



## Economic History and Topography of Tista-Brahmaputra Valley (Early Medieval to Colonial period)

**BHASKAR ROY**

*Assistant Professor in Ancient Indian and World History, West Bengal Education Service, Group-A,  
Presently posted as Assistant Professor, Department of History, Bidhannagar College, EB-2,  
Sector-I, Salt Lake City, Kolkata. E-mail:rbhaskar.roy@gmail.com*

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**Abstract:** This paper mainly deals with two aspects, the economic history and topography of the Tista-Brahmaputra valley of India, from the early medieval to the colonial period to understand the relationship and development of these twin subjects that led to several impacts on the development of the society. The early medieval period of India, from 600 or 650 CE to 1200 or 1250 CE, was ruled by some regional powers such as the Cholas, Varmans and Pushyabhuti families in different parts of India till the emergence of the Islamic rulers. These regional ruling families had a significant impact on the society and economy. However, the turning point of economic and topographical development of the valley was the emergence of Islam and the British. The topography of this valley is unique in India, featuring plains, mountains, hills, hillocks, valleys, rivers, minerals, floras and faunas, medicinal trees, etc. The Himalayas played a controlling role in the economy and topography of the valley. The main objective of this paper is to the study topographical history and economic development of this territory. How the topographic evolution was responsible for the economic cycle of this territory is also discussed. This study also enables us to understand the natural hazards for the development of the economy.

**Keywords:** Agro-climate, Environment, History, Economy, Development.

### Introduction

Topography is one of the principal elements of economic development, which strengthens the stability of any ruling dynasty. The title of this paper suggests that it deals with the economic history and topography of the Tista-Brahmaputra valley of India from the early medieval to the colonial period. Various ruling families, immigrants and indigenous peoples have settled in this land since ancient times.

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Different activities of these people significantly impacted the topography and economy of this valley. Various customs, rituals, and religious ethos have developed associated with the topography of this land. Although various studies have already been done on the society, economy and politics of this extensive valley, none of these studies focuses on the historical developments, relationships and influence between the economic history and topography of the region. This gap has motivated the author to study this topic further.

The most challenging task of this study is the scarcity of historical sources in a specific historical period of this land. Lack of historical consciousness, illiteracy, natural calamities and persistent political deficits are the principal reasons behind the scarcity of historical sources. However, some archaeological and literary sources have distinctively mentioned the topography and various economic features of this territory, which help to reconstruct a systematic and comparative study of economic history and the topography of this region. Apart from the purely historical data, some mythological and vernacular literature of the region has also been helpful to study this topic.

## Review of Literature

To study the economic history and topography of this region Sanskrit texts are the most important. The *Mahabharata* mentions *Pragjyotisa* as 'a city' (Vyasa1981:103) and a land of great warriors, mountains, natural calamities, etc. (Vyasa1981:78 &102) In his '*Mahabharata-Adiparva*,' Dvija Rudradeva compared the Koch state with the state of the Hindu god *Indra*. This comparison signifies that the people of this territory lived happily in a heavenly atmosphere (Dvija, Rudradeva: Manuscript No.92). When Dvija Rama Nandan, during the reign of the Koch king *Harendranarayana*, composed his *Mahabharata-Sallaparber Gadayudhya*, he not only mentioned Kamarupa as the land of Jalpesh temple but also mentioned it as the land of the god *Siva*, who stood as the supreme deity and protector of this territory (Dvija, Rama Nandan: Manuscript No. 88). As a 'guardian deity' *Siva* is associated with a fertility cult and agriculture. Mahinath in his *Mahabharata-Prasthanik Parva* categorically mentions the reign of Koch king *Harendranarayana*. According to Mahinath, Koch king *Harendranarayana* was a great follower of Vaishnavism and Saivism. This text also refers to Koch king *Harendranarayana* as a 'Sebak', meaning the king always engaged himself for the people (Mahinath: Manuscript No. 70). Dvija Vaidyanath explains in his *Mahabharata-Moushal Parva* that the Koch king *Harendranarayana* not only led a happy personal life but also ensured that the people of his kingdom lived peacefully during his reign. King *Harendranarayana* made efforts to improve the lifestyle of his subjects, with a particular

