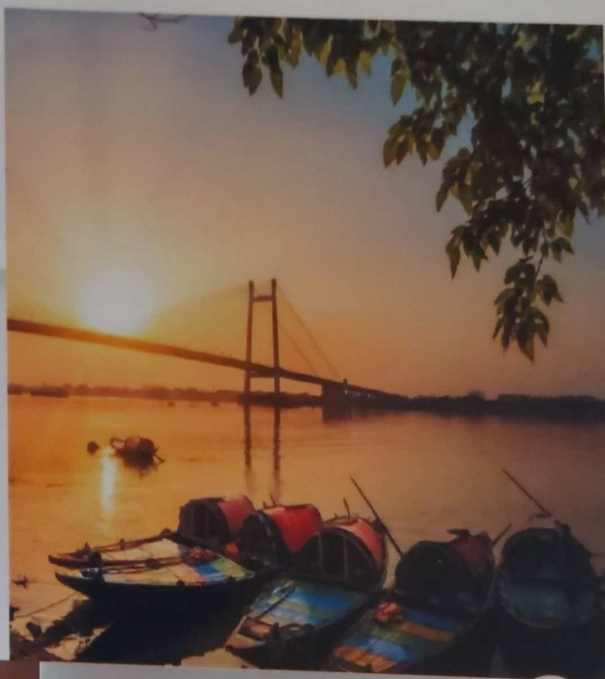


HISTORY OF INLAND TRANSPORT IN GOA



History of Inland Transport in Goa

A Dissertation for

Course code and Course Title: HIS – 651 Dissertation

Credits: 16

Submitted in partial fulfilment of Masters in Arts in History

by

YASHASVI TAMSE

Seat Number: 22P050063

ABC ID: 608928041430

PR Number: 201905479

Under the Supervision of

DR. SEEMA S. RISBUD

D.D Kosambi School of Social Sciences and Behavioral Studies MA
in History



GOA UNIVERSITY

Date: 19 April 2024

Examined by: *Ms. Smita Rhodi*



DECLARATION BY STUDENT

I hereby declare that the data presented in this Dissertation report entitled, "History of Inland Transport in Goa" is based on the results of investigations carried out by me in the History Discipline at the D.D. Kosambi School of Social Sciences and Behavioral Studies, Goa University under the Supervision of Dr. Seema S. Risbud and the same has not been submitted elsewhere for the award of a degree or diploma by me. Further, I understand that Goa University or its authorities will be not be responsible for the correctness of observations / experimental or other findings given the dissertation.

I hereby authorize the University authorities to upload this dissertation on the dissertation repository or anywhere else as the UGC regulations demand and make it available to any one as needed.



Yashasvi Prashant Tamse

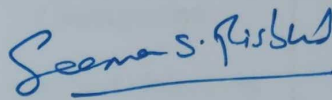
Seat no: 22P050063

Date: 19/04/2024

Place: Goa University

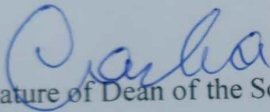
COMPLETION CERTIFICATE

This is to certify that the Dissertation report "History of Inland Transport in Goa" is a bonafide work carried out by Ms. Yashasvi Prashant Tamse under my supervision in partial fulfilment of the requirements for the award of the degree of Masters in Arts in the Discipline of History at the D.D. Kosambi School of Social Sciences and Behavioral Studies, Goa University.



Signature of Dr. Seema S. Risbud

Date: 19/04/2024



Signature of Dean of the School

19/04/2024

Place: Goa University.



	CONTENTS	
CHAPTERS	PARTICULARS	PAGE NUMBERS
	Preface	i
	Acknowledgement	ii
	Abstract	iii
1	Introduction	1
	1.1 Background	1
	1.2 Aims and Objectives	5
	1.3 Hypothesis/ Research Problem	5
	1.4 Scope	6
	1.5 Literature review	7
2	Transport System in Pre-Portuguese Goa	15
	2.1 Concept of <i>Vahana</i>	15
	2.2 Importance of Transport in Early Period	17
	2.3 Land Transport in Goa	18
	2.4 Load Rests	20
	2.5 Use of Animals for Transport	21
	2.6 Men Power for Transport	23
	2.2.1 Water transport in Goa	23
3	Transport system in colonial period	26
	3.1 Land transport during colonial Goa.	27
	3.1.1 Roads in Goa	31
	3.2 Transport through Travelogues	
	3.3 Traveling during Portuguese period	33

	3.3.1 Use of <i>Machilas</i>	34 35
	3.3.2 Condition of Boyas	38
	3.3.3 Railways in Goa	40
	3.3.4 Bus service during colonial period	42
	3.4 Transport by water	45
	3.4.1 Ferryboat in Goa	48
	3.4.2 Types Canoes Boat Building in Goa	
4	Transport Through Cultural expressions	51
	4.1 The Aspects Cultural Expressions in Goa	52
	4.2 Land Transport and Culture	53
	4.2.1 Horse depicted through cultural expressions	54
	4.2.2 <i>Ghodemodani</i>	55
	4.2.3 <i>Zatra</i> , and <i>Utsav</i>	57
	4.3 Waterway festivals	61
	4.4 Procession through <i>Sangod</i>	62
5	Transport and economy	69
	5.1 Exchange of foodstuff and commodities	70
	5.1.2 Weekly markets and seasonal fairs	72
	5.1.3 Transport and trade routes.	73
		75

	5.1.4 The Hinterland Trade	
	5.1.5 Animals for transport	76
	5.1.6 Economy through Railways	77
	5.1.7 Use of bicycles in Goa	79 80
	5.2 Movement of goods through waterways	82
	5.2.1 Ore transportation in Goa	
6	Conclusion	84

PREFACE

In the histories of human civilization, the evolution of transportation has been a basis of societal progress. From ancient trade routes to modern highways, the means by which people and goods move have profoundly shaped cultures, economies, and landscapes. In the small but historically rich region of Goa, located on the southwestern coast of India, the story of inland transport unfolds with unique significance.

This research seeks to explore the history of inland transport in Goa, tracing its origins, development, and transformative impact over the centuries. From the early trade networks established by ancient civilizations to the colonial-era infrastructure projects, to the advent of railways to the modernization, the transportation scene of Goa reflects the connections of various influences and historical forces.

Through a thorough examination of historical accounts, and scholarly research, this study aims to lighten various modes of inland transport that have shaped the socio-economic fabric of Goa. Moreover, it seeks to explore the cultural, environmental, and geopolitical dimensions of transportation in this region, shedding light on the interconnections of local communities.

By uncovering the past of inland transport in Goa, this research not only contributes to the understanding of regional history but also offers insights into the broader dynamics of transportation evolution. It is my hope that this study will serve as a valuable resource for scholars, policymakers, and enthusiasts interested in the rich knowledge of Goa's historical legacy and its impact on the present and future.

ACKNOWLEDGEMENT

In the course of this research, I had the opportunity of meeting many people connected with this dissertation. Most people were helpful and generous with their time as well as suggestions.

I extend my heartfelt gratitude to my guide, Dr. Seema Risbud, whose support, guidance, and expertise have been invaluable throughout my dissertation journey. Her dedication and encouragement have been instrumental in shaping this work. I am also deeply thankful to the staff at the Krishnadas Shama State Central Library, University Library for their assistance and resources, which enhanced my research experience. I extend my gratitude to the individuals I encountered during my field visits, whose willingness to share their insights and knowledge greatly contributed to the richness of this study. Their contribution has been invaluable, and I am sincerely appreciative of their willingness to engage in dialogue and share their experience.

Finally, I express my sincere appreciation to my family for their enduring support, without which this endeavour would not have been possible. Their encouragement and understanding have been a constant source of motivation, and I am profoundly grateful for their love and encouragement.

GLOSSARY

<i>Alankar</i>	:	To decorate
<i>dodarmarg</i>	:	Broad Road
<i>dodda</i>	:	Broad
<i>Dakti bidi</i>	:	Narrow Road
<i>Boyas</i>	:	People employed for transporting palanquin
<i>Davorne</i>	:	load rests
<i>Dhobi</i>	:	washerman
<i>Ghat</i>	:	a hilly region
<i>Ghodo</i>	:	Horse
<i>Ker</i>	:	Kannada word for road
<i>kodu tel</i>	:	bitter oil
<i>Khats</i>	:	bed
<i>Kadelin</i>	:	Chair
<i>Kansale</i>	:	traditional musical instrument
<i>Murti</i>	:	the idol of the god
<i>Nandi</i>	:	Bull
<i>palkhis</i>	:	a palanquin
<i>Paivatt</i>	:	a narrow street
<i>Pandits</i>	:	priest of the temple
<i>Paltadem</i>	:	land across the river
<i>Palnem</i>	:	a cradle

<i>Paddav</i>	:	flat-bottomed boats\
<i>Piddo</i>	:	lower end of the coconut leaf
<i>Pittôlli</i>	:	bronze sheet
<i>Vodekar</i>	:	a boatman
<i>Ratha Yatra</i>	:	chariot procession
<i>Raths</i>	:	a wooden chariot for the procession of deities
<i>sangod</i>	:	2 boats attached together
<i>Tari</i>	:	one who drives a boat
<i>Tari-Voddem</i>	:	small-sized boat used for ferrying passengers
<i>Tolda</i>	:	awning
<i>Utsava</i>	:	annual festival of temple
<i>Ulantti</i>	:	a type of narrow and long canoe
<i>Vahana</i>	:	a vehicle or a carrier of Hindu deities
<i>Vaddi</i>	:	Boat
<i>Voddem</i>	:	traditional wooden boat
<i>Vaidyas</i>	:	a doctor
<i>Vellu</i>	:	Bamboo tube
<i>Zatra</i>	:	annual festival in a temple

ABSTRACT

This dissertation explores the historical evolution of Goa's inland transport system, offering a comprehensive analysis of its development over time. This study aims to provide insights into the various modes of transportation that have shaped the region's landscape. Through research and analysis, this dissertation seeks to uncover the socio-economic implications and cultural significance of Goa's inland transport networks. It aims to deepen our understanding of the forces that have influenced transportation in Goa. This study also highlights the unique challenges and innovations that have characterized Goa's experience. By presenting a wide perspective on Goa's inland transport system, it seeks to enrich our appreciation of the region's rich cultural heritage and its enduring legacy in transportation.

Keywords

Transportation, Pre-Portuguese, Portuguese, Socio-Culture, Economy

CHAPTER 1

INTRODUCTION

Goa is an integral part of the Konkan region, stands well-known for its rich history, culture, society and religion. It is situated mid-way along the West coast of India. Nestled midway along the West coast of India, is a tropical haven embraced within the Western Ghats, blessed with a beautiful coastline. The transportation system in Goa traces its roots from ancient times to the colonial era. Enduring the rule of different dynasties, transportation methods in Goa evolved to meet the changing need of its people. This study aims to trace the historical development of transportation methods in Goa, shedding light on the journey of the region over the centuries reflecting its role in shaping Goa's culture, economy and society.

Road is a way regularly traversed by people, animals, or wheeled vehicles. In Sanskrit the term for road is *Marg*. The existence of a road network necessarily implies the collaboration of the nature and man, and corresponds therefore to a geographic and human choice. Natural obstacles compel land transit to follow the lines of least resistance, to take the most convenient passages and contribute to the establishment of roads along well-defined trails.¹

In Goa, various terms are employed to describe different types of roads. For instance, the term "*ker*" borrowed from Kannada has been in use since the 11th century to denote a

¹Jean Deloche, *Transport and Communications in India, Prior to Steam Locomotion*, vol. 1 (Delhi: Oxford University Press, 1993), 7.

remarkably narrow street. Additionally, the term "*dodarmarg*" signifies a spacious road, with "*dodda*" in Kannada translating to broad.²

The roads passed through forests, plateaus, *Ghats*, villages, and rivers ensured a movement of people. The roads in Goa connected the villages, and fostered a network of communication and trade. Goa is a mosaic of islands enveloped by rivers. The ancient sites such as Buddhist caves, Jain *basti*, and other religious centres along with names given to places, such as *Dodamarg* and *dovornem* or headrest can give us useful clues regarding the inland routes from the ports to the *ghats*. These trade routes also provided hospitality to travellers along the way in the form of rest houses.³

The Eastern flank of Goa is fortified by a rugged, densely forested slope belonging to the Western Ghats. The mountain girdle 30 to 40 miles behind it was pierced by numerous passes of the height ranging from 600 to 1800 metres. These included the Talkati *Ghat* leading to Kolwal in Bardez via Alorna, the Rama *Ghat* frequented by Oxen caravans proceeding to Tivim in Bardez and to Bicholim. The Chorlem *Ghat* in Sattari wending its way to Keladdi in Sinquelim and Kelghat beginning at Talwar village proceeding to Kelil in Sattari from which point it diverged one route leading to Usagao and Ponda. Caravans arriving via the Tinai *Ghat* would make their way to Kullem and hence converge on Ponda.⁴

Regarding road transportation in Goa, this study explores transport mediums dating back to ancient times, including Palanquin (*Palkhi*), *Dolim*, *Mennom*, *Khatli*, *Tonga*, *Gaddo*, *Palnem*, *Boilam Gaddo*, *Machil* (*Cadeirinha*, *Catre*, *Coche*) and Victoria. The study provides

²K. S Singh, ed., *People of India: Goa*, vol. XXI (Bombay: Popular Prakashan Pvt Ltd, 1993), 216.

³ Alvita M D'Souza, "Reconstructing the Urban Maritime History of Goa: A Study of the Port-Capitals of Chandrapur, Gopakapattana and Ella" (Panaji, Goa University, 2007), 232.

⁴ Celsa Pinto, *Goa: Images and Perception* (Panaji: Rajhauns Vitaran, 1996), 83.

detailed description of these items, their respective uses and its evolution with changes over the years.

The Portuguese presence in Goa marked a significant turning point in the region's transportation history, particularly with the initiation of railways. Facilitated by the Anglo-Portuguese Treaty of 1878, the West India Portuguese Guaranteed Railway took charge of constructing a railway line stretching from Marmugao to New Hubli.⁵ This development, a crucial element in the broader historical narrative, played an important role in transforming Goa's transportation scene. With the British anticipating that the introduction of railways in Goa would fortify the execution of their salt monopoly as outlined in the aforementioned treaty, the construction of the railway line commenced on 22 February 1882, marking a momentous stride in the evolution of Goa's transportation infrastructure.⁶

Much like the roads, rivers played a vital role in transportations, establishing extensive network of both communication and inland transportation of people and commodities. The ports of Chandrapur, Gopakapatta, Ella and later Portuguese city of Goa, as well as the present-day port of Marmugao have been involved in the coastal trade. The land of Goa is well covered by a fine network of rivers which flow through a major part of the territory. Nine rivers along with forty-two tributaries flows through the land of Goa. Throughout history rivers have acted as natural highways, facilitating the movement of people, goods and ideas. It sheds light of the evolution of transport system. Exploring its significance and impact on the cultural and religious landscape of the region.

The study explores the evolution of transportation vehicles over time, examining how they have adapted to the changing colonial rules and ultimately the decline of some vehicles

⁵ Celsa Pinto, *Goa: Images and Perceptions: Studies in Goan History* (Panaji: Rajhauns Vitaran, 1996), 116.

⁶ Celsa Pinto, *Goa: Images and Perceptions*, 116.

as societal norms shifted. It explores the historical context to trace the development of various transport modes, shedding light on their significance in different periods and regions. In the historical context of waterway transport in Goa, the region has witnessed significant transformations. In earlier times, various types of traditional boats such as Canoes, *Voddem (Tona)*, *Ponnell*, *Tolda Voddem*, were used. These vessels were important to the daily lives of the people, serving as crucial means of transport across the waterways.

However, a pivotal shift occurred during the colonial period, marked by the introduction of Ferryboats in Goa during the early 20th century, which replaced *Vafor* which used steam energy. This development played a crucial role in connecting communities through the network of water routes. The advent of Ferryboats not only brought about a change in transportation methods but also stressed the socio-economic significance of waterways for the people of Goa. The accessibility provided by ferryboats facilitated cultural exchange, and interpersonal connections among the people.

Moreover, the study examines Goa's inland transport system, analysing the means of transportation preferred by both the elite and common people. Notably, the elites, opted for *Machila*, *kadel*, *Coches*, and *Khat*. This elite mode of travel is complemented by the crucial role played by individuals, known as *Boias*, or *Boya* tasked with shouldering or carrying the *Machil* on their heads. Beyond palanquins, the study explores the broader experiences of people using more commonplace modes of transport, like *tongas* and bullock carts.

The study focuses on the role of animals in human transportation, exploring on the individuals connected to carriers called *gaddo* or those travelling on the horseback (*boispa Goddo*). It emphasises the critical significance of animals on both early historical period as well as the colonial era. Horses, Bulls, Camels, Donkeys and Mule stand out as the key

components, explaining their contributions to mobility and travel. Beyond mere utility these animals played a pivotal role in shaping cultural practices, economic activities and societal structures during the early times.

The economic history of inland transport in Goa is tied to the significance of Barges in transporting Manganese and iron ores along Mandovi River. These Barges played vital role in facilitating the movement of essential raw material, contributing to Goa's economic development. The Mandovi river served as important waterway for the transportation of these ores, connecting mining areas to ports and enabling efficient trade. It highlights the crucial role that waterborne transport specifically Barges played in shaping the economic landscape of Goa.

