CHAPTER THREE

"EARLY HISTORY OF WATER TRANSPORT".

3:1 TRANSPORT SYSTEM IN THE PRE-HISTORIC DAYS:

The science of history of the early inhabitant of Assam is unknown.\(^1\) so the history of transport development in Assam is not clearly known. It was recorded that till the invasion of Assam by the Ahoms in 1228 A.D., transportation of goods and persons was not clearly known. There were no systematic and regular transport services to carry anything within and the outside of the state of Assam.

In the pre-historic days women usually carried the burden so that the hands of men were free to carry the weapons. People reached at their destination by walking and carried all goods by their hands, head and shoulder.\(^2\) Domesticated animals, ox, horse, donkey, elephant were used for transportation of men and materials, in the pastoral stages of development. In some other countries of the world dog,

\(^2\) Ramswami, K.S. : Transport in India (1957), p.3.
camel, sheep etc., were used to carry goods. The importance of the animals in transportation is not yet diminished. One of the most important advantages of animal transport is that they can provide door to door services.

The natural condition of Assam State had compelled its early inhabitants to devise measures to go through water, in the pre-historic days. Assam is a land of rivers with dim forests and heavy monsoon. Early inhabitants of Assam used rafts for transportation and to cross the water. Boat architecture was not developed and people used skin boats. Descriptions are found regarding the uses of boats, horses and elephants in the 'Purans', by the early inhabitants of Assam.

3:2 USES OF WATER TRANSPORT FOR TRADE AND TRAVEL:

Since time immemorial, people of different countries of the world have been using waterways for trade and travel. The Egyptians, Romans, Greeks, French, British and Portuguese used sailing ships for trade. People could travel in different parts of the world through waterways. Between the 15th and 16th centuries the sailing vessels helped people in discovery of new islands. The vessels used for these purposes had a carrying capacity of 80 to 300 tons only. Columbus used three ships 'Sonta', 'Pinta', and 'Nina' with carrying capacity of 100, 50 and 40 tons respectively, when he discovered the new world 'America'.

Water transport in India was in its zenith in the 14th century. The Moghul rulers greatly developed navigation on rivers for trade and passengers. Megasthenes mentioned in the account of his travel that he had sailed in an Indian boat. According to his accounts the Ganga and its seventeen tributaries and the Indus with its thirteen tributaries were navigable and used extensively for transportation. Different type of boats were operating on these waterways.

If we turn the pages of commercial history of India, we find that for a period of 3,000 years she stood out predominantly as the very heart of the old world. India had colonies in Cambodia, Java, Sumatra, Borneo and even in the countries of the further east, as far as Japan. She had trading settlement in Africa and in all the chief cities of Persia and all over the east coast of Africa. The transport and communication with these trade centres were maintained mainly through waterways.

After a glorious tradition of thousands of years Indian shipping started diminishing in the middle of the 18th century. With the introduction of railways and road transport and after independence, its importance further diminished.

5 Ramswami, K.S.: Transport in India, 1957, p.209
6 Mukherjee, Radha Kumud: Indian Shipping, 1957, p.3
7 Ramswami, K.S.: Transport in India, 1957, p.5
The history of water transport in Assam is known from the time of Ahom reign. Owing to dense jungles and numerous rivers and swamps the journey in the country was most tedious. Water transport was the only convenient mode of transport, supported by the geographical conditions of the state of Assam. The Brahmaputra was the chief artery of Assam.

Different kinds of animals and boats were used for internal and external trade and travel. Inscriptions make numerous references to the uses of elephants, horses, buffaloes, and cattles and boats in the rivers of Assam. (Journal of the Bihar and Orissa Research Society, 1917, Page 508). During the period under consideration Assam's trade was in an appreciably flourishing condition. It was revealed that there was a network of trade route within the country, connecting its important places through waterways. Internal and external trade grew and river transport served as arteries of commerce. In Assam river transport had played a dominant role in the growth of all commercial enterprises, within the state and with other lands.