focus on enhancing the status of the lower-class people. (Raghuram: Manuscript No.66; Harendra Narayan: Manuscript No. 73). Besides the epics of India, various Brahmanical, Buddhist and Jain literature describes the economic and topographical features. According to *The Trikandadesha*, composed by Sri Purushottamadeva in the seventh century CE, *Pragjyotispura* served as the capital city of the Kamarupa kingdom. (Sri Purushottamadeva 1916: Stanza-7, p.31) In his *Harsacharita*, Banabhatta discussed the political dynamics among *Harshavardhan*, *Bhaskarvarman*, and *Sasanka* but also highlighted various social, economic, and ecological aspects of this extensive valley. (Bana 1897: 214) Vishakhadatta, in his *Mudrarakshasa* (seventh century CE), mentions that the *Kshapanaka* people, referred to as the Khasi tribe, lived in the hills of the north-eastern part of Bengal. (Visakhadatta 1923: 161 & ft.63) In his poem *Gaurovaho*, the court poet of *Yasovarman*, Vakpati, controversially stated that the Kamarupa king *Harshadeva* was entirely defeated and killed by *Yasovarman*, the king of Kanauj, during the eighth century CE. (Barua 1933: 113-114) A Buddhist text known as the *Arjamanjushrimulakalpa* describes Kamarupa as a region inhabited by the *Prachya* people (eastern Indian state). The text also references other groups including the *Paudras*, *Odras*, *Angas*, *Vangas*, and *Gauras*. Furthermore, it notes that Kamarupa is situated near the Himalayas. (Acharya 1982:6) The seventeenth chapter of the *Kavyamimansa*, written by Rajasekhara in the ninth century CE, mentions Kamarupa as the country of east India located near the mountain. (Rajasekhara 1934: Ch. 17, stanza-IV, p. 93 & ft. 244) Yadavaprakasha, in his book *Vaijayanti* (tenth century CE), also includes *Pragjyotisha* and *Kamarupa* in *Pracya*, indicating that these places are situated in the eastern part of this extensive valley. (Prakasa 1893: 37; Ganguly 1943: 214-224) According to the *Kathasaritsagar*, written by Somadeva in the eleventh century CE, *Pundravardhana* is the home of the *Siddhas* and is situated in the eastern mountains. The text describes this region located east of the River *Sitoda*, and connected by an impassable road. The coastal banks of the river *Sitoda* correspond to the modern river known as the Tista, which was previously referred to as *Trishrota*. (Somadeva 1880: 142) Jaina lexicographer Hemachandra (1088-1172 CE) in his text *Abhidhanachintamani* mentions that *Pragjyotisha* was also known as Kamarupa. (Barua 1951: 12; Choudhury 1959: 13; Acharya 1982: 7) Bilhana, in his *Vikramankadevacharita*, mentions the invasion of Kamarupa, which was most probably during the reign of the Pala king, Harshapala. (Choudhury 1959: 13; Acharya 1982: 7). Sandhyakaranandi, in his *Ramacharita*, mentions that the territory of the Kamarupa was annexed by a feudal chief, Vigrahapaladeva, during the reign of the king of Varendra, *Ramapala*. (Sandhyākarandin 1939: Ch.III, Stanza-V & Ch. IV, Stanza-V, pp.112-