Aims and objectives

The research aims to explore the historical significance of inland transport methods in Goa and examine their socio-economic impact. It seeks to establish connections between transportation, its influence and its cultural integration within Goa. The study aims to analyse how transportation has shaped the social fabric of Goan communities and contributed to their way of life. Furthermore, it seeks to understand the evolution of transportation culture in Goa and its role in facilitating migration and population mobilisation throughout history.

Research Problem

The research problem aims to investigate the factors influencing Portuguese transport policies, specifically the emphasis on inland river transport over the development of roads and land network like bridges. The study seeks to understand the historical reasons behind Portuguese dependency on river system for transportation and explore why there was a

comparative neglect of road infrastructure. The research tries to shed light on the driving forces behind this preference for river navigation, as well as discern the underlying causes contributing to the limited focus on roadways within the broader context of Portuguese transport policies.

The research problem lies in the exploration of how there was a shift in the medium of transport. It attempts to examine the reasons of shifting focus from roads to river transport in Goa. Exploring this shift is crucial for comprehending the socio-cultural impact on communities, trade networks, and the overall landscape of Goa, shedding light on their broader implications on the region's history.

Review of the Literature

Gazetteer of the union territory of Goa, Daman and Diu, by V T Gune provides with the information of transport and communications in Goa which deals with the railways, bridges, ferries, ships etc that provides a through description about the roads used, the pickup points, as well as the timings of certain vehicles. It describes about the ferry points and Barges as well as the timings of the ferries and the importance of barges.⁷

In his book, *Ethnography of Goa, Daman and Diu*, A. B. de Braganca Pereira delves into the rich cultural history of Goa, exploring facets such as the diverse population, religious practices, culinary traditions, the intricate tapestry of trade and commerce. This book is a vital source as it not only highlights in this study but also give detailed and provides picture for better understanding of the topic. It explores different modes of transport providing a detailed description of the features, and the uses of certain vehicles. In the chapter *modes of transport*,

⁷ V. T Gune, ed., *Gazetteer of the Union Territory Goa, Daman and Diu* (Panaji: Gazetteer department, government of the Union territory of Goa, Daman and Diu, 1979).

transport on land, and *transport by Sea*, he emphasises on the different types of vehicles, providing its uses and a description. Moreover, in the chapter, *spiritual life and means of existence and pastoral life* it is further described through the picture about the palanquins used in temples to carry the idols of the deities. The book provides with the idea on the different types of palanquins used in different temples, example the use of *palkhi*, and *lalki*.⁸

Pandurang Phaldesai, in the book *Kaleidoscopic Goa*,⁹ explores a detailed cultural and religious life of Goa. It highlights the folk culture, handicrafts, art and architecture of Goa. It explores different festivals celebrated in Goa with a detailed description of the procedures and the people involved with pictures. It speaks about festivals like *Sangod*, *Sao Joao* that highlights on the boat festivals. It also talks about the Hindu festivals that describes about, *rathotsav*, and *Palkhis*. It also describes about the craftsmen involved in the woodworking in Goa.⁹

Pantaleao Fernandes in his book “*Goa remembered*” provides with a picturesque view of Goa where it mentions about boats loaded with the sand extracted from the *Colvale* river. It further mentions about making of boats which are made of wood and that sand is extracted by using buckets, attached to a pole. The book further mentions about a canoe, used by the locals living along the banks of the river *Sal*, in Betul as an alternate, means of mobility. Moreover, this book mentions about the festivals celebrated by the fishermen which is linked with the culture of the locals. It gives cultural concerts held close to the banks of the *Sinquerim* river onboard a *Sangod*.¹⁰

⁸ A.B. de Braganca Pereira, *Ethnography of Goa, Daman and Diu* (New Delhi: Penguin Books India, 2008)

⁹ Dr. Nandkumar Kamat, ed., *Kaleidoscopic Goa: A Cultural Atlas* (Panaji: Vasant Rao Dhempo Education & Research Foundation, 2004).

¹⁰ Pantaleao Fernandes, *Goa Remembered* (Benaulim: The world Publications, 2011).

In the book, *Goa Land Life and Legacy* by Vinayak Vishnu Khedekar, provides a detailed information of Goa with the help of systematic field study done by the author. By highlights different aspect of Goa through cultural, religious, eco-cultural and art it aims to provide with the historical information. It systematically deals with different festivals in Goa which are till today practiced. It provides the information about *Sangod* festival in goa which is celebrated by both the Christians and Hindus in different form. It provides the information about different communities in Goa who are linked with the waterbodies and plays an important role in society. It provides information about the water management system in Goa, ship building, as well as fishing techniques used by the local fisher communities in Goa.

“*Village Goa*” by Olivinho J.F. Gomes provides a detailed study of the social structure and changes in the village of Chandor. The book compares and contrasts Chandor’s position with the rest of Goa, documenting significant social transformations. The chapter titled “Urban Influence” highlight about the railway line and buses in Chandor. It highlights the role of Railways and Buses as an important mode of transport.¹¹

Pantaleao Fernandes, in his beautifully presented book, *Traditional Occupation of Goa*, highlights on the information about the traditional occupations with the use of remarkable collections of pictures. It provides with the information about the Tarea Mama, who is a traditional local Skipper who is responsible to carry out the transport of people from one island to the other in his canoe.

On the Spice Trail: Europe discover India in Goa, by Joseph Velinkar highlights history of Goa. The chapter exploring “natural features and Resources” provides with the information about the roads and routs, water, ferry, furthermore in “Societal life Saga” it

¹¹ Olivinho J. F. Gomes, *Village Goa (a Study of Goan Social Structure and Change)* (New Delhi: S. Chand & Company Ltd., 1996), 367.

explores travel and transport which provides with required information. Moreover in “Leap before a Fall” explores about fishing and Asian Pearling, trade and commerce, inland and overland trade, Horse traffic as well as imports and exports in Goa.¹²

The book "*Colonial Panjim: Its Governance, Its People*" by Celsa Pinto highlights colonial Panjim, with the nature of its urban governance, society and economy. The book provides a comprehensive account of River and Road transportation in Panjim in the chapter “River/River Transportation and Policing”.

In Celsa Pinto's book, "*Goa: Images and Perception*," highlights the history of Goa in the eighteenth and the nineteenth centuries, the book is a collection of essays most of which highlights the commerce in Goa. She delves into the historical significance of the Anglo-Portuguese Treaty of 1878 in a chapter titled "Goa under the Anglo-Portuguese Treaty of 1878: A Phase in Portuguese Colonialism." Of particular importance is the discussion surrounding the Marmugão railway line.¹³

In the book edited by Dr. Teotonio R. de Souza, *Goa Through the Ages (Vol II): An economic History*, an overview of Goa's economic past is presented. The author draws on research, particularly from the International Seminars on Indo- Portuguese history since 1978. One key research article by Teotonio de Souza explores “*Transport and communications*” exploring the transport system in Goa. Silvia M. de Mendonca- Noronha, in the same book, shifts the focus to “The economic scene in Goa from 1926 to 1961.” Exploring the economy of Goa from 1926 to 1961.¹⁴

¹² Joseph Velinkar, *On the Spice Trail: Europe Discovers India in Goa* (Saligao: Goa 1556, 2016).

¹³ Celsa Pinto, *Goa: Images and Perception* (Panaji: Rajhauns Vitaran, 1996), 110.

¹⁴ Teotonio R De Souza, *Goa Through the Ages* (New Delhi: Concept Publishing Company, 1990).

In Bento Graciano D'Souza's book, *Goan Society in Transition: A Study in Social Change* provides with the information about the Goan society before and after Portuguese rule. It explores the nature of the Pre- Portuguese Goan society with regards with its political, economic, educational, religious, and social system. It explores the new system introduced by the Portuguese ruler and its impact. In the chapter, "Ecological and historical matrices of Goan society" the author explores communication and transport in Goa.¹⁵

Vinayak Khedekar's book *Eco-culture Goa Paradigm* deals with the bond between the nature and the indigenous people. The book highlights the importance of environment and its connection with the people of Goa. The book deals with Goan people, food culture, festivals in Goa etc. The book highlights the celebration of nature particularly Sao Joao. The scholar provides insights into the significance of water by detailing traditional fishing techniques.¹⁶

In the book, *Transport and Communications in India*, scholar Jean Deloche traces the origins, development and operation of India's transport and communication system before the era of steam locomotion in the subcontinent. The first volume is concerned with roads networks, the second with the inland and coastal waterways. The volume I, devoted to transportation by land, first traces, history of ancient roads across the subcontinent from the Himalayas down to South India. Volume II follows the same pattern for transportation by water.¹⁷

¹⁵ Bento Graciano D'Souza, *Goan Society in Transition: A Study in Social Change* (Bombay: Popular Prakashan Pvt. Ltd, 1975), 12.

¹⁶ Vinayak V. Khedekar, *Eco-Culture Goa Paradigm* (Panaji: Broadway Publishing House, 2013).

¹⁷ Jean Deloche, *Transport and Communication in India, Prior to Steam Locomotion*, vol. 1 (Delhi: Oxford University Press, 1993).

“*People of India: Goa, Vol. XXI*” edited by K. S. Singh, offers a comprehensive anthropological profile of 34 communities in Goa, emphasizing impact of change and development on them. Notably, it sheds light on the *Kharvi/Gabit* community. Additionally, “Etymology of village and place names of Goa” by P. P. Shirodkar explores the etymology of village and place names, revealing association with elements like river, roads, streets, ports and boats. This information is crucial for understanding the transport system and its historical significance in Goa.¹⁸

“*Anatomy of a Colonial Capital Panjim*” by Dr. Celsa Pinto focuses on the physical transformation of Panjim through land acquisition, landfill and land use. The chapter “Public Works: Roads, Drainage, water, electricity provides with the information regarding the networks and nature of roads in Panjim. Additionally, the book focusses on the putting in place of an urban infrastructure in Panaji in the nineteenth and twentieth century.¹⁹

Goa through the Mist of History from 10000 BC-AD 1958. A Select compilation on Goa's Genesis, by Luis de Assis Correia explores the pre-historic origins, from its earliest settlers of the Sumerians and Aryans. The scholar explores the impact of the Muslim invasions, followed by the Maratha conflicts and the Portuguese colonial era. In the key chapter “British legacy in Goa” Correia highlights the British occupation of Goa and Western India Portuguese Railway.²⁰

In the article, *Vosaad: the Socio-Cultural Force of Water (a Study from Goa)* by Bernadette Maria Gomes provides with the information about the socio-cultural links with the rivers and the people. It provides the readers with a detailed information regarding the

¹⁸ K. S Singh, ed., *People of India: Goa*, vol. XXI (Bombay: Popular Prakashan Pvt Ltd, 1993), 209.

¹⁹ Celsa Pinto, *Anatomy of the Colonial Capital Panjim* (Saligao: Goa 1556, 2016), 100.

²⁰ Luis de Assis Correia, *Goa through the Mist of History from 10000 BC-AD 1958. A Select Compilation on Goa's Genesis* (Panaji: Maureen Publishers Pvt. Ltd, 2006), 273.

ecology, social interactions. It provides information about the *Goulys*, water bath and the folklore traditions. It also highlights various songs related to boats and transport of the people. This article is essential as it provides with the information in order to understand the local customs related to the river transport system in Goa.²¹

Research Design and Methodology

To achieve an understanding of the history of means of transports in Goa an attempt will be made to assess the sources in the contexts of Historical, Social, Religious and economic developments. Primary sources such as exploring archival documents including a thorough study of the historical records, maps, manuscripts, traveller's account, letters, treaties, official documents, administrative orders etc. Along with that secondary sources will be consulted to gain insights on the topic. Site visits and field visits to Ferry points will be consulted to the riverbanks, besides visits to railway stations, historical ports, and routes including archaeological sites, and museums. Engaging with the craftsmen, boatbuilders, local skipper, historians and cultural experts will provide this research with valuable insights into the cultural and practical aspect of means of transport in Goa. Ethnohistorical perspective is very important for this research.

Scheme of the Chapters

Chapter One, **Introduction**, introduces the research topic, providing a comprehensive overview of the historical evolution of transport in Goa. It outlines the scope of the study, the methodology employed in the research. Moreover, a critical review of the literature is highlighted.

²¹ Bernadette Maria Gomes, "Vosaad: The Socio-Cultural Force of Water (a Study from Goa)," *Sage Publications, Ltd* Vol. 54, No. 2 (August 2005): 250–76.

Chapter Two, **Transport System in Pre-Portuguese Period**, explores the historical backdrop, highlighting the early transport systems utilized by the people of Goa. It offers an insightful exploration of the evolution of transportation modes, emphasizing indigenous methods before external influences.

Chapter Three, **Transport System in Portuguese Period**, focuses on the Portuguese colonial era, this chapter examines the transformation of transport in Goa. It highlights changes brought by Portuguese rule, including the introduction of new vehicles and reflecting the socio-cultural shifts during this period.

Chapter Four, **Through Transport Cultural Expression**, explores the cultural significance of transport in Goa, examining how certain modes of transport are intertwined with the region's cultural expressions. It delves into the cultural associations attached to specific vehicles or transportation practices.

Chapter Five, **Transport and Economy**, investigates the relationship between transport and the economy in Goa. It explores how transportation systems have influenced economic activities, trade networks, and overall prosperity within the region across different historical periods.

Chapter Six, **CONCLUSION**, offers a comprehensive summary of the entire study, consolidating key findings and insights from each chapter. It reiterates the significance of the research, discusses the implications of the findings.

Scope and Relevance of the Study

The study of history of transport system in Goa holds significant relevance. Exploring the context of different means of transportation in Goa can shed light on various aspects.

When exploring the evolution of the means of transport it also explores its usage by the society. Exploring the evolution of transportation in Goa provides valuable insights into societal dynamics. It sheds light on different people of different class using the medium of transportation. The varied usage of vehicles by both elites and the common man reflects social stratification.

This study sheds light on the intricate web of individuals connected to these mediums, ranging from drivers to those responsible for carrying palanquins, skippers of boats, craftsmen constructing vehicles, and artists intricately carving designs. A comparative analysis of ancient means of transport and those from the Portuguese period highlights the dynamic changes in transportation over time. By unravelling these layers, one gains a comprehensive understanding of how transportation in Goa not only serves practical purposes but also plays a pivotal role in shaping the region's social, religious, and artistic fabric.

The social analysis will highlight the significant role of certain people and communities and highlight their role in the society through ages. Moreover, this study will highlight the local traditions and practices. It provides an analysis of technological infrastructural changes brought during different historical period in Goa

CHAPTER 2

TRANSPORT SYSTEM IN THE PRE- PORTUGUESE PERIOD

During the pre-Portuguese period in Goa, people relied on traditional methods of transport, such as using animals, like bullock, or simply traveling on foot. Land routes were crucial for connecting different regions within Goa, facilitating trade, communication, and movement of people. Waterways, played a significant role, providing efficient means of transportation for goods and people.

2.1 Concept of *Vahana*

Vahana derived from Sanskrit meaning “that which carries” or “vehicle”. The term *Vahana* refers to the creature or a mythical entity which is associated with a Hindu deity, which serves as its “mount”. The word *vahana* means a vehicle or animal which can be ridden.

In the Brahmanical pantheon of Puranic deities, it is customary for each deity to be depicted with their respective mount or *vahana*, as mentioned in iconographic texts.¹ There are two kinds of *vahana*, animal *vahana* and nonanimal *vahana*. Most of the *vahana* are animals. There are only 55 animal vehicles of gods and goddesses of Hinduism.² In the Hindu sculptures the *vahana* is often depicted below the deity’s pedestal. The concept of *vahana* showcases the vehicles used by Hindu gods and

¹Kalyan Kumar Ganguli, “The Concept of Vahana in Indian Iconography,” *Indian History Congress* 28 (1966): 107–12.

²Khin Than Aye, “The Vehicles of Gods and Goddess (Hindu Religious)” XVI (2018).

goddesses. These representations, provides with a clear understanding of the diverse range of vehicles as well as the use of various animals by the gods and goddesses.

Some of the gods in *Rigveda* such as Varuna, Surya, Mitra, and Indra are mentioned as riding on chariots driven by animals, mostly horse. However, *Brhatsamhita* mentions about the gods and the *vahanas*. A peacock for Kartikeya, a white four tusked elephant for Indra, a buffalo for Yama and a swan for Varuna.³

The depiction of *vahana* with the god and goddesses can be linked to various symbolic and practical aspects of the society. For instance, the images of Shiva are constantly portrayed with his mount, *nandi* (bull). The bull is known for its strength and stability. These qualities can be interpreted as the ability to carry heavy loads or traverse difficult grounds. This highlights the practical realities of transportation in ancient India. Bulls were commonly used to pull carts and to carry heavy loads.

In the Hindu mythology another important depiction of *vahana* is associated with Surya. Surya is one of the three supreme deities of the Vedas. His ancient title is Prajapati, “lord of Creatures”. Surya is often depicted riding a chariot often harnessed by seven horses. The two Asvins, were his twin sons by Sanjna, who fled from him in the form of a mare. Aruna is the charioteer of sun. They are said to be making circuit of the world every day in their three-wheeled chariot.⁴

Vahana emphasise the mobility of the gods and goddesses. While there be housed in temples, the belief is that the deities themselves are not confined to those structures, they are mobile beings. The *vahana* or vehicle, serves as a means for the

³ Ganguli, “The Concept of Vahana in Indian Iconography,” 107.

⁴ Martin, Rev. E. Osborn. *The Gods of India*. New Delhi: Indological Book House, 1988, 86.

gods to traverse the universe, symbolising their ability to move across different realm. The portrayal of gods as mobile beings riding on their *vahana* reinforces the idea that divinity is not static but ever present.

