe Bambuseae			Throughout India, especially Assam and Bengal	Not actually a tree, but a woody grass, it is flexible, very strong and durable. It is used for scaffoldings, thatched roofs, rafters, temporary bridges, and so forth.
Benteak	*Lagerstoemia parviflora*		675 kg/m³	Kerala, Madras, Maharashtra, Karnataka	It is strong and takes up a smooth surface. It may be used for building constructions, boat building and furniture.

Common name	Binomial nomenclature	Colour	Density	Location	Characteristics, Usage and Status
Coconut	*Cocos nucifera*	Reddish brown		Throughout coastal India	Takes polish. Requires preservative treatment. Used as poles, piles, furniture and as formwork in concrete construction.
Hopea	*Hopea parviflora*	Light to deep brown	1010 kg/m³	Madras, Kerala	Hopea is extremely strong and tough. It is difficult to work. However, it can be seasoned easily and it is durable and not likely to be damaged by white ants. It has been variously used for ordinary house construction, railway sleepers, piles, and boat building.
Irul, Pyinkado	*Xylia xylocarpa*		830-1060 kg/m³	Karnataka, Kerala, Andhra Pradesh, Maharashtra, Orissa, Tamil Nadu	It is very hard, heavy and durable. Difficult to work, it also requires slow and careful seasoning. It is used for railway sleepers, agricultural instruments, paving blocks, and heavy construction.

Common name	Binomial nomenclature	Colour	Density	Location	Characteristics, Usage and Status
Jack	*Mangifera caesia*.	Yellow, darkens with age	595 kg/m³	Karnataka, Maharashtra, Tamil Nadu, Kerala	It is compact and even grained. It is moderately strong and easy to work. It takes a good finish and maintains its shape well. It has many uses including plain furniture, boat construction, well curbs, door panels, cabinet making and musical instruments.
Jarul	*Lagerstroemia flos-reginae*	Light reddish gray	640 kg/m³	Assam, Bengal, Maharashtra	Hard and durable, it can be easily worked. It takes a good finish and is used for house construction, boat building, railway carriages, cart making and scaffolding.
Kathal, Keledang, Jackfruit	*Artocarpus heterophyllus*	Yellow to deep brown	800 kg/m³	Karnataka, Andhra Pradesh, Kerala, Maharashtra, Tamil Nadu	It is heavy and hard. It is durable under water and in damp conditions; however, it cracks if exposed to direct sun. White ants do not attack it. It is used for piles, platforms of wooden bridges, door and

Common name	Binomial nomenclature	Colour	Density	Location	Characteristics, Usage and Status
					window panels.
Lauraceae, Saj	Lauraceae	Dark brown	880 kg/m³	Karnataka, Andhra Pradesh, Bihar, Orissa, Madhya Pradesh, Kerala, Tamil Nadu	It is strong, hard and tough. It is subject to cracking and attack by dry rot. White ants do not attack it. It takes a smooth finish. It is used for such purposes as house construction, boat construction, railway sleepers and structural work.
Sal	*Shorea robusta*	Brown	880-1050 kg/m³	Karnataka, Andhra Pradesh, Maharashtra, Uttar Pradesh, Bihar, Madhya Pradesh, Orissa	It is hard, fibrous and close-grained. It does not take up a good polish. It requires slow and careful seasoning. It is durable under groung and water. It is used for railway sleepers, shipbuilding, and bridges.
Teak	*Tectona grandis*	Deep yellow to dark brown	639 kg/m³	Central India and Southern India	Moderately hard, teak is durable and fire-resistant. It can be easily seasoned and worked. It takes up a good polish and is not

Common name	Binomial nomenclature	Colour	Density	Location	Characteristics, Usage and Status
					attacked by white ants and dry rot. It does not corrode iron fastenings and it shrinks little. It is among the most valuable timber trees of the world and its use is limited to superior work only.

Appendix II

PRINCIPLES OF SHIPBUILDING

Basically some necessary technical knowledge related to the ship building like the Archimedes Principle, the 'metacentric' height, centre of buoyancy, centre of gravity, structural analysis etc.

Archimedes Principle

Ship partially or fully immersed in a fluid/water until weight of water displaced by the underwater volume is equal to the weight of the ship.

Center of Buoyancy

The geometric center of the ship is underwater hull body. It is the centre of the gravity of the volume of water which a hull displaces. It is the point at which all the forces of buoyancy may be considered to act in a vertically upward. The Center of Buoyancy will move as the shape of the underwater portion of the hull body changes.

The Laws of Buoyancy

1. Floating objects possess the property of buoyancy.

2. A floating body displaces a volume of water equal in weight to the weight of the body.

3. A body immersed (or floating) in water will be buoyed up by a force equal to the weight of the water displaced.

Metacentric Height

Metacenter is the intersection of two successive lines of action of the force of buoyancy as ship heels through small angles. Metacentric Height is a measurement of the ship initial static stability of a floating body.

Metacentric Radius

It is the distance between the Center of Buoyancy and the Metacenter. It is actually the radius of the circle for the movements of Centre of Buoyancy at small angles of heel.

Centre of Gravity

It is the point in a body where the gravitational force may be taken to act.

Structural Analysis

It is the determination of the effects of loads on physical structures and their components.

Positive Stability

The metacenter is located above the ship's center of gravity. As the ship is inclined, Righting Arms are created which tend to return the ship to it is original, vertical position.

Neutral Stability

The metacenter and the ship's center of gravity are in the same location. As the ship is inclined, no Righting Arms are created. (Until the metacenter starts to move after the ship is inclined past 7^{o}-10^{o}).

Negative Stability

The ship's center of gravity is located above the metacenter. As the ship is inclined, negative Righting Arms (called upsetting arms) are created which tend to capsize the ship.

Hydrostatics Terminology

- **Displacement:** total weight of ship = total submerged volume of ship (measured in tons).
- **Draft:** vertical distance from waterline to keel at deepest point (measured in feet).
- **Reserve Buoyancy:** volume of watertight portion of ship above waterline (important factor in ship's ability to survive flooding).
- **Freeboard:** vertical distance from waterline to main deck (rough indication of reserve buoyancy).

Appendix III

TRADITIONAL SONG OF LAKSHADWEEP[1]

People of Lakshadweep used to sing particular couplets while they were engaged in their work, especially while releasing their Odam in the sea. One person will chant these lines of the song loudly, and other group members will repeat those lines in the chorus. The recitation is intended to reduce the burden of their work. The song reflects different occasions related to their social life. Although it lacks poetic quality, it has a harmonious rhythm and musical tone that appeal to the heart.

Obe Lobe Lobe Laa – Paa

De Le Ol Be So Be Laa

Ettuthandum Chukkanum – Nalla

Amaratha Kolli Marakkaro

……

Onnam Thengumal Oru Madalolayil

Onnallokilikooduketti

Kooduketti Pinnemuttayittu

Muttayilayyangu Kunjam Vachhu

……..

Aabeliobeli Obel – Aa Beliyo

Aa Belichumbelivell Bel – Aabeliyo

Onnalla Onnayanayam – Aabeliyo

Onnalla Rand Kalimaa – Aabeliyo.

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[1] N. Koya Haji, *Sagaratheerathe Paitrukam Thedi: Lakshwadeepinte Charitravum Samskaravum*, Current Books, Kottayam, 2007, p.21.