118). Kahlana writes in his historical book, *Rajatarangini*, that *Lalitaditya*, the king of Kashmir, marched towards *East Yotishapura (Pragiyotishapura)*, but the people of the region fled upon hearing of his arrival. (Pandit 1879: 69) Jayamangala, a commentary on *Vatsyayana's Kamasutra* written in the thirteenth century CE by Yasodhara, refers to Kamarupa as a kingdom located east of Gaur. (Barua 1933:12; Choudhury 1959: 14; Sharma 1978: 13; Acharya 1982: 7). Another Sanskrit text *Haragauri Samvada* divides Kamarupa into four *pithas*, such as *Ratnapitha*, *Kamapitha*, *Swarnapitha* and *Saumara* mentioning its boundaries. *Haragauri Samvada* and *Buddhist Charyas* have also mentioned the terms *Kamaru* and *Kamru* as alternative names in various contexts (Barua 1933: 13).

Numerous literary works were produced during the Koch and colonial rule. While some of this literature contains mythological and exaggerated historical accounts, these writings are important historical sources for studying the topography and economy of this historical period. The *Raj-Vamshavali*, authored by Ripunjay Das and Gaur Das during the reign of the Koch king *Sivendranarayana*, outlines the genealogy of the Koch family. While the text includes some mythological elements, the historical context from this period is significant for understanding the economy and topography of this land (Das, Ripunjay and Das, Gaur: Manuscript No.4). In his text, *Siva Sangeet* or *Siva-Sankirtan*, Rameshwar, mentions *Siva* as a popular fertility deity of this region and describes the agricultural condition of this land (Rameshwar: Manuscript No.16). Although this region is known for Saivism, some Koch rulers welcomed Neo-Vaishnavism. The transformative efforts of *Sankaradeva* and his followers greatly influenced the people, resulting in various Vaishnava literary works under the patronage of the Koch rulers and others. The pioneer preachers and followers of Neo-Vaishnavism are the *Sankaradeva*, *Madhavadeva*, etc. Some important writings of *Sankaradeva* are *Bhagavata Purana*, *Dasama-skandha*, *Rukminiharana-kavya*, *Anadipatan*, *Nimi Navasiddha Samvada*, *Kurukshetra*, *Bhakti Pradipa*, *Bhakti Ratnakara*, etc. (Sarma 1999: 24). *Madhavadeva* writes *Namaghosha*, *Rajasuya Kavya*, etc. (Sarma 1999: 30) Some other literature are *Vrindavan Das's Sri-Chaitanya Bhagavata: Adyakhanda* (Das, Vrindavan: Manuscript No.31), *Madhyakhanda* (Das, Vrindavan: Manuscript No.30) and *Antyakhanda* (Das, Vrindavan: Manuscript No.31) and Vaishnava Vandana (Das, Vrindavan: Manuscript No.34), *Krishna Das's Harinama Kabacha* (Das, Krishna: Manuscript No.36) and *Bhakti Viracana* (Das, Krishna: Manuscript No.37), *Narottam Das's Sadhana Bhakti Chandrika* (Das, Narottam: Manuscript No.41), *Rupa and Sanatana Goswami's Sarani Tika* (Rupa and Goswami: Manuscript No.43) etc. This Vaishnava literature not only outlines the ideological characteristics of

Neo-Vaishnavism but also describes the various agro-climatic features of this expansive valley. It illustrates how the environment and ecology have influenced the people and shaped the religious and philosophical dimensions of the region.