2.2 Importance of Transport in Early Period

Urbanization is a major and important force of change in the society. Urbanization and social-mobility are interrelated concepts.⁵ For the settlement to be qualified as an urban settlement it should be consist of physical, economic, socio- cultural and politico-administrative features which may be produced by one single town.⁶ There had been a movement of people in the early period from rural to urban areas.

Growth and the development of the cities largely depended upon the development of economy, inter-regional interactions, development of trade. Most significantly the migration as a result of development in transport and communications for the purpose of employment, business, trade, political and religious purposes, invasions etc. Transport played a fundamental role in the early urbanization process. Transport facilitated connectivity, provided easy accessibility to different regions. It also enabled trade, resulting in the surplus produce to be distributed and exchanged in the markets and ports. Transport is an important feature of urbanization which allowed movement of goods and people. Faster and better means of transport secured trade. All of the big and small merchants had to depend on transport for the trading purpose.⁷

⁵ Benudhar Patra, "Urbanisation and Social Mobility in Ancient India: An Odishan Perspective," *Proceedings of the Indian History Congress* 80 (December 2019): 174–83.

⁶ Alvita M D'Souza, "Reconstructing the Urban Maritime History of Goa: A Study of the Port-Capitals of Chandrapur, Gopakapattana and Ella" (Panaji, Goa University, 2007).

⁷ Nagendra Rao, "Trade and Transport in South Kanara," *AJSS* 1 (September 2): 149–60.

2.3 Land Transport in Goa

2.3.1 Ancient Roads of Goa

Traveling during the pre-modern period largely depended on the geographical situation of the region. Measures were taken in order to take the safest path away from the wild animals and predators.⁸ The roads passed through forests, plateaus, Ghats, villages, and rivers ensuring a movement of people. The roads in Goa connected the villages, and fostered a network of communication and trade. Goa is a mosaic of numerous islands enveloped by rivers.

In Goa, various terms are employed to describe different types of roads. For instance, the term "*ker*" borrowed from Kannada has been in use since the 11th century to denote a remarkably narrow street. Additionally, the term "*dodarmarg*" signifies a spacious road, with "*dodda*" in Kannada translating to broad.⁹ The Eastern flank of Goa is naturally protected by a rugged and densely forested slope, which is part of the Western Ghats Mountain range. This geographical barrier spans roughly 30 to 40 miles inland. Despite its formidable appearance, this mountainous terrain is crisscrossed by several passes, making travel through the region feasible.

One of the significant passes is the Talkati *ghat*, which provides a route to Kolwal in Bardez through Alorna. This pass serves as a crucial link between different regions, facilitating trade and travel. Another notable pass is the Rama *ghat*, often used

⁸ Moti Chandra, *Trade and Trade Routes in Ancient India* (New Delhi: Abhinav Publications, 1977). 1

⁹ K. S. Singh, ed., *People of India: Goa*, vol. XXI (Bombay: Popular Prakashan Pvt Ltd, 1993).

by oxen caravans traveling to Tivim in Bardez and Bicholim. These caravans likely transport goods and supplies, contributing to the economic activity of the area.

The Chorlem *ghat*, located in Sattari, offers a path to Keladdi in Sinquelim. Similarly, the Kelghat, originating from Talwar village and leading to Kelil in Sattari, played a crucial role in connecting different parts of the region. Moreover, it diverges at Kelil, with one route heading towards Usagao and Ponda, further enhancing connectivity and trade networks. Caravans arriving via the Tinai Ghat would typically make their way to Kullem before converging on Ponda.

The transportation route linking the up-*Ghat* Palasige (Halsi) area with adjacent commercial and religious hubs like Degamve to Goa through Sattari and Sanguem, used the Mhadei and Kalsa-Surla River systems, along with associated mountain passes and land pathways.¹⁰ The Bhoja inscription of Prithvimalavarman in the 25th mentions about the rocky roads used by the people.¹¹

Beyond the Mhadei river historical trade routes connected Sattari with the Ramnagar-Belgaum-Khanapur region. Through the hills and *ghats* there were feeder routes which showcased commerce significance of sites like Dhamshe, Gadache Mall, Mainguini, Shayll, Paikul, Bondla, and Ganjem. Dhamshe temple of Sattari was a resting place for coolies transporting goods across the *ghat*. Another route extended from Dhamshe, crossing Gadache Mall, Mainguini, Shayll, reaching Dhada and Sancorda and Tambdisurla before crossing the *ghats*. Unfortunately, these traditional

¹⁰ Pratima Kamat, *Goa: Its Tryst with Trade* (Panaji: Goa Chamber of Commerce and Industry, 2009).

¹¹ Alvita M D'Souza, "Reconstructing the Urban Maritime History of Goa: A Study of the Port-Capitals of Chandrapur, Gopakapattana and Ella" (Panaji, Goa University, 2007).

trade routes were later exploited as “black routes” by smugglers for smuggling gold from Ramnagar-Belgaum-Khanapur region into Goa.¹²

There are many terms used to represent the names of roads in Goa. The Royal Road or *rajvithi* or *vodli-bidi* meaning highway, extended to the city of Ella and up- *ghat* regions. *Dakti bidi* or *vithi* meaning small road. The port of Gopakapattana was connected to Ella by a *paivatt*. Roads were created by the local people by walking on foot on the fields, mountains and valleys these pathways or village roads were called *paivatt*.¹³

2.3.2 Load-rests or *Davorne*

The presence of *davorne* on the ancient routs of Goa underscores the movement of people during the pre-Portuguese period. Two or three laterite blocks of about 1 ½ mt were arranged perpendicular to the ground, upon which another block was placed horizontally to create a platform for resting loads. These are called *Davorne* in Konkani, meaning holders or load resting platform.¹⁴ They have the height of an average man, so that it allows the travelers to unload and retrieve without much difficulty. They are called *cumaitanki* in Tamil, *cumatutanni* or *attain* in Malayalam and *ettugallu* in Kannada. Sometimes these slabs are accompanied by bench of the same construction, on which one can stretch out a full-length to rest. Similar type of laterite blocks (*attain*) had been made in Ponnani region of Kerala.¹⁵

¹² Pratima Kamat, *Goa: Its Tryst with Trade* (Panaji: Goa Chamber of Commerce and Industry, 2009). 86.

¹³ D’Souza, “Reconstructing the Urban Maritime History of Goa,” 239.

¹⁴ Vithal Raghavendra Mitragotri, *A Socio-Cultural History of Goa from the Bhojas to the Vijayanagara* (Panaji: Institute Menezes Braganza, 1999). 255.

¹⁵ Jean Deloche, *Transport and Communication in India, Prior to Steam Locomotion*, vol. 1 (Delhi: Oxford University Press, 1993), 191-193.

Goa being a mountainous region load-rest or *davorne* was considered of great use. In the past there were fewer broad roads for the proper movement of the bullock carts. Besides bullocks would get exhausted in the hilly regions. Therefore, men had to carry the heavy load. The construction of load-rest along the ancient tracks was likely a response to the hardship which was experienced by travelers.

The construction of *davorne* possibly initiated during the Kadamba period, reflecting the concern of the rulers for the welfare of their people. The copper plate of 1053 AD mentions the provision of free boarding and lodging for the needy and pilgrims. Despite Goa lacking high-quality stone, its architects (*sthapatis*) showcased skill. These load-rests are found in Calapur.¹⁶

2.3.3 Use of animals for transport

On the Indian subcontinent, animals were trained for transportation. The animals intended for transport received better nourishment than the other. Goa was recognized by various names in the earlier time. In the Hindu scriptures of Mahabharata and Puranas Goa is called Gomant, Gomanchal, Govarashtra, Gomantak, and Goparashtra. Common to all these words is the term “go” meaning cow in Sanskrit. The place-name associated with Goa, Gomantak, is derived from the term “Gomant” meaning ‘the land of cows.’

The abundance of cows in the region suggests the presence of ox. Apart from this the petroglyphs of Usgalimal, and Mauxi highlights the existence bull in Goa. These domesticated animals were likely used aiding transportation of goods, and people across the region. The Indian Ox or hump-backed ox plays an important role in the

¹⁶ Mitragotri, *Socio-Cultural History of Goa*, 255.

social and religious life of the Hindus.¹⁷ From the ancient port of Chandrapur *redde* (oxen) were exported to Gopakapattana and *ghat* and up-*Ghat* region.¹⁸ Oxen were used as mount and pack animal. They were employed to draw all the carts. It was common to use ox as a mount, adorning the ox's back with a carpet or saddle and directing its movement using a lead that passes through its nasal septum. Ox was used for traveling purpose, people rode them like horses. They go comparatively at a slow pace.

Buffalos were domesticated with ox, and were used in the regions with heavy rainfalls. It can carry heavy loads and draw heavy carts than ox of equal size. However, it has played comparatively less important role in long distance transport. Buffalos were used to carry water and sometimes harnessed to a cart over short distances.¹⁹

Horses played almost no much role in the rural and the economic life in Goa. They were not much employed for pack. Rather they were always used by the aristocratic population of the society. Horses were initially used to draw light war chariots. Horses were used in great numbers in armies or in princely courts. Large number of horses were imported from Arabia, Persia, or central Asia. Horses were employed in the postal services. These were owned by the wealthy people for their private travel. Elephants were used by the royal people and soldiers. Whereas horse chariots were used by kings and queens in Goa. Donkeys on the other hand were reserved for those of lower caste. In India it is mainly a pack animal of launderers (*dhobi*).

¹⁷ Deloche, *Transport and Communication in India*, 241

¹⁸ D'Souza, "Reconstructing the Urban Maritime History of Goa," 239.

¹⁹ Deloche, *Transport and Communication in India*, 246.

2.3.4 Men power for transport

There is a direct relation between roads and human settlement. Human strength was an important source of energy. Transport of heavy loads over a long distance by men were generally done by carrying the loads on their heads, backs or the small of the back. When the loads were carried on the heads it was protected with a straw ring or by a rolled cloth in order to ease the person.

Palanquins were used by people, which required lot of human strength. Palanquins were used by the Brahmins in Goa, who were carried by men either on their heads or their shoulders. These were carried by *Sudras, Kunbi, Boyas, Mahars*.

The *Sarthavahana* was a caravan leader, under whose leadership and guidance the merchants of a town gathered and carried goods to the distant centers of trade. He was a highly knowledgeable person who had the knowledge of all the routes.

The transmission of news was also an important practice in the early period which was fulfilled by the professional couriers. It was the Muslims who established the postal system in India. For this purpose, horses were used with a person carrying the news. For most of the times the person employed for this purpose was a foot courier.

2.3.5 Water transport in Goa

Man's realization that rivers could be transformed into a means of communication and transport of both men and materials dates back to the ancient times.

The great civilizations evolved alongside of rivers.²⁰ Through this one can get the idea that the water currents fostered efficient communication and exchange than the land routes. The presence of rivers in ancient civilizations led to the development of vessels facilitating trade and transportation of both people as well as goods.²¹

Goa being a mosaic of numerous islands enveloped by rivers. These rivers fostered a network of efficient communication and trade within the region. The water transport system provided the ancient cities with a good source of transport system. These ancient cities in Goa flourished along the coastal belts. Canoes, dugouts, rafts, and coasters were integral to waterway transportation in Goa.

Presence of transport through the water bodies is evident from the memorial stones found in Goa. The hero stone depicts the presence of boats, and naval battles on its panels. It is also evident from the carvings on the wooden pillars as well as the boat deities in Goa that these boats were utilized by the people of Goa. The boat deities of Shayll, Melaulim, Sattari gives information about the water transport in Goa.

The navigable rivers of Zuari, Mandovi, Mhadei, Dudhsagar, Kushavati served as arteries in the progress of trade and commerce. Mandovi was navigable for 100 km. and Zuari for 60 km. while Terekhol, Chapora, Baga, Sinquerim, Sal, Talpona and Galgibag were navigable for a lesser distance ranging from 25-2 kms. Paroda was 16.5 km. and Khandepar 13.5 km. Some of these rivers were navigable throughout the year and the tidal effect of the sea in terms of its currents and tides could be felt extending in the interior which was conducive for navigation in the river routes. But during other

²⁰ Jean Deloche, *Transport and Communication in India, Prior to Steam Locomotion*, vol. 1 (Delhi: Oxford University Press, 1993), 5.

²¹ Ian McNeil, ed., "An Encyclopedia of the History of Technology (Routledge Companion Encyclopedias)," in *Encyclopedia of the History of Technology* (New York: Routledge, 1996).

times when the water column reduced, land routes were preferred. There was transport equipment in the form of boats, ships like *patmari*, *tarva*, *vaddi*, *voddem*.

CHAPTER 3

TRANSPORT SYSTEM IN COLONIAL PERIOD

When Afonso de Albuquerque captured Goa on November 25, 1510, Goan society, which had endured the rule of the Yusuf Adil Shah, found itself surrendering to a new fate under the unfamiliar dominion of the Portuguese. The Portuguese presence in Goa had far-reaching consequences.¹

Goa Dourada, or Golden Goa was the image portrayed by the Portuguese colonizers in their construction of the Portuguese empire.² Throughout the colonial period, Goa witnessed several changes to its society, culture, religion, economy, cuisine, clothing, architecture, and way of living. With the advancement in science and technology, the world was going through a transformation. The transport system in Goa has witnessed many changes brought about during the colonial period. From the chapter dealing with the Transport system during pre-Portuguese Goa, one can get an idea of the modes of transport that were used in Goa before the era of modernization.

The shift from the ancient methods to more efficient modes of transport was an important turning point in Goa's transportation history. During the colonial period, Goa's transport system witnessed major transformations.

¹ P. P Shirodkar, "Socio- Cultural Life in Goa During 16th Century," *Concept Publishing House*, 1997, 23.

² Raghuraman S. Trichur, "Politics of Goan Historiography," *Lusophonird Asiatiques En Lusophonies*, 2000, 638.

3.1 Land Transport During Colonial Goa.

3.1.1 Roads in Goa

Roads were important means of transport. In Goa, roads served as a feeder to inland water transport. Till 1846, Goa was intersected by a few important roads. According to the data furnished by the Chief Engineer in 1876, there were principal lines in the Portuguese Goa. A road runs northwards in the province of Bardez from Verem, opposite Panaji, which passed through the villages of Pilerne, Saligao and Parra to Mapusa. From here it proceeded through Cunchelim to Colvalle. It continues to the province of Pernem to Naebaga.³

For the movement of the inhabitants of *Cidade de Goa* to Panaji was the construction of a causeway-cum bridge called Ponte de Linhares (Old *Patto* Bridge). This bridge dates to 1632-1633 during viceroyalty of Conde de Linhares, Dom Miguel de Noronha. Said to be the longest and the oldest in the entire east. This bridge was constructed on the alluvial soil. It required stabilization using strong trunks of local timber. The causeway spanned 9542 feet. It composed of a combination of stone and wooden arches, supported by several pillars.⁴ The public utility works like erection of Government buildings, construction of roads, bridges were looked after by *Onras Publicas* (public works). The chief of this department was called *Dereitor das Obras Publicas* and it had its office only in selected cities.⁵

³ Jose Nicolau Da Fonseca, *An Historical and Archaeological Sketch of the City of Goa* (Delhi: B.R. Publishing Corporation, 1878), 33.

⁴ Celsa Pinto, *Anatomy of a Colonial Capital Panjim* (Saligao: Goa 1556, 2016), 33.

⁵ Varsha Kamat, "Socio-Political and Religious Life in Goa (1900 to 1946)" (Taleigao Plateau, Goa University, 1996).

3.1.2 Transport through Travelogues

Description presented by various travelers during early centuries of the Portuguese rule in Goa contributes to reconstruct the transport system in Goa. The use of oxen-carts, coolies, pack animals, rafts, and *cafilas* of coastal boats, were involved for this purpose.⁶

In his travel account, Pietro Della Valle mentions what he thought was important to mention. He mentions about the coaches used during his journey. It is noteworthy that he mentioned about the coaches drawn by oxen. These coaches were like the ancient chariots. These were covered with crimson silk and ox were adorned with bells and tassel hanging in their neck. The oxen pulling these coaches were large, white, and swift, resembling camels in some respects. They are well-suited for both city travel and country journeys. He mentions the rarity of four-wheeled carts, as described by Strabo, and notes that Indian oxen typically have one hump. It also explains that smaller oxen breeds move more quickly than larger ones.⁷ Pietro della Valle, who was in Goa in 30s of the seventeenth centuries describes a lot about the transport system during the Portuguese rule in Goa.⁸

The traveller speaks of him being to Sant'Ana, as it rained, he got himself to be carried in a *rete* or *rede*. Which was a net of cords. It was tied at the head and the foot hanging from a pole, it opened from the middle allowing a person to effortlessly enter thenet.⁹ It was of the length of a man, sufficiently accommodating the traveller. A man could lie

⁶ Pratima Kamat, *Goa: Its Tryst with Trade* (Panaji: Goa Chamber of Commerce and Industry, 2009).188

⁷ George A. Rothrock, Jr, "Seventeenth-Century India through French Eyes," *Taylor & Francis, Ltd.*, 2, 22 (1960): 163–184.

⁸ Teotonio R De Souza, ed., *Goa Through the Ages: An Economic History*, vol. 2 (New Delhi: Concept Publishing Company, 1990), 227.