8 Gazettee of India, Assam State, Sibsagar District, 1967, p. 266.
9 Acharyya, N.N.: The History of Medieval Assam, 1966, p.120
From the time of Ahom rules all the important places were situated on the river banks to take the advantage of water transport. The location of the towns like Pragjyotishpur and Durjaya on the Bank of the Brahmaputra greatly facilitated commercial activities. North Gauhati continued to be the capital from the time of Dharmapal. Ahom rulers selected Sibsagar as their capital by considering its easy accessibility of waterways.

The river transport was in great use, and in the report of an official stationed at Gauhati for the month of Ramzan, 1662 A.D. it has been mentioned that thirty two thousand boats of various kinds had arrived at Gauhati. Harjarvardhan mass rock inscription in the early part of the 9th century shows that the boats maintained by the king were numerous and even in so wide a river as the Brahmaputra regulation of boat traffic was found to be necessary in order to prevent collision between the royal barges and the boats of fishermens.

The importance of the water route is also revealed by some accounts. Bhaskara Barman with some pilgrims and with his followers went up to the Ganges and met Harsa near

15 Rai Bahadur, K.L. Baruah: Early History of Kamrupa, Gauhati, 1966, p. 120.
Kojangala. The evidence shows that the kingdom had a continuous diplomatic and commercial relation with the west, both by land and water routes, not only during the 7th century A.D. but also before and after.\textsuperscript{16}

The effects of water route was so great that some developmental work of the water route was undertaken in the early days. The Ahom kings dug several artificial channels by diverting the courses of the original rivers.\textsuperscript{17} Rivers were surveyed and recorded the distances of water route. Conservancy measures were adopted for maintaining the adequate depth of the rivers for navigation. "There is a tradition that Nararayan straightened the Brahmaputra near Pandunath, where it had previously seen a very circuitous centre. In 1636 the branch of that river which formerly flowed past Hajo is said by contemporary Muhammadan writers to have dried up, and we may perhaps conjecture that this was in consequence of the gradual enlargement of the channel cut by this king more than half a century before".\textsuperscript{18}

Captain Jenkins found in his survey in the North-East the establishment of Marwari merchants at Sadiya and

\begin{itemize}
\item \textsuperscript{16} Choudhury, P.C.: The History of Civilisation of the People of Assam to the Twelfth Century A.D., 1959, p. 385
\item \textsuperscript{17} Gazetteer of India, Assam State, Sibsagar District, 1967, p. 226
\item \textsuperscript{18} Gait, Sir Edward,: A History of Assam, 1967, p.61.
\end{itemize}
Bisa, where they had bartered with the neighbouring frontier tribes. He brought to the notice of the authorities in Calcutta that the traffic with the neighbouring areas could be enlarged. Again a portion of the goods could be diverted from Northern part into Assam. European goods like, opium, bread, tobacco, spirits and silk of Assam were in demand in those areas. He added that this could be carried on through the channels of the great rivers of the state.19

When the British had entered in the state the Brahmaputra was the main artery of communication. Wilcox narrates that the voyages along the river Brahmaputra was tedious. In the rainy season the difficulty was further increased. Boats were necessitated to be moored, when the wind was not favourable. In the latter end of 1825, while coming down the river, he saw that a fleet of commercial boats, (at that time very much required with their supplies for the army) needs twenty five days to cover a distance of about thirty miles between Goalpara and Majhurbahra hills.20

M. Cosh writing in 1837 stated that, "a large boat took from six to seven weeks to come from Calcutta to Gauhati,

though the post which has conveyed in small canoes rowed by two men, who were relieved every 15 or 20 miles, reached Gauhati in 10 days and Biswanath in three days more. From Gauhati to Dibrugarh it was a month journey for a pinnace, even in the cold weather; and in the rains against the current, the journey took much longer."^{21}