The *Puranas* are the ‘*encyclopedic in contents*’ (Sharma 1903: 8) of Indian history. According to the *Vayu Purana*, this region was mainly dominated by the *Mlechhas* (Chatterji 1974: 97; The Bargāon Copper Plate Grant of Ratnapāla: Verse-9, p.155) and the civilization flourished on the coastal area of the *Lauhitya* i.e. Brahmaputra. (The Vāyu Purāṇa 1960: 606 & 617) The text mentioned that this river’s bank was the fruit heap (The Vāyu Purāṇa 1960: 946). The *Matsya Purana* describes *Pragjyotisha* as a region in northeastern India (Krishna B.S. 1316: Ch.114, Stanza -38-85). While the *Markendeya-Purana* mentioned the beauty of the main city of this region i.e. *Kamata Nagar* and its agro-climatic and geographical features (Pitambarā: Manuscript No.8), the *Vishnu-Purana* not only discussed its religious characteristics but also categorically mentioned its land, mountains, professions and class division of the people (Sharma: Manuscript No.21). The *Kalika Purana* discusses various socio-political aspects, including the people’s identity, geographical boundaries, and mountainous regions. It also mentions the location of the Brahmaputra River. (Tarkaratnan B.S.1384: Ch.82, Stanza-36-39) The text mentions various measures of purifying and hygiene of the river water. (Tarkaratnan B.S.1384: Ch.82, Stanza-37) The *Yogini Tantra* vividly mentioned the importance of nature in the religious parameters among the people of this region. This text discussed the agro-climatic importance of *Kamarupa* (Saraswati B. S. 1385: Ch.12, Stanza-47-49), the society of the non-Aryan people such as *Kubachas* (Saraswati B. S. 1385: Ch.12, Stanza-47), *Jabanas* (Ibid), *Mlechhas*, *Kiratas*, etc.

The *Buranjis* are essential literary sources for understanding the topography and economy of this region. S.K. Bhuyan and Nagendra Nath Acharya stated that the term *Buranji* originated from the *Ahom* or *Shan* term, meaning chronicles or histories (Bhuyan 1933: XV). Hemachandra Goswami states that the term ‘*Buranji*’ originates from three Ahom words: ‘*Bu*,’ ‘*Ran*,’ and ‘*Ji*.’ In Ahom, ‘*Bu*’ means ignorant, ‘*Ran*’ means to teach, and ‘*Ji*’ means to fulfil. Therefore, etymologically, ‘*Buranji*’ denotes the act of teaching ignorant people (Goswami 1977: Intro.). Generally, *Buranjis* discuss socio-political and religious matters, but the environment and related issues are also in *Buranjis*. Although the *Purani Assam Buranji* describes the polity of Ahom and Gour, it also deals with the lifestyle of the people of *Pragjyotisa-Kamarupa* (Goswami 1977: 55-76). The Ahom *Buranji* describes various events, including earthquakes, the importation of horses for warfare, and details about Naga villages (Chandra Barua, 1930). On the other hand, the *Kamaruper Buranji* focuses on rivers such as the

*Laubhitya* and *Karatoya* (Bhuyan 1958:5-6) and specific topographical characteristics (Bhuyan 1958:10-18). Surya Kumar Bhuyan has edited several other important *Buranjis*, including the *Deodhai Asam Buranji* (in Assamese) (Bhuyan, 1962), the *Padma Buranji* (Bhuyan 1947), and the *Kacabri Buranji* (Bhuyan, 1910). These works are significant for reconstructing the historical ecology of the region.

Persian sources are equally important to studying the economy and topography of this region. Although Minhaj Uddin Siraj in his *Tabaquat-I-Nasiri* mentioned the political expedition towards Tibet by the Khalji chief of the Ghorī dynasty, Muhammad Bakhtiyar Khalji, several topographical and ecological aspects such as forests, animals, routes, lands, weather, etc. are also discussed (Minhāj-I-Sirāj, 1873: 561-62). The writer discusses three important indigenous groups in this region: the *Koch*, *Mech*, and *Tharu*. These groups share similarities with the Persians, particularly in appearance and language. Additionally, their language resembles that spoken by the Hindusthani and Turkish people (Minhāj-I-Sirāj 1873: 260). During the Mughal period in India, Mirza Nathan, in his work *Baharistan-I-Ghaybi* (Nathan 1936: 240), and Abul Fazl, in his *Ain-I-Akbari* (Allāmī 1927: 140), discussed the trained Tangian horses that were well-suited for guerrilla warfare in the region. Additionally, Abul Fazl, in his *Akbar Nama*, explained the factors that contributed to the popularity of the Koch state (Abul 1921: 1067). According to *Abul Fazl*, 'it is a populous country: its length is 200 kos, and its breadth 40 to 100 kos.' (Ibid) This text provides information about the horses, elephants, war boats, rivers, and Jalpesh Temple (Ibid). *Ghulam Husain Salam*, in his book *The Riyazu-S-Salatin*, mentions 'This tract of country, in point of the sweetness of its water, and mildness and salubrity of its air, and the comfort of its inhabitants, is superior to all eastern tracks of Hindustan' (Ghulam Husain Salam 1902: 10-11). The text also mentions pepper trees, grapes, mango trees, flowers, wheat, barley, pulses, aloe wood, currency systems, and the people of this territory (Ghulam Husain Salam 1902:10-13). During this time, various types of horses (Bhut, Bari, etc.), deer, wild dogs, wild cows, and fighting rams were available (Ghulam Husain Salam 1902: 3).