⁹ G. Havers, trans., *Travels of Pietro Della Valle in India*, vol. 1 (New Delhi: Archaeological Survey of India, 1892), 183–85.

comfortable with a cushion under his head. He mentions that he found himself positioned somewhat curved, with the midsection of his body gently swaying beneath the cane. The *rete* was borne upon the shoulders of two men in the front and two in the back. In cases of the short distance and of lighter loads, only two men would undertake the task.

Furthermore, one gets the idea how palanquins were used during the Portuguese period where he describes the differences between the *rete* and the palanquin. It is further mentioned about *Andola or Andor (doly)* which is the *Machil* or *Machil* that differs from palanquin. The palanquin and *Andor* differ from each other. In the latter the cane upon which they carry it is straight, as it is likewise in the Nets.

However, in the palanquin, for the ease of the person being carried, the cane is crooked upward in this form so that it has enough room to keep their heads upright. Due to the scarcity of these canes fit to bear such weight, they are sold at a high price at a 106 score *pardao* which was worth about 360 reis used by the Portuguese in Goa. Whereas, the palanquin, *andola* and the nets are covered to avoid rain with dry coverlets made of palm leaves. These coverlets, when cast over the cane, hang down on each side, featuring two windows with litter shutters. They effectively keep out the water from entering inside. The coverlets can be removed when one prefers to go uncovered and carried by a servant. However, it is to be noted that it was uncommon to see anyone uncovered in Goa.¹⁰

Tavernier, visited Goa in the mid seventeenth century, gave us the information about the transport system in Goa. In his description about the movement of the people, it is important to note that Tavernier mentions about the population of a town or of several

¹⁰ G. Havers, *Travels of Pietro Della Valle*. 81

villages assemble to travel together for pilgrimage. Each would travel to their own means and station. People travel in palanquins, carriages, and the poor would travel on foot or oxen.¹¹

Abbe Carre in his travelogue, highlights on the transport system in Goa. He toured parts of the Western India in the 70s of the seventeenth century. Carre gives a vivid description of his travel from Bicholim to Goa. It is mentioned that Carre stayed two days for the change of his palanquin, later he hired eight strong carriers, and some coolies to carry his luggage. Although the journey on the steep path to the Ramghat was difficult and tiring, Carre mentions a lot of details in his journal. One important fact to note about is his mention about the coolies he came across. These coolies were carrying heavy loads over the mountain. He paid his men 3 rupee each for the trip from Bicholim to Bijapur, without providing food and drinks for them.

He was astonished to find roads crowded with people carrying heavy burdens on their heads. When he questioned his servants why these folk carry such a heavy burden on the rough mountains, he was told that these people were of the same cooly cast as the carriers of his palanquin and his baggage. These coolies had no other occupation but that of carrying heavy burdens. They dwelt on the coast near Goa. They made their living by selling dried fish, coconuts, arrack, and other items to Bijapur. They were paid 2 ½ ecus a load. These coolies could travel for twenty-five to thirty days.¹²

Carre describes his travel through *Almadia*, which was a small, long and a very narrow boat, in which he passed through most of the surrounding islands. Almadia was a light

¹¹ De Souza, *Goa Through the Ages: An Economic History*, 2:228.

¹² Richard Burn, ed., *The Travels of the Abbe Carre in India and the Naer East (1672-1674)*, trans. Lady Fawcett (London: Hakluyt Society, 1947), 224–28.

and comparatively swift oared ship of two loops, made of single trunk of a tree used in India. The number of oars the ship had, varied with its size and type. However, very often they were also fitted with sails for balancing and speed.

3.1.2 Traveling during Portuguese Period

Traveling during the pre-Portuguese period largely depended on the geographical situation of the region. Transportation of heavy loads was carried out by men and women from the working classes, including both Christians and Hindus. These individuals were familiar to the profession of manual labour from a young age and were expert to at carrying loads on their heads, shoulders, and backs. There were no set restrictions on the distances they had to cover, although there were established weight limits for different genders: men could typically carry up to 3 *arrobas* (equivalent to 96 arratels), while women could manage 2 1/2 *arrobas* (80 arratels).

The aristocratic classes used power and influence, often imposing their authority over others through dictatorial means. Members of these elite classes, including doctors, lawyers, occupants of high positions in the bureaucracy, in the judiciary, and in village positions, had to be transported in palanquins carried by 4 *boias* on their heads.¹³ Without the restriction of distances to climb, which sometimes lasted an entire day, from one municipality to another and even to the third and fourth, along bumpy and tortuous trails at high and low levels, on dry land or muddy terrain, sometimes sandy and sometimes stony, sometimes dry, and sometimes watery, sometimes steep climbs and sometimes sudden descents.

¹³ Fatima da Silva Gracias, *Health and Hygiene in Colonial Goa 1510-1961* (New Delhi: Concept Publishing Company, 1994).

Mandelslo remarks that “persons of quality” would never go on foot in Goa. They rode on horse palanquin and painted gondolas” they were attended by a slave who carried palanquins and an umbrella.¹⁴ It should be noted that the Portuguese put into the operation in 1526 *Foral dos uzos e costumes os gancares e lavradores desta ilha de Goa e outros annexos nela*.¹⁵ This charter was a significant event during the Portuguese Goa.

The charter exhorted (Article 6-8) which stated the *Gavkars* of 31 villages to pay the Portuguese administration a certain share of the revenue. There are many clauses mentioned. One of which highlights that no person was allowed to bring flambeau, palanquin, and umbrella without the permission of the revenue overseer or governor except if it was owned by the one as an inheritance from their father and grandfathers and the said license was to be given to them in two days only on account of the graces of their service. There were two types of such licenses, one was for bringing umbrella and palanquin with the attendants and flambeau and oil at their cost.¹⁶

In the late nineteenth century, Palanquins were replaced by *machila*. It was an expensive mode of transport because *boya* were employed to carry the *machila*. Ladies belonging to the upper strata moved in *dolimi*. *Dolim* was a hammock attached to a bamboo and carried by four men. This mode of transport was used during the second decade of the twentieth century. Church priests used these *dolim*. Every church had a *dolim* for this purpose.

¹⁴ Fatima da Silva Gracias, *Health and Hygiene in Colonial Goa 1510-1961* (New Delhi: Concept Publishing Company, 1994).

¹⁵ Shirodkar, “Socio- Cultural Life in Goa Durng 16th Century.” 28

¹⁶ Shirodkar, “Socio- Cultural Life in Goa ,” 28.

3.1.3 Use of *Machilas*

Palanquins were known as *machilas*. These *machila* were the replicas of the palanquins used by the *pandits* and *vaidyas*. Which were used in Goa prior to the Portuguese rule in Goa. These were later modified and structured for the convenience and comfort of the people. *Machilas* were divided into two types. One with two seats (*Kadelin* or two chairs). The other was like a portable bed.¹⁷

The Chairs were more than a mere seating arrangement. Which had hammocks with 2 seats designed to accommodate two individuals facing each other. With sufficient space between them for the comfortable extension of their feet. It was generally used by the owners and members of their families for all occasions of distinction. When a person travelled alone, it was in the back seat that they sat facing the road ahead, but if there were two, that seat belonged to the older or more qualified person and the gentleman when accompanied by a lady.

3.1.4 Use of *Khats*

Khats were traveling chairs. It offered a comfortable reclining position with the feet extended lengthwise and the upper part propped up like a Voltaire Chair with the front facing forward. They were generally used by doctors, lawyers, and old people of those times, being of great use for patients to be transported to doctors and hospitals.¹⁸

¹⁷ Maria Aurora Couto, *Ethnography of Goa, Daman and Diu* (New Delhi: Penguin Books India, 2008).

¹⁸ da Silva Gracias, *Health and Hygiene in Colonial Goa 1510-1961*, 1994.

3.1.5 Coaches

Coaches were *machilas*, exclusively used in churches. These were used to carry sick and dying people to their parishes or villages for the sacraments, and holy communion. They were the properties of Fabricas das Igrejas.¹⁹

3.1.6 Structure of *Machilas*

The *Machilas* structure were entirely made of teak or rosewood. These were manufactured with perfection. There were many owners who had their *machila* corners and decorative contours of sheets of bronze (*pittôlli*) or copper which was well polished and shiny, and which further strengthened the joints, fixed with screws of the same metals. The seats and backrests were shaped with variable shapes, as were the spaces between the armrests and the seats.

To ensure stability, the *machila* were fixed to a thick wild Bamboo (*Vellu*) tube of the desired length for the 4 carriers. 2 at the front and 2 at the back. It was solidified at the ends with copper rings 3 to 4 inches wide. This *Vellu*, known *Machila Combli* in Konkani was fixed to the body of the *machila* by iron rods attached by screws to collars around the iron cane and measuring 4 to 6 inches wide and one centimetre thick, conveniently joined on both sides to the *machila*.

In chairs, or *kadelin* the square spaces between the *cano* (bamboo tube) and the top of the backrests were decorated with stained glass. Frosted glass was used for decoration on

¹⁹ Carmo Gonzaga Miguel Agapito D' Miranda, "Os Transportes Dos Goeses Dos Tempos Passados," *Purabhilekh - Puratatva*, 2, VII (1989): 39.

festive occasions; the backrests and seats were trimmed with white elephant or lace coverings with leaves or fringes on the lower edges.²⁰

In the *Khat*, a type of swing is hung from a tube above the head. The tube was open, and it required a mattress and a pillow for comfortable reclining during travel.

The coaches were completely closed but it had a small square with moving flanges made of thin wooden boards, as to provide ventilation to the passenger. Front and back sides were completely closed with thin wooden boards. It had a single chair in the back with cushions on the seats. One side on the rear half was furnished with a door to facilitate the passenger's entry.

Machilas, used different clothing as a shield from both the sun and rain. It varied according to the weather conditions. It was made of thin, well-polished slats, made from the tree trunk. It was padded with thick linen cloth and lined on top with fine cloth and the slats fixed at both the ends. When there was not much need of these cloth, it was rolled up. During the monsoon, to protect from the rain tents or umbrellas were used for cots and chair. The tent covered the entire *machila*. These shields did not differ from the one used during the summer. It made use of thicker slats, with small doors in the middle of both sides.

3.1.7 Condition of Boyas

As many travellers have mentioned, slaves of different races were available and sold in Goa. Having as many slaves as possible was a status symbol among the *fidalgos*. Majority of these slaves were employed in domestic work, and most importantly for carrying palanquins. The *Boyas* were the carriers of the *machilas*. They were men who, alongside their duties as

²⁰ D' Miranda, "Os Transportes Dos Goeses Dos Tempos Passados." 40

farmers and rural manual workers, undertook the profession of carrying the *machoila*, they were from the class of *Kunbis*, *Gavdes*, and Hindus who were converted to Christianity, but in Bardez there were *Gavde* (Hindus) who worked as the bearers of these palanquins. Whereas in Salcete the *boyas* were of the *kunnbi* class. For coaches in Bardez they were the Farazes (*Mahar*) who undertook the job of carrying these coaches.²¹

These *boyas* were known as *Saiba Bói Boias* and were provided with *Cabalas* which was a type of short- sleeved cloak that reached the knees. It provided them with better movement without blocking the movement of their legs while walking. Their attire was generally grey or kaki in colour, unicoloured or with blue or red fimbriae on the edges. *Mahars* were employed to carry the coaches in the churches of Goa. But later they were left with the service of bell ringers and gravediggers in all parts of Goa. To carry a *Machila*, the *boyas* had their places. The outer places or those at the two extremes were known as *Xevott*, (*mukh'lem ló Kandó* and *Fattló Kandó*) meaning front lap and back lap.²²

The Boiá at the front end, although with his head motionless under the *machilla's* barrel but the only one with a perfect view of all the obstacles ahead, dictated all the steps to the other three who couldn't see the ground, especially the one on the back lap who was completely unaware because of the rear part of the *machila's* body. The guide at the front end had to pay his attention to the distance or the width of a road which on each side was almost twice the width of the *machila*, so as not to let it run into trees and bushes on the sides of paths. While carrying the *machila* they would have various commands. Like *paulak pavl*

²¹ D' Miranda. D' Miranda. 41-42

²² D' Miranda, "Os Transportes Dos Goeses Dos Tempos Passados." 45

tenkun (in short steps), *davea pavlak xenn*, (cowdunk on the left foot), *uzvea angak zaddam* (trees on the left side), *pavl sodun* (with loose steps), etc.

The Boiás had simple yet essential requirements. They needed to cover their heads with a specific material, which they then rolled into a ring. This was placed beneath the *machila* cane, with one or more slices of rice straw placed atop it. The purpose was to order the height of all four canes, as they varied in height. This method ensured a layer over all four canes. The wad was termed *chumbolli*, while the thicker slices of rice straw were referred to as *favoll*, and the thinner ones as *fovili*.

While carrying the *machilas*, walking through the heated paths or sharp stones, thorns on their way was common. To avoid such wounds, they would wear a kind of sandals made up of petioles of *piddo* of the coconut leaves, with bandages made from the upper part of the *vavlli* which were tied to their feet. The *piddo* of the coconut leaf was cut down according to the measurement of the person's feet and holes were made to pass ropes. For this purpose, a small, pointed tool made up of bamboo which was sharpened at the tip was used for piercing these holes. This tool was called *topman*.²³

During the rainy season they would use head covering. These head covers were made from petioles for arecanut leaves *pohim*. These were used as umbrella.

The *boya* men of the rural class wore *kashti*, shawl scarf, with one wrapped around their heads, and another lying on their shoulders. These were trained by the owners of the *machila* depending on the occasion to be attended. With *jelkam* (a type of bus coat) for the upper part. *Malay* (a type of sala or thongs) for the lower part from the waist to the knees.

²³ D' Miranda, 64–47.

These people did not spend their small wages, but instead kept them for their families on their return. Abbe Carre had eight of these coolies, six for his palanquin and two for his luggage. It is mentioned that he gave each three rupees, without food and drink. He found out that they made their arrangement before starting the journey.

The *boyas* demanded high rates for there being no fixed hours of work. Conde de Linhares forbade the use of palanquins without prior permission to all people below the age of 60. This was because it was used by women for illicit activities. Despite such bans palanquins continued to be used until the second half of the nineteenth century.²⁴

By 1925, *Machilas* began to lose popularity. Its use was discouraged by the government as it involved human labour. They were replaced by trams, (horse carriages). Both *machila* and *Caixa de Fosforo* disappeared altogether. It disappeared in the fourth decade of this century. *Machila* were replaced by cars, *carreiras* and *tongas*. Physicians as late as 1930 used horses when visiting the sick. *Carreiras* or brass Chevrolets became popular after 1954.²⁵

3.1.8 Boilam Gadi

These were the carts drawn by bullocks. The term *Boil* is a Konkani term for bullock. In Bardez and Salcete *taluka* there were bullock carts. A bullock cart could accommodate 6 to 8 people inside. Some carts had one side window, while others had two windows. These carts had seats on both sides. The elderly person would occupy the front ends.

²⁴ da Silva Gracias, *Health and Hygiene in Colonial Goa 1510-1961*, 1994. 36

²⁵ da Silva Gracias. 36

3.1.8 *Sarvota Gadi*

In the early decades of the twentieth century another mode of transport was being utilised, it was known as *Sarvotta Gaddi* or *Caixa de Fosforo*, as it resembled a match box. They were available on hire. In Bardez this kind of transport was mainly available at Saligao.²⁶ In Loutulim there was a *sarvot* or *sarvotta gaddi* which was a two wheeled carriage drawn by bullocks. The back seat of a *sarvot* could accommodate three people. Whereas the front seat held two passengers. The place of honour was given to the passenger seating on the right side of the backseat, followed by the left. With the middle one being the last. There was no label in the front but right was given to the oldest or highly ranked person.

3.1.9 *Tonga*

Tonga is a two wheeled carriage drawn by horses. Very few Goans had saddle horses. In Bardez *taluka*, was Dr. Rozendo Ribeiro who had a saddle horse. Horses during the Portuguese period were taken out for a ride. These horses were beautifully decorated with gold and silver accessories. The saddle was covered with rich embroidered silk cloth which was brought from Bengal, China, and Persia. The rein of the horses was decorated with precious stones with jingling silver bells attached to them and the strings were of gold and silver. They were kept under the care of a trained persons who were highly paid for this job. Horses were imported to Goa from Persia and Arabia. Additionally, by an order issued by Governor Antonio Barreto Moniz, the Hindus were forbidden to move about on horses or palanquin.²⁷

²⁶ da Silva Gracias, 31.

²⁷ da Silva Gracias, 31.

3.1.10 Railways in Goa

The present railway line in Goa was laid first by the Portuguese between 1887 and 1888. It passed down for management to the M & SM. Railway and later to the southern Railways, after nationalisation and then to the South-Central Railway Zone in October 1966.²⁸

The once-dominant Portugal, which had held a prominent position in the global economy, began to decline from the seventeenth century onwards. The extinction of privileges at Surat dealt another blow to its economy. To address these challenges, Portuguese authorities saw signing a treaty with England as the only solution. One key obstacle to Portugal's economic stability was the absence of a railway line connecting Goa to British India's vast railway network, isolating Goa economically. Constructing such a railway line was seen important for Goa's external trade and economic prosperity.

Realizing that England's cooperation was essential for the railway project's success, Portuguese authorities understood that England would likely demand concessions in return. England sought to protect its trading interests in India from the competition from Portuguese India, particularly in salt, liquor, and opium businesses.

Thus, the stage was set for the signing of the Anglo-Portuguese Treaty of 1878, symbolizing Portugal's imperial life. Portuguese authorities argued that this interaction was crucial for promoting prosperity in their territories in India and strengthening Portuguese colonialism in the East. The Treaty, signed on December 26, 1878, by R.B.D. Morier and João Corvo de Andrade on behalf of their governments, came into effect on January 15, 1880.