Till the time, when the British first came into possession of the province the difficulty of communications proved a most serious obstacle to the development of the state. David Scott in 1835 had stated that something had already been done, but they were very bad. The over land route from Calcutta to Goalpara via Murshidabad, Malda, Dinajpur and Rangpur, was almost impassable in the rains.\(^22\) Ordinary travellers at all seasons went by water route. The Brahmaputra was the highway for performing trade and travel. The journey was tedious and during the rains the navigation was very much impeded, when the banks were over flooded and little or no tracking ground left. Bamboo was the only means of advancing. During the winter the Brahmaputra was easily navigable, having no obstacles.

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21 Gazetteer of India, Assam State, Sibsagar District, 1967, p. 228
From the ancient time Assam had a close trade and friendly relationship with the rest of India, and its neighbouring foreign countries. 'M' Cosh had wrote three overland routes from Assam to Calcutta. Firstly, by Murshidabad, Maldah, Dinajpur, Rangpur, Bugwah and Goalpara. The second route was, via: Dacca, Dummary, Facualoe, Jumalgore, Singymery and Goalpara and thirdly, by Sylhet, Chirra, Kaphlum, Mungklow, Ranneygodown and Gauhati. But all these routes were quite impassable during the rains and was not fit for any land carriage. The journey along these routes throughout the year was tedious.23

The river route played a vital role in maintaining the communication between Assam and the rest of India. They used to operate two water routes viz, Assam—Calcutta (by the Brahmaputra river) and Cachar—Calcutta (by the Barak river). Between these two routes the Calcutta—Assam route was the principal water route from Dibrugarh to Calcutta via, Tezpur, Gauhati, Goalpara, Dhubri and East Bengal. The usual route from Assam was down the river Brahmaputra, via, Jemailai, which leaves the Brahmaputra at Jamalpore, passes

the large town Barragegunge, and meets with the Pabna river, a navigable branch of the Ganges. After proceeding up the Pabna river for two or three days the boats met the great current of the Ganga, up which they ascend for three or four days more till they came to the mouth of the Metabanga or the Jeuingi, down either of which they drop to Calcutta. The intercourse between Assam and Bengal was almost entirely maintained by this water route. Most of the tea, jute, mineral oil, timber, were exported from Assam by this route. This route also connected the river Ganga. The communication with the Barak Valley was maintained through the Barak river.

The intercourse with some of its neighbouring countries was restored by water route of the Brahmaputra and the Barak. William Robinson's descriptive account of Assam narrates the water route to China. "A knowledge of the extreme navigable branches of the Brahmaputra has pointed out a much shorter and more convenient path, and this was travelled over by Lieut. Wilcox. Tracking the Noading which enters the Lohit, the great eastern branch of the Brahmaputra, a few miles above Sadiya, Lieut. Wilcox was able to proceed by water conveyance to within nine days march of Nunlung on the

24 John M' Cash, Topography of Assam, 1975, p. 8
Irawati, and this journey he accomplished without any serious difficulty or any inconvenience more than what arose from the jungly state of the country".²⁶ It is to cause to imbibe into the mind that the two Indian Buddhist missionaries who had visited China (1st C.A.D.) passed through the upper valley of the Irrawaddy and Yunron.²⁷ The sea route to China is also mentioned by Yuan Chwang. According to him the rulers of Kamrupa had a sea route to China. And the passage down the Brahmaputra to the Bay of Bengal is said to have been under control of the rulers of Kamrupa in the 7th century. The existence of sea route to China is also evidenced by the question put by Bhaskar Varman to Yuan Chwang regarding his route of return to his place of nativity. Bhaskara told him that, if he selected the southern sea route to return, then he will send some officials with him.²⁸

Water route to Assam via Palibothra (Pataliputra) was mentioned by Ptolemy. This was through the Brahmaputra to Assam. Moreover relations with Videha, Gujarata and Kashmira from early times have been proved by the Epics, Puranas and the Rajatarangini.²⁹ Contact with Southern India was possible by sea, through the Bay of Bengal.