The *Charita Puthis* (biographies and autobiographies of religious saints), genealogies and mythological literature are also significant. Ripunjay Das, in his *Raja Vansabali*, describes the rivers, mountains, flora, and fauna of this vast valley (Das, Ripunjay: Manuscript No. 4). Some important *Charita Puthis* such as *Shri Shri Shankaradeva Caritam* (Hazarika 2007), *Shri Madhabadeba Charitam* (Dutta 1978), *Mahapurukh Sri Sankar Dev Aru Sri Madhab Dev Charitra* (Thakur 1989), *Mahapurukh Sri Sri Sankardava Aru Tini Jana Guruprasanga* (Thakuria: 2004) etc. not only depicted the religions of this region, but also mentioned different ecological aspects of this



territory. The significance of nature in their religious parameters has been explained scientifically. As a believer in non-violence, most of the neo-Vaishnava saints of this territory promoted the ideology of respecting nature and the development of the economy (Guha 1987: 480-485). The casteless and classless Neo-Vaishnava movement (Bhattacharyya April 27, 1991: Vol. XXVI, No.17) believed in non-violence. In Neo-Vaishnavism, animal slaughter and the consumption of flesh are strictly prohibited as a means to protect jungle animals. A renowned Neo-Vaishnava saint *Madhavadeva* said, 'Bears, Monkeys and Titans (or Cannibals) got their salvation by worshipping Rama. There is no other god as very kind and gracious as Rama'. (Deva 1992: Stanza-356). Though a lot of historical works are available that depict the social, religious and cultural history of this extensive valley, unfortunately, most of these writings have either neglected or failed to prepare a systematic and elaborate study of the economic history and topography of the valley, especially from the early medieval period to colonial period. This lacuna has propelled me to research this present topic.

### Research Aims and Objectives

The main objective of this paper is to study the topographical features and agro-climatic conditions of this region from the early medieval to the colonial period in a historical approach and how all these features and patronization of various rulers of this region have influenced the economic development of this area. A fresh study of the economic history and topography of the Tista-Brahmaputra valley, from the early medieval period to the colonial era, will enhance our understanding of various geographic and economic features that knowledge will enable future generations to implement or adopt development projects for the betterment of the society.

### Research Methods

The Tista-Brahmaputra valley, which spreads from the river Tista in the west to the river Brahmaputra in the east and the north from the Himalayas to the confluence of the river Tista and Brahmaputra in the south, turned into a new economic dimension during the early medieval period due to changes in political authority, influence of new trade and business trends and some developments in socio-political fields. The Tista-Brahmaputra valley, which spreads from the river Tista in the west to the river Brahmaputra in the east and the north from the Himalayas to the confluence of the river Tista and Brahmaputra in the south, became a new economic dimension during the early medieval period due to changes in political authority, the influence

of new trade and business trends, and some developments in socio-political fields. The economic history, topography, and associated development are evaluated based on historical resources. Some researchers have already studied archaeological and literary resources to write the history of this valley. All these resources, studies, and historical references are re-examined to find afresh the relationship between economic history and topography, the historical impact on the environment, and the development of agro-climate, as well as to guide our future generations about it. This study has also enabled us to understand the essence of the historical interpretation of topography and economy by some researchers and historians since the early medieval period.