²⁸ Olivinho J. F. Gomes, *Village Goa (a Study of Goan Social Structure and Change)* (New Delhi: S. Chand & Company Ltd., 1996).

The Margao station was built in 1888 followed by Chandor in the same year. All the stations between Vasco-da-Gama, Collem and Chandor were electrified. The railway line had been a mode of transport for the people. As there existed not much convenient mode of transport for the villager, railways facilitated better access to the town conveniently.²⁹

The construction of the Mormugão railway line by the West India Portuguese Guaranteed Railway was an important attempt. This project aimed to enhance both transportation infrastructure and the port of Mormugão.

However, the British government's motives regarding the railway project were complex. While they saw potential benefits, including strengthening their influence in the region and improving the operation of their salt monopoly. The presence of a railway line in Goa was seen to facilitate the transportation of goods, including salt, more efficiently.

There was only a marginal increase in shipments through the Mormugão port. However, the railway did provide employment opportunities for thousands, offering some relief to the struggling industry in Goa. The financial strain of financing such a project was significant, pushing the administration. Nonetheless, the railway project offered employment and economic opportunity in Goa.

Towards the end of the nineteenth century, one witnessed the use of bicycles. Whereas motor cars were seen in Goa prior to the first world war. Initially cars were used extensively for the Governor General, patriarch, Archbishop, and other such state officials including

²⁹ Gomes. 67

Conde de Mahem. Luis Guilherme Dias, who was a leading businessman in Panaji was credited with being amongst the first to be an owner of an automobile.³⁰

3.1.11 Bus service during colonial period

For anyone who undertook long distance travel in Goa or from one *taluka* to Panaji, people would travel by a Caminhao. It was an intriguing native contraption, a low, tin-plated bus. This bus proved to be resilient and weathered many storms. It could travel to 60 km in over 4 hours. This bus service or also called *carreira* ran from railway station of Collem to Mapusa or Margao to Panaji.

The Caminhão, with its incredibly slow pace and frequent unscheduled stops, was an integral part of Goan life, where passengers would go on their journeys. Despite its limitations, such as cramped quarters and rough roads, passengers would endure the discomfort and travel in these buses.

The unscheduled stops, prompted by the calls of residents along the route, allowed the interactions with local communities and providing moments for passengers to stretch their legs or engage in morning rituals. Any *Rao re* by a *Bhatkar* from his balcony would make his house gate a regular bus stop. The buses, though overcrowded, became a miniature of Goan society, where passengers would encourage each other to squeeze in a little tighter and offer blessings amidst the discomfort. These buses had a good capacity to hold many people.

With every bump the passengers rose in unison to hit the ceiling and it was not an uncommon sight to see whole busloads of passengers travel with their hands on their heads to shield themselves, to however small a degree, from the next onslaught. The first bus service

³⁰ Celsa Pinto, *Colonial Panjim: Its Governance, Its People* (Saligao: Goa 1556, n.d.), 35.

linking Chandor with Margao started in 1934, with a *caminhao* (low lying cramped type of van with open windows). It was available only once a day.³¹

3.2 Transport by Water

From time immemorial the people of Goa, made their way through the rivers with their belongings and for trade. Transport through the rivers was cheap. One could see canoes, *tonas*, *machuas*, and other boats moving through the waters of the rivers. One could find many Goan villages where canoes could be hired by taxes like today. A family's wealth and standing could be determined by the number of boats they possessed. Having boats in numbers was a status symbol.³² Prior to the liberation, *gazoline* or the motorised boat was introduced to ferry people across the rivers.³³ Additionally, there existed *manchuas* (small boats) which were owned by the viceroy and archbishop. These were often used by their servants and friends for smuggling purpose.³⁴

During the administration of Caetano de Albuquerque, river navigation was introduced, but was under the governance of Governor Carlos Eugenio Correa da Silva in the early 1880s that the office of Navegacao Fluvial was established, marking a significant step in river transportation. For the movement on the rivers of the *Concelho das Ilhas*, the *tandeis* of *tonas* were permitted to transport passengers. Gradually launches were introduced.

³¹ Gomes 72

³² Maria Bernadette Gomes, "Vosaad: The Socio-Cultural Force of Water (a Study from Goa)," *Sage Publications, Ltd* Vol. 54, No. 2 (August 2005): 250–76.

³³ Bernadette Gomes, 257.

³⁴ Teotonio R De Souza, "Goa at Intersection of World Trade Routes in the Pre-Modern Age: Strangers at Home and at Home with Strangers," 2016, 115–25.

Contractors of the passengers of waterways had strictly observed their contracts and instructions of the Junta da Fazenda.³⁵

The river transport system was well-established by 1910 and by 1932, Navegacao Fluvial expanded this system further with six *carreiras* connected with Nova Goa under the Captain of Ports. There included Carreira de D. Paula-Mormugão, Carreira de Pangim-Sanvordem, Carreira de Pangim-Betim-Verem, Carreira de Pangim-Pilgão-Volvoi, Carreira de Pangim-Aldona, and Carreira de Pangim-Divar. Additionally, Bombay Steam Navigation operated daily from September to the beginning of June, facilitating the transportation of passengers, boxes of fruits, and other commodities between Bombay and Panaji, contributing to the region's economic and social connectivity.

Regular passengers Launch were initiated:

- Carreira from Panaji to Betim-Verem: Launches “Vasco da Gama” and “Republica”

It had the capacity to hold 156 passengers. It started every hour from 6:30 to 11:30 and from 1:30 to 7:30

- Carreira from Panaji to Pilgao-Volvoi: Launches “Candido dos Reis and Rocadas”

It had the capacity to hold 80 passengers. It left Panaji at 4:40 pm and from Volvoi at 7 am the next day. On Saturdays the service started from Panaji at 3 pm.

- Carreira from Panaji to Aldona: Launches “D. Joao de Castro” and “Luis de Camoes”

³⁵ Pinto, *Colonial Panjim: Its Governance, Its People*, n.d., 96.

It had the capacity to hold 248 passengers. It left Panaji at 4:50 pm and from Aldona at 7:30 am the next day.

- Carreira from Panaji to Island of Divar (Peidade): Launches “Candido dos Reis” and “Rocadas”. It had the capacity to accommodate 80 passengers. It left Panaji at 3 pm, Piedade at 8:30 am the next day.³⁶

3.2.1 Ferryboat in Goa

Ferryboat has played an important role in Goa, in connecting people through the waters of the rivers. With the absence of bridges in Goa, ferryboats provided a movement of people from one place to the other. It has helped in providing smooth and speedy transportation of people, and vehicles across the river prior to the construction of bridges in Goa. Additionally, there were *vafor* which ran on steam engine. *Vafor* was used in Sanvordem, Adpai to Kortali and from Dona Paula to Vasco da Gama. Ferryboats in Goa were started in the early 20th century, which signified the change and modernisation of transport system in Goa. There were many ferry points which enabled people to travel across the river. From Panaji to Betim, Agassaim to Cortalim, Dona Paula to Mormugao, Old Goa to Piedade, Borim to Raia, the ferries transport Goans in all their ethnic colour. ministers and sweepers, bishops and bartenders, executives and peons society ladies and fishermen, travelled together.

³⁶ Celsa Pinto, *Colonial Panjim: Its Governance, Its People* (Saligao: Goa 1556, n.d.), 98.

3.2.2 Types Canoes

Canoes are narrow boats of varying length; these are typically driven by a single oarsman using a single oar.

3.2.3 *Ulannti*

A specific type of narrow and long canoe designed with one heavier side to carry a counterweight for stability.

3.2.4 *Tari-Voddem*

This small-sized boat is specifically used for ferrying passengers from one side of the river to the other within the Goan waterways.

3.2.5 *Voddem*

These boats are employed for transporting both goods and people across the rivers of Goa. They are usually manned by four rowers. For transporting families, an additional tent is often erected in the middle section, a short distance from the rowers.

3.2.6 *Paddav*

These are flat-bottomed boats commonly used in the local neighbourhoods of Goa. They serve various purposes, including transportation and fishing activities.

Despite the introduction of these modern modes of transportation, many families continued to prefer traveling by *Tonas*, traditional boats that have been a part of Goan life for generations. *Tonas* were typically open or equipped with a simple *Tolda* (awning), featuring two narrow boards on either side for seating and an open central area.

3.2.7 Boat Building in Goa

Various types of float devises were used to traverse water courses and these were made of different materials. The simplest method to cross a river in Goa was swimming as the distance was short. Dugouts were the predominant type of boat on the western littoral.³⁷ Boat building is the process of constructing boats which involves designing, shaping and assembling various materials. Boat building was done using the traditional techniques. These techniques involved the utilization of good quality trees. The logs of the trees were later hollowed out. These crafts move quickly through the waters, and are capable of transporting heavy loads.³⁸

The construction of dugouts involved selecting a suitable length of a tree trunk. For this purpose, mostly Mango or Banyan tree was utilized in Goa. The upper portion the trunk was flattened and the central part of the log was been scooped out. The hollowed log is than smeared with mud or *kodu tel*, and inverted over the fire to smoothen the surface. The hull of the boat is applied with the *dik* of cashew as a prevention from any insects. To increase the length of the dugout two tree trunks are used and are joined together by sewing it. For example, *balao* and *poneo*.

Along the coasts of Karnataka and Konkan dugouts and planked crafts are found which are fitted with an outrigger boomed-out by two bamboos.³⁹ Apart from the dugouts there were boats without kneel. These boats were constructed systematically with the skeleton being

³⁷ Jean Deloche, *Transport and Communications in India, Prior to Steam Locomotion: Water Transport*, vol. 2 (Delhi: Oxford University Press, 1993), 187.

³⁸ Zeeshan Alli Shaikh, "Boats in Goa," *Encyclopaedia of the History of Science, Technology and Medicine in Non-Western Cultures*, 2014, 1–19.

³⁹ Deloche, *Transport and Communications in India*, 189.

constructed in the beginning. A thick plank called *pati* is laid, instead of a keel, to which are fixed the stem and stern. The raw planks are applied with *kodu tel* and heated over fire. With the heat temperature the plank is bent to the required shape.⁴⁰

3.2.7 Vodekar or the Boatmen

Boat service was an important service to the people, it facilitated the movement of people. The *vodekar* are a special community of persons who provided ferry service to the people. They are also called as Tari. The term Tari is derived from the word *tar* meaning a ferry service to the people. These boatmen became the community and are known as Tari.⁴¹ Even today the members of this community have retained their surname, and some are also enterprising enough to keep their vessels for hire. Other than this there were Tandel or the oarsmen who were employed for rowing boat.

⁴⁰ Alvita M D'Souza, "Reconstructing the Urban Maritime History of Goa: A Study of the Port-Capitals of Chandrapur, Gopakapattana and Ella" (Panaji, Goa University, 2007).

⁴¹ Vinayak V. Khedekar, *Goa: Land, Life and Legacy* (Panaji: Directorate of Art and Culture, 2016).



Fig 3.1: Cycle

Photo Credit: Yashasvi Tamse

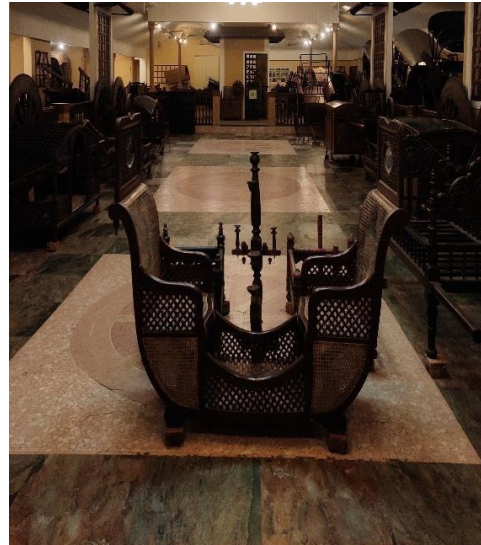


Fig3.2: *Machila*

Photo Credit: Yashasvi Tamse



Fig 3.3: Coaches used in church

Photo credit: Yashasvi Tamse



Fig 3.4: Coaches used in church

Photo credit: Yashasvi Tamse



Fig 3.5: a boat used for fishing

Photo Credit: Yashasvi Tamse



fig 3.6: *Boyas* carrying *Machila*

photo: <https://www.flickr.com/photos/shankaronline/52571596627>



Fig 3.7: coaches for transport



Fig 3.8: Cart drawn by bullock

Photo: Yashasvi Tamse

photo: <https://www.flickr.com/photos/shankaronline/52571596627>

CHAPTER 4

TRANSPORT THROUGH CULTURAL EXPRESSIONS

4.1 Meaning and Significance of Culture

Culture is that complex whole that includes knowledge, belief, law, art, morals, customs, and any other capabilities and habits, acquired by man as a member of the society. - Edward B Tyler (British anthropologist) 1870.¹ Culture encompasses the shared beliefs, values, customs, language, arts, and social behaviours of a particular group of people. It provides individuals with a sense of belonging and identity. Culture shapes their worldview and influences their interactions with others. Culture plays a significant role in shaping societies, fostering communications, and framework for understanding the world around us. Culture is invented, and developed by a group of population. It is a pattern of shared basic assumptions. Culture is a property of a particular group.²

Culture is a dynamic force. Certain remarkable events in the history of Goa have impacted the culture of the region and its people.³

¹ https://www.palomar.edu/anthro/culture/culture_1.htm

² Mary Godwyn and Jody Hoffer Gittel, *Sociology of Organizations: Structures and Relationships* (SAGE Publications, 2011).

³ Nandkumar Kamat, ed., *Kaleidoscopic Goa: A Cultural Atlas* (Panaji: Vasantrao Dhempo Education & Research Foundation, 2004).

4.2 The Aspects of Cultural Expressions in Goa

The cultural diversity of Goa is deeply rooted in its anthropological history, characterized by the migration and settlement of various groups over centuries. Despite their distinct origins, the cultural traditions of these groups have intricately attached over time, resulting in a homogeneous cultural matrix evident in Goa's traditions, place names, and folklore. Two notable examples of this cultural fusion are the winter folk dance festival "*Dhalo*" and the spring festival "*Shigmo*". The cultural landscape of Goa has been shaped by a multitude of ruling dynasties and empires throughout history. From the Western Kshatrapas to the Adilshahis of Bijapur, numerous powers have exerted their influence over the region, leaving their mark on its cultural fabric.

These ruling entities, along with their feudatories, including the Satavahanas, Chutus, Badami Chalukyas, Rashtrakutas, and many others, brought with them diverse cultural influences from various parts of the Indian subcontinent. Over the centuries, the cultural landscape of Goa transformed as it came under the rule of different dynasties and empires. This dynamic history of conquests and territorial interests further enriched the cultural mosaic of Goa, contributing to its unique identity as a melting pot of diverse cultural influences.

The cultural expression in Goa includes transportation and its significance often finds its depiction in various art forms, folklore, and traditions. Through various cultural expressions in Goa, transportation emerges not only as a practical necessity but also as a source of inspiration and symbolism, reflecting the enduring impact of mobility on Goa's cultural identity.

The cultural transitions in Goa have been influenced by a many of factors. The transport system has been a significant element in this evolution. While serving as a vital

highway for trade and economic activities, transportation has also found expression through various cultural expressions in the Goan society. Even in contemporary times, transportation continues to be depicted and integrated into cultural practices, serving as a testament to its lasting significance.

One such example is the festival of *sangod*, where decorated boats are paraded along the rivers, symbolizing the historical importance of waterways in connecting communities and facilitating trade. Additionally, the elaborate processions of deities in *palkhis*, *lalkhis*, and *draths* further emphasize the role of transportation in cultural expressions. These processions, characterized by the grandeur of decorated vehicles and the participation of devotees, highlight the mobility of faith and the symbolic significance of transportation in religious rituals. Through these cultural traditions, transportation not only reflects the aspects of mobility but also acquires a deeper religious and cultural significance, serving as a unifying thread that connects past traditions with contemporary practices in Goan society.

4.3 Land Transport and Culture

The land transport system has played a pivotal role in connecting communities and fostering cultural exchange. As people and goods traverse various regions, they inevitably bring with them their traditions, languages, and beliefs, contributing to the cultural interchange. Along the bustling trade routes and the marketplaces, interactions between different ethnic groups occur, leading to the sharing of customs, culinary delights, artistic expressions, and religious practices. These encounters not only facilitate economic activities but also serve as mediums for dialogue. Through the movement of people and goods, the land transport system acts as a channel for the spreading of culture, ideas, and religion.

Firstly, the mention of protector deities like *Vetal* and *Dadd*, worshiped by seafaring communities, highlights the importance of maritime trade in Goan society. Furthermore, the inclusion of deities such as *Khapri*, *Habshi*, and *Paradesi*, whose names evoke maritime mercantile communities, demonstrates the influence of trade on religious symbolism and worship practices. The sculptures of *Gajalakshmi*, *Tarini*, and *Ganjeshwari* with figures from diverse cultural backgrounds indicate the cosmopolitan nature of Goa's trade connections, incorporating influences from Negro, Chinese, and West Asian cultures.