²⁶ Robinson, William: A Descriptive Account of Assam, 1975, p. 248
²⁷ Choudhury, P.C.: The History of Civilisation of the People of Assam to the Twelfth Century A.D., 1959, p. 381
²⁸ Ibid., p. 380
²⁹ Ibid., p. 384
J.H. Hutton assumes that some elements of the Magas migrated from southern India by sea and entered Assam through Burma.\textsuperscript{30}

Trade relations also existed on the coast of Arakan by sea route. Merchants carried their merchandise in large boats down the Brahmaputra and the Barak and reached in the sea port and trade in Tamralipi. Water communications were not only by the Brahmaputra and Barak, but also through the upper courses of the Irrawaddy, Mekong, Chindwin and other rivers of Burma. Before commencing the regular steam navigation and introduction of rail and road transport, almost all the communication and trade of Assam with the rest of India and other countries was maintained by country boats over the Brahmaputra, the Barak and their numerous tributaries.

3:4 WATER TRANSPORT DURING WAR TIME:

In ancient time, particularly during the time of Koch and Ahom rulers, water transport in Assam was highly developed and extensively used for war purposes. The naval achievements of Assamese attained a high pitch of efficiency under the Ahom rulers. Ahom rulers were very strong in navy.

\textsuperscript{30} Ibid., p. 83.
In Assam as mentioned earlier the whole land is watered by the Brahmaputra, Barak and its numerous tributaries. In such a state the importance of navy was inevitable for strategic purposes. The Ahom army was noted for its possession of a vast naval power. The Fathiyah-I-Ibrayh gives the number of ships possessed by the Ahom king at the time of Mir Zumlas invasion of Assam as 32,000. The main war boats were called 'bacheris'. In shape these were—'Kosas' of Bengal and each could carry 70 to 80 men. These were durable and strong and many of them were mounted with guns and cannon. These were light, speedy and not easily sinkable. (Fathiyah-I-Ibrayh, Journal of the Asiatic Society of Bengal 1872, p. 81).31

The Ahom rulers had a portfolio of an officer called 'Naosaiya' Phukar to deal with warship and king's pleasure boat.32 For armed resistance a large number of forts were erected at strategic centres (Ghoraghat, Jogighopa, North Guwahati, Singri and Chomchera in North bank and Lakhugharh, Holiebor, Simalgarh, Kajalimukh and Pando in the South bank.) by the Ahom rulers. These ports were nearer to the river side to take the advantages of water transport.33

31 Acharyya, N.R.: The History of Medieval Assam, 1966, p.120
32 Ibid., p. 120
33 Ibid., p.120
It may be remembered that at several naval engagements the Ahoms defeated the Moghul. The most outstanding naval victory was at Saraighat against the Moghul, sent by Emperor Aurangzeb in 1670-71. The Assamese warships routed the Moghul fleets. The Ahom rulers maintained several big and small boats under different classes of officers. 34

Building of large war boats constituted important arms in the Ahom and Koch reign. The Kidhanpur Copper Plate inscription also states that Bhaskara Barman attacked with a strong Navy of huge boats, which must have passed down the Brahmaputra and then proceeded up the Ganges. 35 To defend the kingdom at that time water route had been extensively used.

3:5 BOAT MAKING INDUSTRY:

The most important pre-requisite for water communication is a highly developed boat making industry along with the existing rivers and channels fit for navigation. History proves that both in Hindu and Muslim reign Indian water transport was flourishing. Many ancient Sanskrit works like

34 Gazette of India, Assam State, Sibsagar District, 1967, p. 266
35 Rai Sahadur, K.L. Baruah, Early History of Kamrupa, Guwahati, 1966, p. 44
'Ukri Kalpataru' mention the manufacture of boats. Historical places like Stupa and Sanchi are engraved with the picture of boats. Foreigners including the Englishmen used to purchase sailing ships from India which were very magnificently constructed. Indians colonised the Philippines after crossing the vast span of water on Indian boats. During the reign of Akbar the office of "Meer Bahri" or admiralty was maintained with four objectives, viz., (1) Building of ships and boats, (2) Their supply to the sailors and swimmers, (3) For ferry arrangement and (4) Realisation of dues. (Gladwins Translation of Ain-e-Akbari, Vol.I, p.231.)