## Discussion

To establish a sovereign state, the text *Krishī Parasara* states that 'one, taking to agriculture, can become a sovereign monarch in this world' (Majumdar and Banerji 1960: 64), and the Varmana rulers followed this policy, based on agriculture and its related economic activities were able to unite the people of this multi-cultural society into a single forum and established a new dynasty. Moreover, the political zeal of the Varman rulers to establish a sovereign kingdom was possible in this vast multi-cultural zone because of their political foresight and the availability of economic resources. *Bhaskarvarman* (594-650 CE), the last and most famous Varman ruler, not only patronized Brahmanism 'to dispel the darkness' (Nidhanpur Copper Plates of Bhaskarvarman: Line 34-54) among the people of the valley but also his proper utilization of arable plains, wetlands, rain and river water, and the development of trade and commerce that led to an overall healthy economic prosperity of the state. HsuanTsiang noticed during his visit that 'the land lies low, but is rich, and is regularly cultivated' (Tsiang 1884: 195-6). They cultivated 'the Panasa fruit and the *Na-lo-ki-lo* (*narikela* or coconut) fruit' (Ibid). The 'simple and honest' people of this valley lived in peace, and the regular needs of the society were met by the innumerable vegetation, rivers, lakes and mountains of this valley (Ibid).

This valley is a region of natural resources that helped to develop economic stability and provoked the people to migrate here since early times. The Himalayas protect this territory from foreign intruders and supply the gulf of air in this valley and adjoining areas. This study enables us to understand what kind of uses of natural resources were initiated by the ruling class for economic development, and the reader can understand the limitations of these economic projects of this period. Several economic measures have been taken both by the indigenous and non-indigenous people for economic development that led to negative and positive impacts. Some natural disasters have



also happened due to the defaults of economic projects or such activities. Therefore, another objective of this article is to analyse the limitations of the economic projects or other economic activities during this period. As per the title of the paper, the framework of this study includes the reigning periods of some indigenous ruling families like *Varmans*, *Salastambhas*, *Palas*, *Koches* and also the Islamic influences that turned into a new dimension by the emergence of the British. *Bhaskarvarman*, as a 'Kumara Raja' (Tsiang 1884:197), remained a bachelor or unmarried his life and died without leaving any successor. According to HsuanTsiang, the boundary of the state of *Bhaskarvarman* extended up to the land of barbarians in China by a line of hills in the east frontier and the south-western part of the state was bounded by the kingdom of the Szechuan. While the Deva temples, Brahmans and Buddhist *Sramanas* of the different socio-religious wings flourished together peacefully in this valley, sometimes 'the mountains and rivers present obstacles, and the pestilential air, the poisonous vapours, the fatal snakes, the destructive vegetation, all these causes of the death prevail (Tsiang 1884:196-99). From Salastambha to Vajradeva, a later king of the same family, the peripheral boundary remained unchanging during the reign of Bhaskarvarman (Tsiang 1884: 112). According to the Tezpur Grant, in the 2<sup>nd</sup> half of the 9<sup>th</sup> century CE, the boundaries of Kamarupa extended up to *Pundravardhana* and the southeast of Bengal (Choudhury 1959: 111). During the 11<sup>th</sup>-12<sup>th</sup> century CE, the Pala rulers ruled Kamarupa. According to the land grants of *Ratnapala*, *Indrapala*, *Dharmapala* and *Jayapala*, the geographical boundary of this dynasty was the same as that of the Varmans (Ibid: 47). After the rule of the Palas, it was difficult to determine who was succeeding on the throne of Kamarupa due to the unwanted political situation that led to several political contrive rises. In this context, it may be pointed out that the disintegration began after the fall of the Pala dynasty or after the death of *Vaidyadeva* in the middle of the 12<sup>th</sup> century CE. In the absence of the powerful authority of this valley, some *Bhuiyans* (landlords or Zamindars) and Mongoloid chiefs took advantage of this situation. However, none of these rulers were powerful enough to unite the people and establish a kingdom. After the 12<sup>th</sup> century CE, the two significant events were the turning points in the history of this valley. The first one was the several invasions from the west side led by the Turko-Afghan rulers of Bengal, which led to various socio-economic impacts on this valley. The second was the establishment of a new dynasty in the southeastern part of the Brahmaputra valley, known as the Ahom kingdom, whose topographical history, as per the framework of this study, is not included in this article.