The mention of Narve, strategically located to facilitate trade between the Ghats and the ports, highlights the economic significance of certain settlements in Goa. The presence of deities such as Jain Vounsh, Nagareshwar, and Lakshmi-Narayan in Narve underlines its role as a centre of commerce and possibly as a hub for traders, who also contributed to the defence system of the settlement.⁴

4.3.1 Horse Depicted through Cultural Expressions

The historical account of the horse trade in Goa vividly illustrates the relationship between commerce, transportation, and cultural expressions in the region. The import of strong Arab steeds from West Asia through coastal ports like Gopakapattana and Ella highlights the pivotal role of maritime transport in facilitating trade. These horses were then transported inland along the river Mandovi and through land routes, such as the one leading to Sattari, showcasing the diverse modes of transportation utilized in Goa's commerce.⁵

The frequent depictions of warrior deities mounted on horseback in sculptures and religious iconography reflect the cultural significance of the horse trade and its influence on

⁴ Pratima Kamat, *Goa: Its Tryst with Trade* (Panaji: Goa Chamber of Commerce and Industry, 2009).

⁵ Pratima Kamat, *Goa: Its Tryst with Trade* (Panaji: Goa Chamber of Commerce and Industry, 2009).

religious symbolism. The folk dance of *ghodemodni*, where dancers wear hobby-horses around their waist, serve as living expressions of Goa's cultural memory of the lucrative horsetrade and cavalry battles. Horses were used for mobilisation; and war and they facilitated transmission of news. The popularity of *ghodemodni* in Sattari and other villages stresses the impact of transportation-related commerce on local traditions.

4.3.2 *Ghodemodani*

Ghodemodani is a ritualistic dance form deeply rooted in the cultural history of North Goa, particularly performed during the annual Shigmo festival. The term "*Ghodemodani*" translates to "hobby horse dance," symbolizing the act of warding off calamities and safeguarding village boundaries.⁶

The dance involves the use of wooden masks representing horses, traditionally prepared and well-regarded by the village chieftain (*Mankari*). These masks are believed to possess protective powers, as shown by a folklore telling how the performance of *Ghodemodani* prevented thieves from attacking the village.

During the festival, bamboo frames resembling horse bodies are decorated with colourful *sarees* and flowers, with the horse masks tightly secured to the front. Dancers don Rajput-style costumes, filled with ornaments and flowers, and wield swords as they stand within the hollow space of the bamboo frames. Ropes are attached to the frames, allowing the dancers to control their movements and perform different steps to the beats of traditional instruments like the *Dhol*, *Tasso*, and *Kansale*.

The procession, accompanied by royal equipments, proceeds towards the village border, where a moment of silence is observed before the *Mankari*, holding a red cloth, issues

⁶ Vinayak Vishnu Khedekar, *Goa: Land, Life, and Legacy* (Panaji: Directorate of Art and Culture, 2016).

a warning cry ("Ay-yy-yo") to deter any potential threats. The music resumes, signalling the return of the procession to its starting point, thus completing the ritual.⁷

Ghodemodani at Thane Sattari holds particular significance, being performed thrice a year and serving as a cherished tradition that not only entertains but also reinforces the cultural heritage and collective identity of the community. Through its rituals and symbolic gestures, *Ghodemodani* illustrates the deep-rooted belief in the protective powers of tradition and the resilience of communal spirits.

Additionally, ceremonies such as the *ghoddo* associated with Dussehra festivities at the temple of Devi Kamakshi in Shiroda further show the mixing of transportation motifs into religious rituals and cultural practices. The ceremonial procession of the idol of *Rayeshwar* on a symbolic horse underlines the deep-rooted cultural associations between horses, trade, and spirituality in Goan society.⁸ Similarly, horses are depicted several sculptures found in Goa. The *tar-vir* of Keri village of Sattari *taluka* depict a male warrior god riding on the horseback.⁹

The horse trade in Goa serves as an example of how transportation systems have shaped not only economic exchanges but also cultural expressions and religious traditions in the region.

⁷ Vinayak Vishnu Khedekar, *Goa: Land, Life, and Legacy* (Panaji: Directorate of Art and Culture, 2016).

⁸ Pratima Kamat, *Tarini and Tar-Vir: The Unique Boat Deities of Goa* (Panaji: GOINCARH (Goa Institute for Culture and Research in History), 2008).

⁹ Kamat, *Tarini and Tar-vir*,

4.3.3 *Zatra*, and *Utsav*

In Goa, Hindu temples play a crucial role in the religious and cultural life of the people, serving as not just places of worship but also as community centres. The annual *Zatra* and *Utsava* celebrations in these temples are vibrant and grandiose events.

Zatras are characterized by elaborate processions where the deity's image, adorned with tropical flowers and ornaments, is paraded around the temple courtyard. This procession, accompanied by traditional music, ends at a specific point where devotees gather to offer their prayers.

Utsavas are marked by grand celebrations, where the temple premises come alive with various rituals and festivities. From dawn to dusk, the temple is busy with activities such as bathing the deity's image (*abhisheka*), decorating it (*alankar*), offering prayers (*pooja*), and singing devotional songs (*bhajans*). Special rituals like fire-walking may also be performed during these occasions.¹⁰

Additionally, *Vidhis* include the daily rituals that take place in the temple, forming an important part of its functioning. These rituals contribute to the spiritual atmosphere of the temple and attract devotees from all over Goa and beyond.

Furthermore, these festivities also serve as opportunities for economic activities, as special fairs are organized within the temple premises. Here, traditional items like sweetmeats, crafts, earthenware, and livestock are sold, fostering community engagement and boosting the local economy through the exchange of goods.

¹⁰ Nandkumar Kamat, ed., *Kaleidoscopic Goa: A Cultural Atlas* (Panaji: Vasant Rao Dhempo Education & Research Foundation, 2004).

4.3.4 Depiction of Palanquin

In Goa, the transport system is mixed with the cultural and religious aspects of the villages. Temples hold significant importance in every village, often serving as the focalpoint of community life. The deity worshipped in each temple, considered the supreme deity of the village, is valued with great devotion, especially during the annual *zatrotsav*, or temple festival.

During *zatra* the atmosphere is filled with joy and faith as devotees come together to honour the gods and goddesses. The temple and its premises become vibrant with various activities and rituals. One of the highlights of the festival is the decoration of the deity. The deity is adorned with garments, jewelry, and floral decorations.

Throughout the *zatra*, devotees participate in various religious rituals, cultural performances, and processions, creating a sense of unity and celebration within the village.

4.3.5 Meaning of Palanquin / *Palki*

A palanquin or *Palki* is a covered litter or sedan chair carried by bearers on their shoulders, typically used in the past as a means of transportation for dignitaries, royal, or wealthy individuals. It is a type of conveyance that provides shelter and comfort for the passenger while being transported by the others. Palanquins were commonly used in various cultures and societies before the advent of modern transport methods.

There are two types of palanquins in Goa. One *palki* which is similar to a portable bed (*khat*) which allows a person to be carried in a recumbent position. The other with two seats (*kadelin*) or a chair. The *kadelin* are suspended from iron chains attached to a pole.

Those traveling in a palanquin are protected from the sun by an awning of printed cotton or of any other fabric. A small tent or cove made of oil cloth gives shelter from the

rain. The palanquin was carried on the heads or shoulders of 4 *boias* or coolies. The *boias* wear a kind of skirt and short-sleeved coat. To lessen the weight and to offset any height difference they carry a *chumbol* (a roll of thick cloth) topped by *neunnem* (rings or rice straw).¹¹

4.3.6 Meaning of Lalkhi

Lalkhi is a kind of small chariot, which can be drawn easily by a small group of devotees. Most of the temples have a *lalkhi* procession, with the *lalkhi* decorated and is made of wood with carving depicting various figures of animals, and divinities.

4.3.7 Rath Utsav

The term "*Ratha*" or "*Rath*" has a significant cultural and religious connotation, particularly in Hindu traditions. A *Ratha* is essentially a large wheeled cart, traditionally made of wood, that serves as a sacred vehicle for carrying the *murti* (idol) of a deity during religious processions and festivals. These processions are integral parts of Hindu religious practices and are often grand and elaborate affairs, drawing large crowds of devotees.

The *Ratha* plays a central role in religious processions, especially during important festivals dedicated to specific deities. Examples include the *Ratha Yatra*, which is celebrated in honour of Lord Jagannath in Puri, Odisha, and other parts of India. Depending on the tradition and the scale of the procession, the *Ratha* may be pulled by different means. In some cases, devotees may pull the *Ratha* with ropes as an act of devotion and penance. When not in use the *rath* is placed in a special cell in the *rath-ghar*.

¹¹ A.B. de Braganca Pereira, *Ethnography of Goa, Daman and Diu* (New Delhi: Penguin Books India, 2008).

The Partagal Math, has a 250-year-old wooden chariot which is used in the annual *rathotsava* on the occasion of Ramnavami. The carved body of *ratha* stands about 5 meters tall and is adorned with carvings depicting motifs such as flowers, leaves, horses, hunting and battle scenes. The *ratha* consist of five principal parts: the wheels, body, shrine, dome and spine. The wheels, each with a diameter of approximately 2.2 meters are constructed using solid blocks of wood fastened together with iron cross bars and nails. Iron rings are fixed to the front and back beams for attaching coir ropes used for pulling the *rath*. The dome called *ghood* is made of betel, palm wood, or bamboo pieces tied together. Additionally, a permanent base-like altar is used to place the deity's image during the procession.¹²

4.4 Waterway Festivals

Water is not just a biological necessity for humans but is essential for all living organisms. It serves various purposes in biological processes, including hydration, nutrient transport, and waste removal. The widely held belief that life originated in water. This concept is deeply rooted in religious and cultural narratives, as well as scientific theories about the origins of life on Earth.

The Rig Veda, one of the oldest sacred texts in Hinduism, contains verses highlighting water as an element from which all life emerged.¹³ This verse highlights the ancient belief in water's central role in creation and the sustenance of life.

The recognition of water's importance exceeds cultural and religious boundaries, as evidenced by its portrayal in the Holy Scriptures, creation myths, and legends from diverse

¹² Pandurang Phaladesai, "A Cultural History of the Canacona Taluka of Goa" (Taleigao Plateau, Goa University, 2003), 222–23.

¹³ Bernadette Gomes, "Vosaad: The Socio-Cultural Force of Water (a Study from Goa)."

traditions around the world. This universal reverence for water reflects its profound significance in shaping human consciousness and cultural identity.

The cultural and religious links with water transportation have always been witnessed in the day-to-day lives of the people of Goa. The water transport system holds a significant role in the region's society and its culture. In a coastal region like Goa, waterway transport plays a crucial role due to the presence of various islands and the reliance of local communities on fishing as a primary occupation. Boats are essential for navigating the waterways to access fishing grounds and transport goods between islands and coastal areas.

Fishing expeditions can be unsafe, especially when venturing deep into the waters. To ensure a safe journey and protection from dangers, fishermen often incorporate religious symbols and idols onto their boats. These symbols serve as sources of spiritual guidance and protection, believed to safeguard the crew and vessel from harm.

Christians may affix crosses or idols of Virgin Mary, particularly the Vailankanni idol, known for its association with maritime safety and protection. Meanwhile, Hindus may attach small idols representing various gods and goddesses from their pantheon.

The idols tied onto the boats are often small in size. Despite their small stature, these idols hold immense symbolic significance for the fishermen, serving as tangible expressions of their faith, devotion, and reliance on divine assistance.

4.4.1 Unique Ganesh Visarjan through Sangod

The festival of *Chawat* or *Ganesh-Chaturthi* is concluded after the clay idols of lord *Ganesh* are immersed in different water bodies such as wells, lakes, and rivers. The idols are taken to the water in a procession, which is accompanied by music. The people walking in the procession dance, and sing as the idols are immersed in the water.

Marcel, is a town that has significance in Goa's cultural life. On the seventh day of the festival, the Ganesh idols of nearby villages are brought in a procession to the riverbanks at Cumbharjuve an island. The tradition of *Sangod*, originating around 1920, holds deep significance for the communities of Cumbharjuve and Marcel.

Sangod, a unique procession held, shows not only the cultural heritage of the region but also serves as a symbol of unity between the two villages separated by the river. Initially, the transportation system relied on traditional methods such as boats. Despite the evolution in transportation, *Sangod* continues to be a cherished tradition, bridging the past with the present and serving as a reminder of the shared history and unity between Cumbharjuve and Marcel.

4.4.2 Procession through *Sangod*

A Floating platform of bamboo is erected with the help of two boats. It is decorated with coloured paper and flowers. Idols of Lord Ganesh, big and small are placed on this platform. Devotees with their musical instruments also sit on the floating platform and sing *Bhajan*. Taking two boats together with a platform erected on it is called *Sangod*. The boatmen of the boats carrying the platform start rowing and the procession carrying Ganesh idols cruises along the river. This procession is the major attraction of Mashel. The crowd standing on the riverbank shouts slogans hailing the Lord Ganesh. Hundreds of men, women and children come to witness this unique procession on the riverbank.

Several explanations for this unique procession. According to one such explanation, the wealthy residents of Cumbharjuve who owned wells and ponds in the village refused permission to the common people of the village to immerse their Ganesh idols in them. The common people came together and decided to have a common immersion ceremony in the river. According to another explanation, the locals who wanted to have some spectacular

ceremony in their village started the *Sangod*. Yet another explanation of *Sangod* is more convincing. According to this, the island of Cumbharjuve was conquered by the Portuguese rulers forcing the Hindu residents of the island to flee to Mashel, a village just across the river under the rule of a Hindu King.

The migrant Hindus wanted to immerse their Ganesh idols in their original village hence, they started transporting their idols to the middle of the river for immersion. There is also a possibility that the migrants Hindus and the original residents might have developed some dispute over this issue. A solution to this disagreement was found when the parties decided to have a community immersion ceremony of the idols. *Sangod* might have its origin in this history.

Moreover, the festival's incorporation of colourful decorations, musical performances, and fireworks showcases the vibrancy of the local culture, attracting hundreds of spectators from both villages and beyond. This fusion of tradition and modernity, along with the overarching theme of unity and cooperation, underscores the profound impact of transportation infrastructure on community dynamics and cultural expression.

4.4.7 Tripurari Purnima in Sanquelim

The annual boat festival held on Tripurari Purnima in Sanquelim recalls the historical importance of the port in facilitating trade. The festival involves setting makeshift boats afloat in the Valvanti River, symbolizing ancient rituals of deep *dana* (offering of lamps to the river). While the festival primarily celebrates the victory of Lord Vishnu over the demon *Tripurasura*, the use of modern materials like thermacol for boat-making hints at the historical riverine trade conducted in the region

4.4.4 The Festival of Sao Joao

The festivals of *Songod* and Sao Joao, deeply rooted in the cultural fabric of Goa, highlight the dynamic interplay between traditional festivities and the region's unique transportation systems. The Sao Joao festival is celebrated in Goa on the birth anniversary of Saint John De Baptic, on 24 June. Traditionally this day is celebrated as a folk festival throughout Goa. But is more popular in North Goa. Such as in Shioli and Harmal in the deep north to Kutthalli towards south.

The origin of this festival can be traced back to the arrival of the Portuguese and the advent of Christianity. The festival begins by decorating canoes and motor boats with coloured paper, coconut palm leaves, flowers, flags, etc. Men and youth, with great enthusiasm, board these vessels and go rowing into the rivers and sea. As they go on this trip, they continue to sing Portuguese decorating canoes, and dance.

After attending the morning mass in Church, people gather at the house of a senior man and offer prayer there. Then, the group reaches a spot, traditionally meant for this day, and light candlesticks and sing salutation together. These songs are called *Hoi*. A fire is lit nearby and the beating instruments over this tuning. These instruments include *Ghumat* and *Mhadle*.

Moreover, the rituals associated with Sao Joao, such as offering prayers at designated spots and bathing newlywed couples in *Feni*-infused well water, emphasize the intimate connection between transportation, communal rituals, and local customs. The festival's celebration of nature and its raw elements further highlights the core relationship between cultural practices and the environment, echoing the sentiment of unity and harmony with nature deeply rooted in Goan culture.

4.4.5 Feast of St. Peter and *Sangod* Celebration

The celebration of the Feast of St. Peter among Christian fishermen and the *Sangod* ritual features the deep connection between religion, livelihood, and local traditions. St. Peter's significance as a fisherman himself adds a layer of religious symbolism to the practice of decorating boats and parading the saint's statue along the river. The *Sangod* celebration is a communal event that brings together villagers, emphasizing the importance of shared cultural practices.

The observation that Hindu fishermen also have similar *Sangod* celebrations, although with their deities, illustrates the cultural syncretism and shared traditions among different religious communities in the region. This syncretism reflects the rich tapestry of Indian culture, where diverse religious beliefs and practices often intersect and influence one another.

4.4.6 Boats as Central Symbols

Both the Christian and Hindu celebrations revolve around boats, highlighting the vital role of waterways as channels of communication and transportation in coastal communities. The boats become focal points for cultural expression, adorned with colourful decorations and carrying religious symbols or idols during this festival.

The mention of boat-decoration competitions organized during the *Sangod* festivities indicates the evolution of traditional practices in response to contemporary cultural and commercial influences. This evolution reflects a dynamic interplay between heritage preservation and modernization within local communities.

4.4.7 Role of Boatmen

The portrayal of boatmen as highly respected figures in village life underscores their crucial role as providers of essential transportation services. The term "*tarya mama*"

highlights the familial respect and intimacy accorded to boatmen within the community, emphasizing their integral position in the social fabric of coastal villages.

The quote from the *dekhni* operate as a capture the romanticized portrayal of boatmen in traditional folk performances. The depiction of belles seeking the boatman's assistance to cross the river adds a romantic and whimsical element to the narrative, while also showcasing the cultural significance of boatmen in local folklore and entertainment. When decoding the *dekhni*, which is performed by Catholic communities, the term "*paltadem*" means the land across the river which was not conquered by the Portuguese.