Instances are also found in historical accounts that the Ahom rulers had built some boats, machine boats, which were very fast and developed. At that time boat making was a big industry. They had expert boat builders. They possessed numerous powerful fleets and a separate section of the people was entrusted with the duty of providing the king with boats and keeping them in proper order. Vanamala inscription states that the royal boats were beautifully carved, painted, decorated and fitted with musical instruments.

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37 Ibid., p. 322
38 Sibsagar District. Gazetteers, 1906, p. 191
39 Rai Bahadur, K.L. Baruah,: Early History of Kamrupa, Guwahati, 1966, p. 120
built with Chambal wood, and such boats were capable of carrying heavy loads. "Canoes were manufactured out of trees, which were hollowed out till only an outer skin about one inch and a quarter in thick remained. If a large boats are required the shell was plastered over with mud and steamed over a fire, and the sides were then distended by the insertion of thwarts, if as usually happened; it split in process, the rent was patched up with a piece of wood fastened in by clamps. In this way boats 60 feet long by 6 or 7 feet in breath were constructed, capable of lasting, if the wood be good forest timber, for 10 years or even longer." The Ajhar and Sum wood were adjudged the best for canoes.

Brass vessels were made by the Morias out of thin sheet of brass beaten out and pieced together. Ricks were cut in one edge of a sheet into which the other edge was fitted, and the two were then beaten flat. A rough paste made of 'borax' and 'pan' was put over the joint.

41 Basu, Urmal Kumar, Assam in the Ahom Age (1228-1826), August-1970, p. 169
42 Ibid., p. 169.
In the early period the main route for trade as mentioned was the river. Goods were carried from one place to another along the river by country boats for trade. To collect the revenue and custom duties and to regulate the trade, custom houses were placed at the river side at that time. Such custom houses at the river side inevitably proved the importance of water route before the advent of rail and road transport.

The Ahom rulers appointed some officers to collect custom duties from goods passing through the river. "Hamilton mentions four other Baruas; besides the Duaria Baruas, in-charge of collection of customs in his account of Assam. At Salspat, there was a custom house on the Brahmaputra, where duties were taken on all goods passing between Kernrup and Assam proper. It was formed to a Barua at 5,000 rupees a year. At Raha, on the Kallang river, there was a Barua, who collected duties on the transmit of goods and paid annually a fixed rent. Another Baruah formed at 6,000 rupees, a year, a custom house; the duties on which were collected at Darrang Butakuchi about two miles from the Brahmaputra; on the Mangal-Dahi river."43

43 Basu, Nirmal Kumar, Assam in the Ahom Age (1228-1826), August-1970, p.192.
PREPARATION FOR THE INTRODUCTION OF STEAM VESSELS:

As with railway, Britain was the pioneer in the invention of steam vessel, which have led to the development of the modern ocean going ship. A Scottish, Robert Symington built a steam engine for a tugboat 'Charlotte Dundas' in 1802 to run on a Scottish canal. The first steam ship to run commercially in Europe was the 'Comet' used on the river 'Clyde'. Early steam boats were driven through the water by paddle wheels at each side. In the 1830's the paddle wheel gave way to screw propulsion and iron substituted timber as building materials.