The Muslim rulers tried to establish their rule in this valley till the 15<sup>th</sup> century CE. But these efforts of the Turko-Afghan rulers had led to significant changes in

war techniques, religious beliefs, methods of agriculture, etc., and the approaches of the north-east Indian rulers to maintain the relations with the north-Indian and other neighbouring rulers were significantly changed. By this time, a new ruling family came into the limelight in the history of this valley. *Vishwa Singha*, chief of the Koch clan, consolidating his strength among some tribes, Bhuiyans and other neighbouring powers, established a new dynasty, known as the Koch kingdom, in 1515 CE (Amanat Ullah 2005: 87). His kingdom extended from the river Karatoya in the west to the Baranadi in the east (Baruah 1985: 204). He established his capital at Kamatapur (Pitambar: Manuscript No. 8). Later, the kingdom was divided into two parts- *Koch Behar* and *Koch Hajo (Kamarupa)*.

### *Topography*

The valley has several topographical features. The extensive river network system, spreading all over this territory, is the lifeline of the people of this region. The extensive arable plains, the numerous hills and dales, forests and marshes, rising grounds and thick jungles are the basic geographical features of this land. The western part of the Brahmaputra extends up to the Karataya, belongs to the Koches and consists of vast fertile land, numerous rivers, extensive thick forests, etc. This region stretches from north to south and gradually narrows between the south-west and south-east. The most important feature of the region belonging to the Koch Behar dynasty is the absence of hills and rising grounds. Most of the rivers, marshes and lakes cover the lowlands of the Koch state (Bhattacharyya 1929: 2).

### *Rivers*

The rivers are the lifeline of this valley. All these rivers and water bodies were used during transportation and to demarcate the border from the early medieval period. The rivers flow down in the direction either from north to south or from east to west according to the level, cutting the valleys. The gradual development and prosperity of this region depend upon these river systems. These rivers create waterfalls, lakes, wetlands, etc. We can trace the growth of the tribal settlements, the emergence of mighty kingdoms, prosperous towns, fertile villages and religious shrines on the banks of the rivers of this territory.

The Brahmaputra is one of the important transboundary rivers in Asia and the third largest river in the world, and it is closely associated with the life and culture of this valley. The basin of this river spreads over six states in India, like Arunachal

Pradesh (41.88%), Assam (36.33%), Nagaland (5.57%), Meghalaya (6.10%), Sikkim (3.75%) and West Bengal (6.47%), (Annual Report 2018-19: VII). The Brahmaputra Board observes that except at a few places in Assam, the Brahmaputra is braided and unstable, an earthquake-prone zone, and the river has long past suffered from landslides and erosion (Annual Report 2018-19: 110) that have affected social and economic development. According to Amalendu Guha, navigation in the Brahmaputra is hazardous during monsoon due to floating trees and jungle-covered banks. However, the society and economy gradually developed after the political development that was, at a level, separate from the north Indian plains (Guha 1987: 486).