The celebration of the Feast of St. Peter and the *Sangod* ritual, along with the portrayal of boatmen in folk performances, provide valuable insights into the cultural heritage and communal traditions of coastal communities in Goa, India. These practices serve as vibrant expressions of identity, faith, and social cohesion within these unique cultural landscapes.¹⁴

¹⁴ Bernadette Maria Gomes, "Vosaad: The Socio-Cultural Force of Water (a Study from Goa)," *Sage Publications, Ltd* Vol. 54, No. 2 (August 2005): 250–76.



Fig 1.1: *Plakhi*
Photo Credit: Yashasvi Tamse



Fig 1.2: *Rath*
Photo Credit: Yashasvi Tamse



Fig 1.3: *Sangod*
Photo Credit: Yashasvi Tamse



Fig 1.4: Procession of the deity through *sangod*
Photo Credit: Yashasvi Tamse

CHAPTER 5

TRANSPORT AND ECONOMY

Transport and economy are two interrelated concepts. Transport plays a vital role in promoting economic growth and prosperity. Trade in ancient India depended upon the development of transport system. As discussed in the chapter 1 transport plays an important role in the process of urbanization. In the process of growth and development of the cities during the pre-modern period economy and development of trade played an important role. Migration for the purpose of business, trade, religion, invasion etc. was possible with the better developments in the transport system in India. Transport provided connectivity and better access to important regions in Goa, for the purpose of trade and most importantly for distributing surplus produce and exchanges in various markets and ports.

Trade and commerce had been a very significant aspect of human civilization through the centuries. Trade and commerce made large number goods available to the human population.

Trade and economic activities occur when a region lacks the capabilities to produce a large amount of goods necessary for its population. In contrast, another region may abundantly produce these goods. Therefore, people seek means to acquire them, making transport essential in accessing them. Transport facilitates the movement of goods from

production centres to areas of demand, enabling trade and economy to flourish.¹ One cannot have access to these goods from another land unless better mode of transport is available. Big merchants and guilds largely depended on transport for successful economic activities. Commercial activities have gone hand in hand with transport system in the region.

Urbanization reflects technological change that creates a new form of economic organization. Urban centres serve an important centre for economic activities.² These growth in economic activities in the urban areas resulted in growth in transportation networks.

The port town like Goa could not survive without a continuous supply of victuals and other necessities from the neighbouring and more distant hinterland. In his report to the king, Afonso de Albuquerque, mentioned that abundant and easy supplies were locally available to maintain Goa after the conquest. These supplies came from villages in Tisvadi, Bardez, Salcete, and from the old conquest.³

5.1.1 Exchange of Foodstuff and Commodities

Goa's villages had their weekly markets and fairs that provided the villagers with a place to sell their surplus produce. The supply of foodstuff and other important commodities came from hinterland and the coast. Commodities in Goa were brought by the Muslims, native Christians, and Hindus. These goods came by head loads, on cattle backs, and various

¹ S. K Mhamai, ed., *Goa: Trade and Commerce through the Ages* (Panaji: directorate of Archives and Archaeology, Government of Goa, 2000), xiv.

² Benudhar Patra, "Urbanisation and Social Mobility in Ancient India: An Odishan Perspective," *Proceedings of the Indian History Congress* 80 (December 2019): 174–183.

³ De Souza, *Goa Through the Ages: An Economic History*, 2:81.

types of boats. These included *cotias* of salt, wheat, and rice, *almadias* of fish, jackfruits, melons, and cucumbers, *jangadas* of palm leaves, hay, and firewood.⁴

Goa's export trade was restricted to the agricultural commodities. Commodities like coconuts, mangoes, fish, salt, fruits, and firewood were exported. Mineral ores dominated the economic scene since 1954. There was an extreme demand for mineral ores during these critical years. Coconut formed the main item of export in Goa. Coconut represented half of its total export trade. Its exports used to pay a tax of 3 ½ *Xerafins* per thousand and half *xerafin* of tax imposed by *alvara* dated 11 July 1705. However, by the treaty of 1878, the export for coconut was free.⁵

Although there witnessed no taxes on the food provisions they brought and sold in Goa. However, Teotonio R de Souza mentions that there were attempts to bring these transactions under taxation that invited protests from the native population. An early document recording the *rendas* of the Goa Island for the years 1541-42 refers to the *rendas dos panos* which was an excise on cloths from Balghat. No one could import and sell such cloths without knowledge of the state contractor for such imports.⁶ In the domestic market, goods including textiles, liquors, cashew, and arecanuts, while also importing spices, coconut products from Malabar, European textiles from Bombay, and various materials from other nearby regions like Daman, Madras, Pulicat, Chaul, and Kanara.

Goa imported chilies (*ghanti* chilies) from the *ghat* region and vegetables from Belgaum and Dharwad. During 1878- 80, Goa exported salt, instruments or iron,

⁴ Pratima Kamat, *Goa: Its Tryst with Trade* (Panaji: Goa Chamber of Commerce and Industry, 2009).

⁵ Murelle Maria Leonildes da Costa, "History of Trade and Commerce in Goa; 1878-1961" (Taleigao Plateau, Goa University, 2002), 108.

⁶ Teotonio R De Souza, *Goa Through the Ages: An Economic History*, 2:86.

earthenware, tiles, coconut oil, wine, betelnut, pumpkins, potatoes, onions, salted fish, mangoes, and *nachnim* to different parts of coastal Karnataka and Balghat region. During 1878-79, Goa imported rice, paddy, long chilies, onions, ginger, cinnamon, coffee, canes, loose thread, jaggery, grams, coconuts and wheat from different stations in coastal Karnataka.⁷

5.1.2 Weekly Markets and Seasonal Fairs

The village *bazar* was the common feature of any agriculturally based economy. Markets served as a hub of trading goods. Transport plays an important role in this process in facilitating the movement of commodities to these markets for sale. Whether it was transported on the backs of the oxen, carts or even carried by people on their heads or backs, transport ensured that goods could reach their destination efficiently. Transport not only enabled the import of goods into the region but also ensured their distribution within the local markets.

Goan villages had their weekly markets and seasonal fair. Fairs or *jatras* held usually during the religious festivals. These were traditional form of inland trade in India. These markets and fairs enabled the sale of surplus products of domestic crafts and agriculture. The *bazar* days were of great interest and activities. Thousands of villagers would come together to sell and buy goods of their requirement. These weekly markets were of great profit weekly and were fixed according to the places. Market of Calangute, Margao, Ponda, Quepem, and Siolim would be held on Sunday, Sanquelim on Monday, Pernem on Tuesday, Assonora,

⁷ N. Shyam Bhat, "Socio-Economic Relations between Goa and Karnataka: A Historical Perception," *Heras Institute of Indian History and Culture*, 2008, 175.

Bicholim, and Sanguem on Wednesday, Mormugao on Friday, Banastarim, Mapusa, and Tillamola on Friday, and in Panaji on Saturday.

5.1.3 Transport and Trade Routes.

This network of trade was facilitated by both land routes and riverine waterways, connecting Goa to the hinterland and neighbouring kingdoms such as Vijayanagara and Bijapur. The existence of mountains provided easy access to neighbouring regions. There were regular caravans from Deccan to Goa carrying all sorts of goods on horses, oxen, donkeys, and other beasts of burden.⁸

Most commonly transport of goods was done by oxen drawn carts, along with the head loads. They were the important conveyance for men and materials till the introduction of railways. Articles of trade were transported from one place to another by means of head loads on land, pack animals or carts. Cloth and diamonds from Deccan were brought overland through the *ghat* routes. Both merchants and rulers made generous donations to religious establishments. The Bhoja inscription of Prithvimalavarman in his 25th regnal year mentions the existence of rocky roads likely utilized by the people. The port capitals from the harbour were connected to the *ghats*. The Talkhati *ghat* in the north was the most frequent route of oxen caravans coming to Kolval in Bardez. Other than this, Rama *ghat* was also used by oxen caravans going to Tivim in Bardez and to Bicholim. The Chorla *ghat* in Sattari, was used by caravans coming into Sanquelim and to Tivim.⁹

⁸ S. K Mhamai, *Mhamais of Goa: In the Network of Trade and Culture* (Panaji: S. K. Mhamai, 2004).

⁹ Alvita M D'Souza, "Reconstructing the Urban Maritime History of Goa: A Study of the Port-Capitals of Chandrapur, Gopakapattana and Ella" (Panaji, Goa University, 2007), 232.

Moreover, Kelghat began at Talvar village controlled from Bhimgad check-post. Here duties were collected. From Tinai *ghat* caravans would go to Ponda. Here duties were collected from both Tinai and Kullem. The Volvoi river and *ghat* pass of Khandepar were route of oxen caravans and merchandise coming from Konkan. The Dighi ghat witnessed cloth-bringing caravans.¹⁰ The natives of Bardez owned about four thousand oxen for making trips to Balghat. They could make four to six trips to Balghat during summer months. Manoel Luis from Parra village of Bardez was one of the chief caravan owners with seventy oxen of his own. It is important to note that in 1623, Purssia Shet the tobacco revenue farmer in Bardez, complained that some influential persons brought tobacco from the mainland in boats and land routes.

For trade and commerce, transport facilities gave backbone support. From the accounts of various travellers who travelled in India provides a detailed information regarding transport, economy, and trade roads.

The traders always moved in groups in these routes because they had to protect themselves from the attacks of the robbers on their way. It was always problematic for those traveling through forest regions. Ibn Batuta explains in detail the land route from Goa to Malabar. The road along the whole distance ran along the shade of the trees and at every half mile there were wooden shed on which the travellers could sit. Hired carriers transported baggage and merchandise and a single merchant might have a hundred or more of such carriers to carry his goods.¹¹

¹⁰ Celsa Pinto, *Trade and Finance in Portuguese India: A Study of the Portuguese Country Trade, 1770-1840* (New Delhi: Concept Publishing Company, 1994).

¹¹ Nagendra Rao, "Craft Production and Trade in South-Kanara: A.D. 1000-1763" (Taleigao Plateau, Goa University, 2001), 133–134.

Thevenot describes that Indians use oxen in traveling and rode them like horses, though they commonly go by horses. They were used to draw wagons, and coaches. Tavernier's description of transportation facilities was extensive. He mentioned that no one employed asses, mules or horses, everything being carried out on oxen or by wagon. He mentioned that one would occasionally see caravans of ten to twelve thousand oxen transporting grains. He states that oxen were ridden as horses, moreover ox could carry 300 to 350 kg. some oxen were very healthy, and a pair of such oxen cost 600 rupees.¹²

He further mentions that wagon trains were shorter, usually consisting of one or two hundred units, each pulled by ten or twelve oxen. There were also carriages drawn by two oxen.¹³ During the monsoon, when roads and routes were travel by boat along the river was convenient. Roads were not completely impassable by the journey was difficult and slow. The normal practice for travellers and traders was to settle all the business which involved traveling before the monsoon.

5.1.4 The Hinterland Trade

The hinterland of Portuguese in India included the fertile agricultural lands particularly in the Deccan and peninsula region which were rich in export produce. Such as cotton, sugarcane, and indigo. Cotton grown in abundance was a significant crop. The access to this hinterland was difficult largely due to the presence of deep gorges on the *ghats*. However, despite the challenging terrain, Goa maintained connections with its hinterland through passes in the Western *Ghats*. Which facilitated movement of goods from one region

¹² Saidulu Bhukya, *Banjaras of Medieval Deccan: Trade and Transport and Itinerant Communities* (New Delhi: Readworthy Press Corporation, 2021).

¹³ George A. Rothrock, Jr, "Seventeenth-Century India through French Eyes," *Taylor & Francis, Ltd.*, 2, 22 (1960): 173.

to another. The Portuguese with these goods from its hinterlands fostered coastal and overseas trade.

In the pre-Portuguese period, the port of Goa served the kingdoms of Bijapur and Vijaynagara with Arab and Persian horses. The hinterland connections were much more of service to the Portuguese because during the seventeenth century the Dutch blockade caused difficult conditions and increased Goa's dependency on the goods from outside the region. Coolies and oxen caravans laden with salt, wheat, rice and textile would made their way through the *ghats*. Salt was exported to Karwar through the land route using bullock carts.¹⁴

5.1.5 Animals for transport

The important domestic animals of Goa were oxen, goat, sheep, horse, buffalos, donkey, and pigs. For transportation in Goa, oxen, horse, buffalos were used as discussed in the previous chapters. Buffalos were issued for ploughing and transportation. For transportation of heavy loads to the markets, or outside Goa oxen were largely used. These were attached to carts. Sometimes the goods were transported on the backs of these pack animals. Donkeys were also used to carry goods. Tavernier in the mid-seventeenth century paid forty-five rupees for hire of cart and coolies to reach from Surat to Golkonda in 40 days. He further mentions about oxen caravans of 10,000-12,000. Each ox carrying 300-350 pounds of load. He says that oxen were used also for riding and recommends to choose an ox with short horns to avoid being gored when insects disturb the animal.

In 1924, 53 donkeys valued 644 rupees, 108 horses of rupees 7,086, oxen valued at rupees 3, 69,205 were imported in Goa. Caravans of bullock carts called *boiadas* would trek

¹⁴ Bhat, "Socio-Economic Relations between Goa and Karnataka: A Historical Perception," 175.

their way to the *ghats* and bring back in exchange salt, rice salt fish and coconut. Merchants from the *ghats* transported goods between Goa and the *ghats* putting on backs of the oxen.

The information gathered by Nuno Vaz de Castel, a revenue superintendent about the inland trade in Bardez and Salcete throw light on the economic and transportation scene. The traditional tariff in force in Salcete known as tariff of Shiva Poy lists 67 items that were taxed at the customs house. It refers to the *boyeiros* (oxen caravans) from Balghat. On commodities like cloth, sugar, *gonis* (coir rope) and *tannio* (cotton thread) from Balghat. Other items like *cambolins* (coir mantle), *rumals* (cloth for turban or langoti), cattle, chicken etc. came from the *ghats*.¹⁵

The natives of Bardez owned about four thousand oxen for making trips to Balghat. They could make four to six trips to Balghat during summer months. Manoel Luis from Parra village of Bardez was one of the chief caravan owners with seventy oxen of his own. It is important to note that in 1623, Purssia Shet the tobacco revenue farmer in Bardez, complained that some influential persons brought tobacco from the mainland in boats and land routes.

5.1.6 Economy through Railways

The imports exceeded the exports, leading to a strain on the economy. Even before the Anglo-Portuguese treaty of 1878, which took effect in 1880, the economic situation was difficult. Despite the treaty being denounced in 1892, Portugal's hopes of revitalizing its Eastern possessions were dashed. The Estado da India saw a sharp decline in revenue for the colonial government, with official trade becoming unimportant. The economy was sustained

¹⁵ Celsa Pinto, *Goa: Images and Perception* (Panaji: Rajhauns Vitaran, 1996), 85.

largely by private trade. Consequently, the once-vibrant Portuguese trading posts in the region became stagnant.

In 1954, the export of vegetables to Goa was banned by the Indian Union. During the economic blockade, the 'Reparticao de Agricultura e Veterinaria' started a 'Grow more vegetables' campaign in Goa to flood the local markets. With vegetables like cabbage, cauliflower, beetroots, etc. The principal market for Goa's salt via railway were Belgaum, Dharwad, and Bijapur in Karnataka, and Poona in Maharashtra.¹⁶ The Goan economy operated primarily as an import-oriented one, with limited exports mainly comprising agricultural commodities such as cashew nuts, coconuts, areca nuts, and mangoes. Additionally, fish, canned food items, bamboo, and firewood were exported, primarily to markets within India.

Coconuts and cashew nuts were significant export items until the emergence of mineral ores on the trade list in 1954, which then became prominent export items. On the import side, a different range of goods were brought into Goa to meet the demands of the local population. Rice was a major import due to Goa's grain deficit status, sourced from other parts of India, especially coastal Karnataka, and even from Burma. High-quality timber for shipbuilding was imported from Karnataka and other territories. Tiles were sourced from Kanara.

Following the 1956 inquiry, some improvements were made by WIPR at railway stations which were to handle transport of ores, at Collem, Kalay, and Sanvordem. Loading lines were laid, exporters were allotted more space adjoining the loading lines, to enable them

¹⁶ Bhat, "Socio-Economic Relations between Goa and Karnataka: A Historical Perception," 175.

to stack their ores. Sanvordem got improved facilities as the station had to compete with the river traffic.

The connectivity between Mormugao port and Hubli through a railway line, established in 1888, further enhanced the port's importance and utility as a commercial hub. The railway facilitated the transportation of heavy goods, including ore and consumer goods, between the hinterland and the port. This integration of railway and harbor infrastructure significantly boosted commercial activity in Goa. With the introduction of railways in Goa, beginning of Mormugao harbor and with the rise in mining industries on Goa job opportunities were available for Goan labors of both skilled and unskilled categories. This also attracted labors from neighboring states and other parts of India.

5.1.7 Use of Bicycles in Goa

The use of bicycles was witnessed in towards the end of the nineteenth century. Bicycles ranks as one of the most widely used vehicles in the world. Bicycles provided fast efficient transport, especially for bread sellers in villages of Goa. These bicycles not only facilitated transport but also contributed to the local economy.