Improvements are made over time in the design of ships and engines, the steam turbine, the diesel engine, the gas turbine and the automic reactor having been invented to run ships. The latest in shipping is the automic submarine, 'Nautilus' launched in 1954 in U.S.A. Ships are specially equipped for speedy transportation of materials and passengers; and providing all amenities to passengers including swimming pool, play ground, cinema hall etc. in recent years. 44

In India the steam navigation was begun first, by the East India Company. The East India Company, first introduced steam navigation on the river Ganga in 1832. S.S.Lord

44 Ramswami, K.S.: Transport in India, 1957, p.5
William Bentinck started a regular service from Calcutta to Allahabad on the Ganga in the early part of 1934. Indian General Steam Navigation Company Limited came into existence about a decade later. As compared to other countries the mechanical road transport in India is of recent growth. The first motor vehicle being imported in 1898.

After annexation of the state of Assam in 1826, the East India Company faced severe difficulties in transport and communication. This was performed only by using country boats. Assam's economy of that time was agricultural with heavy forest resources. But owing to the lack of boats and navigational difficulties by country boats on the Brahmaputra no relief from the difficulties could be expected for the exportation of so cheap and bulky commodities.

David Scott had opined that it was only silk industry that could bring about ultimate economic development of Assam. Scott had also encouraged by the prospects of having coal abundance in Assam. The prospect of development of both the industries viz, coal and silk made it easier for the introduction of steam navigation in Assam. He first, urged upon the Government for the introduction of steam boat on the

Brahmaputra in July 1825; and in December 1826 he wrote to Wilcox, the revenue surveyor at Saniya to find out at what expense, coal could be made available for the use of steam vessels proposed to be introduced on the Brahmaputra.47

In October 1827 Scott wrote to Mr. Swinton that the result of Lt. Wilcox's expedition under his instructions resulted in the discovery of coal mine twenty miles east of Rangpore. Scott also wrote that the coalmines which were situated in the river side might be rendered navigable at an inconsiderable expense. Scott therefore expected that the Govt. would soon take this advantage of navigation on the river Brahmaputra.48

In February 1828 another coal mine was discovered on the Someswari river, from which it was probable that the coal might be supplied at a cheaper cost, for the use of steam vessels. He wrote to secretary, Mr. Swinton the detail information as to the quantity of coal that the proposed vessels would consume daily, the quantity she could carry and her velocity in still water. Swinton passed on Mr. Scott's queries to Captain John Stone of the enterprise steam vessel, who then examined the steam vessel Brahmaputra and reported back to Swinton.

48 Ibid., pp.111-112.
Captain John Stone wrote "I have visited the steam vessels Berhempooter and from the capacity of the vessel and on examination of the engines and boiler, I am of opinion that she will consume from 6 to 7 hundred munds on Burawan coal per hour; that her coal boxes will contain coal for from 70 to 80 hours consumption, and her speed in steel water eleven miles; per hour as the maximum under most unfavourable circumstances may fairly be expected to equal two miles per hour, and this would render it necessary to have depots of coal at every one hundred and fifty miles. Should coal facilities, however, render it desirable to have any two depots more separately the vessel might with little inconvenience take one days fuel of coal on her deck".  

Scott had prepared the detailed information regarding the transportation cost of coal, per hundred munds supplied at different places in the same year. When the coal was found in abundance in Assam Scott pushed forward the name of the candidate of C.A. Bruce, formerly in flotilla service and presently employed in the opening coal mines for employment in the Brahmaputra steam vessel. Scott's interest in the early introduction of steam vessels in Assam was very great.

49 Ibid., p. 112
50 Ibid., p. 112
In May 1831 the Government finally decided to send one steamer to Assam for a trial round at the continued pressure of Scott. But unfortunately, Scott's dream of navigation was not fulfilled during his lifetime, because in August of the same year he died. The officer substituting him immediately involved in the revenue mess. Due to lack of commercial urgency he left the introduction of steam vessel in Assam.

It may be noted that the first steam vessel plied in Assam water in 1841 at the behest of the Assam Tea Company (1839) was "The Assam".