Pao sellers relied heavily on bicycles to reach customers in various villages, ensuring to provide fresh bread to the people. The widespread use of bicycles allowed bakers to expand their reach and serve a wide range of customers. A *poder* or the bread seller would reach the remote village, and could navigate through the narrowest street of a village efficiently. A metal air horn is attached to the handle of the bicycle, which announces the arrival of the bread seller. *Pao* in every village is brought early in the morning and in the evening. Even today bicycles continue to be an essential tool for bread sellers maintaining a

connection to the historical reliance on this mode of transport for distribution of essential goods like *pao*.

5.2 Movement of Goods through Waterways

Transport played a vital role in facilitating this trade. Country crafts such as *patamarins* and *mochuas* were extensively used for transporting goods along the coastline. These traditional vessels were well-suited for navigating the coastal waters and were integral to Goa's trade network. They facilitated the movement of goods between Goa and its neighboring regions, ensuring a steady flow of commerce. The navigable rivers like Zuari, and Mandovi were important routes for transportation. Transport equipment in the form of boats and ships like *patmari*, *tarva*, *vhadi*, *voddem*, *paneo* were used.

The proverbs like *daryant vhadde toder ghoddem* means in the sea are the boats and on the shore are horses. These proverbs highlight that means of transport was in the form of boats and horses.¹⁷ Similarly boats appear in many Konkani sayings:

Tarik duddu diun peun gelo meaning in spite of paying the boat fare, he went across swimming. *Duddu na tannem tarir poilo boscho* meaning those who do not have money try and make their way first in the boat. *Kumpar kumar ghorakoddem, duddu farik kor voddeakoddem* meaning godfather and godmother at home, pay your fare at the boat.¹⁸

The movement of goods through the water networks played an important role in rural economy of Goa. Inland waterways play a vital role in the transportation of minerals as it provides a much cheaper rate than any other mode of transport. The earliest evidence to

¹⁷ D'Souza, "Reconstructing the Urban Maritime History of Goa: A Study of the Port-Capitals of Chandrapur, Gopakapattana and Ella," 249.

¹⁸ Bernadette Gomes, "Vosaad: The Socio-Cultural Force of Water (a Study from Goa)," 273.

navigation in the river Paroda occurs in the Panaji Copperplates of Jaykeshi I which belongs to 1052 AD. River Paroda was navigable even in the first half of the nineteenth century. A ship loaded with furniture sailed from Bombay to Chandrapur. A flourishing trade along the coast in the nineteenth century was witnessed. The country crafts such as *patmari*, *tonas*, *saudos* etc. were conducted.

Ports of Gopakapattana and Chandrapur were important and flourishing ports of Goa, from the ancient period. The Degamve inscription of Shivachitta speaks of Gopakapattana describes as: “The streets of Jaykeshi’s capital were filled with the palanquins of his pandits, the poles of which were covered with jewels and inside were the quivering golden earrings.”¹⁹ Additionally, Old Goa was a prosperous city. Here merchants came from Arabia, China, Armenia, Mozambique, Persia, Bengal, Malacca, etc. There existed many bazars, but Rua Direta was the main bazar. All kinds of silk, satin, damask, Chinese Porcelain, precious stones, corals, rice, spices, and all items of crafts were sold.

Goa, under Portuguese rule, served as a center of international trade. Its exports included textiles, ivory, sandalwood, sugar, and coffee tee opium and Goan liquors, gunpowder etc. Meanwhile, imports included slaves, tobacco, Chinese pottery, gold, copper, and paper. However, Dom Manual Lobo da Silveira mentioned that Hindu businessmen took away all the butter and fat from Portuguese and Canarins as they monopolized Goa’s entire export trade. Mhamai family owned a few ships *patmars* themselves.²⁰

¹⁹ Nambirajan M. and A. S Gaur, “Advanced Search River Ports and Other Archaeological Sites on the River Banks of Goa,” *NIO*, 1997.

²⁰ S. K Mhamai, *Mhamais of Goa: In the Network of Trade and Culture* (Panaji: S. K. Mhamai, 2004), 57.

5.2.1 Ore Transportation in Goa

By 1905, manganese ore was found in Goa. The mines were in the hands of few big owners in the region. Since the 1950s the mining industry started giving new orientation to Mormugao port. Over 90% of the traffic dealt by Mormugao Port came to consist of mineral ores. The transport of ores by inland water transport dominated the other two modes. Inland waterways in Goa have a total navigable length of about 250km. From 1951 to 1960, there was a noticeable increase in the import of barges, automobiles, trucks, mining, and other manufacturing items. Import trade post-1957 was largely focused on mining machinery, automobiles, trucks, and consumer goods. Self-propelled barges carry iron-ore across Goa's inland waterways to the Mormugao harbor. In 1952, a self-propelled barge was first introduced in the Goan mining industry by Shri. V. D. Chowgule. The capacity of the barges in Goa varies from 200 to 1000 tones. Over 90% of ores were transported through inland waterways of Goa by means of barges.

During this period, Goa experienced an unfavorable balance of trade, where the value of imports significantly exceeded the value of exports until around 1951. This trade imbalance led to a drain of money from Goa, negatively impacting its financial condition and overall economy.

However, the development of the mining industry in the 1950s brought about a radical change. The export of mineral ores helped counterbalance the unfavorable balance of trade. It was the export of mineral ore that relieved the economy. The late fifties and sixties marked a significant period of growth for Goa's economy, driven by the ore business, particularly the mining and exportation of iron, manganese, and ferro manganese ore.

Entrepreneurs such as the Dempos, Chowgules, Salgaonkars, and others played a crucial role in venturing into this industry, recognizing the potential for economic growth.²¹

The trade in mineral ores experienced a substantial boost during this period, becoming the cornerstone of Goa's economy. This surge in mineral ore trade led to the growth of ore traffic at Mormugao port, which, along with Aguada, served as natural anchorages capable of accommodating large ships.

²¹ Silvia M. de Mendonca-Naronha, "The Economic Scene in Goa 1926-1961". *Goa through the Ages: An Economic History*, vol. 2, (New Delhi: Concept Publishing Company, 1990), 284.

CHAPTER 6

CONCLUSION

From the ancient times Goa's transportation network comprising of roads, rivers and later railways played an important role in shaping region's culture, economy and society. From the concept of *vahana* rooted in the Hindu mythology to the practicalities of land and water transport. The concept of *vahana* provides understandings into the symbolic and practical aspect of transportation in Goa. From the deities riding on the mythical creatures, to the practical consideration of using animals like bulls for heavy loads, *vahana* reflects both religious symbolism and real transportation practice.

Transport played an important role in facilitating urbanisation. Better means of transport facilitated mobility of people, from one place to the other. The transport system in Goa, largely depended on the traditional methods. The existence of the load-rests or *Dovernem* explains the reliance on the human labour for transport in the pre-Portuguese period. Apart from this the study highlights the early trade routes as well as the used of pack animals for transport. Animals like oxen, donkeys, and horses played a crucial role in transportation of goods through the region. The major river water of Mandovi, and Zuari, served as a channel of transport in the pre-Portuguese Goa. Traditional boats facilitated water transport.

With the advent of the Portuguese in Goa, significant transformation occurred in the transport system. This transformation of transport system from the pre- Portuguese methods to more efficient modes was a turning point in its history. During the colonial period, Goa witnessed major changes in its transportation infrastructure, helping to meet the needs of

different social classes. Land transport, characterized by palanquins, *machila*, carts, horse carriages played an important role in facilitating movement of people within the region. *Machilas* in particular were widely used for carrying aristocratic population of Goa. The introduction of coaches was useful in church- related activities.

On the other hand, water transport in the colonial period remained integral to Goa's transport system with rivers playing an important role. Traditional boats like *tonas* and canoes were used along with launches provided both goods and passenger service. The socio-economic dynamics of transportation were reflected in the role of different communities, such as the *boya* and *vodekar* who played essential role in land and water transportation in Goa.

Through festivals, rituals and everyday practice significance of transport infrastructure in shaping the cultural identity of Goa. From the use of boats in religious processions to the depiction of horse in the folk dances, transportation elements serve as a central symbol that bridge the past with present. The procession of deities through *thesangod*, *palkhi*, *rath*, Sao Joao, and *Tripuri Pornima* highlights the religious importance of boats. The cultural expressions of Goa serve as evidence to the influence of transport system in determining cultural exchange and preserving traditional practices.

The relationship between transport and economy forms a backbone of historical and economic development in Goa. Good mode of transport implies prosperous economy of a region. Good trading activities leads to better developments in transport and communication. In the pre- Portuguese period Goa witnessed the movement of goods and people across the region. From pre-Portuguese period to the Portuguese period transport provided trade and commerce in Goa.

Weekly markets and seasonal fairs served as important aspect in the economic scene, providing a platform for goods exchange. Furthermore, the introduction of railways in Goa, started a new phase in the transport system of Goa. With the establishment of port and railway, many towns in Goa were urbanised. For example, the city of Vasco-da-Gama grew and assumed importance due to the port and the railways. Margao too owes its growth to the railway line. Additionally, the airstrip was built at Mangor Hill in 1930, few km. away from the present Dabolim airport. In August 1955, new airport at Dabolim was inaugurated. To begin with two 'Heron' aircrafts were bought with a seating capacity of twelve. This integration of modern transport infrastructure, including airways, provided opportunities for economic change and tourism in Goa. This study thoroughly explored the relationship between transport and different aspects of Goa's historical and economic landscape

REFERENCES

Aurora Couto, Maria. *Ethnography of Goa, Daman and Diu*. New Delhi: Penguin Books India, 2008.

Bhukya, Saidulu. *Banjaras of Medieval Deccan: Trade and Transport and Itinerant Communitites*. New Delhi: Readworthy Press Corporation, 2021.

Braganza, Alfred. *The Discovery of Goa*. Panaji: Brooks Publications, 1964.

Burn, Richard, ed. *The Travels of the Abbe Carre in India and the Naer East (1672-1674)*. Translated by Lady Fawcett. London: Hakluyt Society, 1947.

Chandra, Moti. *Trade And Trade Routes In Ancient India*. New Delhi: Abhinav Publications, 1977.

Correia, luis de Assis. *Goa through the Mist of History from 10000 BC-AD 1958. A Select Compilation on Goa's Genesis*. Panaji: Maureen Publishers Pvt. Ltd, 2006.

D'Souza, Bento Graciano. *Goan Society in Transition: A Study in Social Change*. Bombay: Popular Prakashan Pvt. Ltd, 1975.

Da Fonseca, Jose Nicolau. *An Historical and Archaeological Sketch of the City of Goa*. Delhi: B.R. Publishing Corporation, 1878.

Silva Gracias, Fatima da. *Health and Hygene in Colonial Goa 1510-1961*. New Delhi: Concept Publishing Company, 1994.

De Souza, Teotonio R. *Medieval Goa: A Socio- Economic History*. New Delhi: Concept Publishing Company, 1979.

De Souza, Teotonio R, ed. *Goa Through the Ages: An Economic History*. Vol. 2. New Delhi: Concept Publishing Company, 1990.

Deloche, Jean. *Transport and Communication in India, Prior to Steam Locomotion*. Vol. 1. Delhi: Oxford University Press, 1993.

Deloche, Jean. *Transport and Communications in India, Prior to Steam Locomotion: Water Transport*. Vol. 2. Delhi: Oxford University Press, 1993.

Fernandes, Pantaleao. *Goa Remembered*. Benaulim: The world Publications, 2011.

Godwyn, Mary, and Jody Hoffer Gittel. *Sociology of Organizations: Structures and Relationships*. SAGE Publications, 2011.

Gomes, Olivinho J. F. *Village Goa (a Study of Goan Social Structure and Change)*. New Delhi: S. Chand & Company Ltd., 1996.

Gune, V. T, ed. *Gazetteer of the Union Territory Goa, Daman and Diu*. Panaji: Gazetteer department, government of the Union territory of Goa, Daman and Diu, 1979.

Kamat, Pratima. *Farar Far (Crossfire): Local Resistance to Colonial Hegemony in Goa, 1510-1912*. Panaji: Institute Menezes Braganza, 1999.

Kamat, Nandkumar, ed. *Kaleidoscopic Goa: A Cultural Atlas*. Panaji: Vasant Rao Dhempo Education & Research Foundation, 2004.

Kamat, Pratima. *Tarini and Tar-Vir: The Unique Boat Deities of Goa*. Panaji: GOINCARH (Goa Institute for Culture and Research in History), 2008.

Kamat, Pratima. *Goa: Its Tryst with Trade*. Panaji: Goa Chamber of Commerce and Industry, 2009.

Khedekar, Vinayak V. *Eco-Culture Goa Paradigm*. Panaji: Broadway Publishing House, 2013.

Khedekar, Vinayak V. *Goa: Land, Life and Legacy*. Panaji: Directorate of Art and Culture, 2016.

Malgonkar, Manohar. *Inside Goa*. Panaji: Directorate of Information and Publicity, Government of Goa, Daman and Diu, 1982.

Mhamai, S. K, ed. *Goa: Trade and Commerce through the Ages*. Panaji: directorate of Archives and Archaeology, Government of Goa, 2000.

Mhamai, S. K. *Mhamais of Goa: In the Network of Trade and Culture*. Panaji: S. K. Mhamai, 2004.

Mitragotri, V. R. *A Socio Cultural History of Goa from the Bhojas to the Vijaynagara*. Panaji: Institute Menezes Braganza, 1999.

Perez, Maria Rosa. *Tulsi and the Cross: Anthrapology and the Colonial Encounter in Goa*. Panaji: Orient Black Swal, 2011.

Pinto, Celsa. *Colonial Panjim: Its Governance, Its People*. Saligao: Goa 1556, n.d.

Pinto, Celsa. *Trade and Finance in Portuguese India: A Study of the Portuguese Country Trade, 1770-1840*. New Delhi: Concept Publishing Company, 1994.

Pinto, Celsa. *Goa: Images and Perception*. Panaji: Rajhauns Vitaran, 1996.

Pinto, Celsa. *Anatomy of a Colonial Capital Panjim*. Saligao: Goa 1556, 2016.

Sinai Dhume, Anant Ramkrishna. *The Cultural History of Goa: From 10000 BC-1352 AD*. Panaji: Mapp Printers, n.d.

Singh, K. S, ed. *People of India: Goa*. Vol. XXI. Bombay: Popular Prakashan Pvt Ltd, 1993.

Velinkar, Joseph. *On the Spice Trail: Europe Discovers India in Goa*. Saligao: Goa 1556, 2016.

Burnell, Arthur Coke, trans. *The Voyage of John Huyghen Van Linschoten to the East Indies*. Vol. 1. New Delhi: Asian Educational Services, 1885.

Havers, G., trans. *Travels of Pietro Della Valle in India*. Vol. 1. New Delhi: Archaeological Survey of India, 1892.

Kakodkar, P. P., trans. *The Portuguese and the Marathas*. Bombay: State Board for Literature and Culture, 1975.

Articles

Alli Shaikh, Zeeshan. "Boats in Goa." *Encyclopaedia of the History of Science, Technology and Medicine in Non-Western Cultures*, 2014, 1–19.

Bernadette Gomes, Maria. "Vosaad: The Socio-Cultural Force of Water (a Study from Goa)." *Sage Publications, Ltd* Vol. 54, No. 2 (August 2005): 250–76.

Bhat, N. Shyam. "Socio-Economic Relations between Goa and Karnataka: A Historical Perception." *Heras Institute of Indian History and Culture*, 2008.

D' Miranda, Carmo Gonzaga Miguel Agapito. "Os Transportes Dos Goeses Dos Tempos Passados." *Purabhilekh - Puratatva*, 2, VII (1989): 33–67.

De Souza, Teotonio R. "Goa at Intersection of World Trade Routes in the Pre- Modern Age: Strangers at Home and at Home with Strangers," 2016, 115–25.

Gogoi, H. D, and G Goswami. "Palanquin: The Symbol of Royal and Luxury of Ancient Assam: Special Reference to Wedding Rituals and Bearers Profession." *International Conference on Land Transportation Locomotive Heritage and Road Culture*, 2017, 20.

M., Nambirajan, and A. S Gaur. "Advanced Search River Ports and Other Archaeological Sites on the River Banks of Goa." *NIO*, 1997.

Patra, Benudhar. "Urbanisation and Social Mobility in Ancient India: An Odishan Perspective." *Proceedings of the Indian History Congress* 80 (December 2019): 174–83.

Rao, Nagendra. "Trade and Transport in South Kanara." *AJSS* 1 (September 2): 149–60.

Rothrock, Jr, George A. "Seventeenth-Century India through French Eyes." *Taylor & Francis, Ltd.*, 2, 22 (1960): 163–84.

Trichur, Raghuraman S. "Politics of Goan Historiography." *Lusophonird Asiatiques En Lusophonies*, 2000, 637–46.

Theses

D'Souza, Alvita M. "Reconstructing the Urban Maritime History of Goa: A Study of the Port-Capitals of Chandrapur, Gopakapattana and Ella." Goa University, 2007.

Desai, Khristanand. "Trade Union Movement in Goa 1936- 1986." Goa University, 1993.

H. de Souza, Christopher. "Craftsmen and Artisans in Goa (A.D. 1000 to 1700)." Goa University, 2020.

Maria Leonildes da Costa, Murelle. "History of Trade and Commerce in Goa; 1878-1961." Goa University, 2002.

Phaldesai, Pandurang. "A Cultural History of the Canacona Taluka of Goa." Goa University, 2003.

Rao, Nagendra. "Craft Production and Trade in South-Kanara: A.D. 1000-1763." Goa University, 2001.