Another important river is the Karatoya. It was the traditional boundary between Bengal and Kamarupa. The river also demarcates the boundary between the Koch kingdom and the Mughal Empire (Bhattacharyya 1929: 6). The course of this river is well-represented in the Rennel's Atlas. According to him, this river is shown to flow down south first and then crosses the south-east past Ghoraghat, Shibganj, Mustanagar, Bogra, and meets the Atreyi to the south of Shahjampur (Bhattacharyya 1977: 29; Sarkar 1992: 95). Hamilton indicates that this river flows from the hill between the Mahananda and Tista (Bhattacharyya 1929: 6). According to Glazier, the Karatoya "takes its rise amongst marshes at the north-west corner of the district (Rangpur), and after forming for some time the boundary between it and Dinagepore, crosses Govingagunge Thana into Bogra" (Ibid). In Rennel's map, the river Tista is presented as flowing through the rivers of *Punarbhaba*, *Atreyi* and *Karatoya* (Bhattacharyya 1929: 28). The earliest reference to this river may be traced in the *Mahabharata*, and some other Sanskrit works also. This river is mentioned in the *Mahabharata* in connection with the god Varuna (Das 1426: 270-271). It originated from the Chertan Laima lake of Sikkim and comes down to Kalimpong. Then this river crosses Sevoke (near Siliguri), enters Jalpaiguri and Cooch Behar eventually falls into the Brahmaputra at Chilmari port near Rangpur. Since ancient times, this river has been closely associated with society (Ray 2006: 40).

Another important river is Sankosh. It rises from the mountains of Bhutan, gradually descends in Jalpaiguri and Cooch Behar districts and ultimately merges with the Brahmaputra near Dhubri district. It marked the physical boundary between the Koch kingdom and Kamarupa. Significantly, it is the cultural barrier between Bengal and the north-east frontier (Bhattacharyya 1929: 7). Torsa, a vital river of this land, is mentioned in the Kalika Purana as *Navatoya* (Tarkaratna 1384: Ch.77, Vs.16; Amanat Ullah 2005: 8). This river originates from Tibet, flows into Bhutan, Jalpaiguri and Cooch Behar, and ultimately falls into the Brahmaputra (Grunning 2008:12). On the banks of this river, several political, trade and business centres emerged during

the Koch rule. The river Dharala rises from the mountains of Bhutan. In Bhutan, it is known as the '*Chil*' River (Ray, 2006: 41). Now, its narrow stream flows in the western Duars of Jalpaiguri district. Jalpesh temple is situated on the bank of this river and is worshipped as a holy river (Ibid). Kamatapura, the capital of the Khen dynasty, stood on the bank of this river. Hamilton observed the extensive ruins of Kamatapura in 1809 (Bhattacharyya 1929: 7). The Khutamara is a small river that rises from Malad at Pala village in Bhutan. The upper portion of this river is known as Khutamara, and the lower portion is known as Giridhari. Flowing parallel with Dharala, this Khutamara falls in the river Singimari in the Rangpur district in Bangladesh (Ray 2006: 41).

The river Gilandi rises from the Bhutan hills, and after crossing the region of the Doars, it flows northwest and enters the Cooch Behar district. Then it flows 3 miles in the south-east direction and mingles with the river Jaldhaka (Ibid). Several small rivers of western Duars mingled together and formed the river Dudua. Having entered Mekhliganj and divided the Mathabhanga Mahakuma into two parts, this river ultimately joins with the river of Jaldhaka (Ibid). The river Mujnai rises from the southern slope of the Bhutan Mountain. This river also formed like the river Dudua by assembling various narrow streams. Buratorsha is one such river. Dolang is also an important river of the modern Cooch Behar district that rises from western Duars (Ray 2006: 41-42). Moreover, several small rivers have flowed through this land and are associated with the development of the socio-economy of this territory.

## *Soil*

Most of these rivers rise from the Himalayan Mountains and carry alluvial soil, sand, etc. The land of the western part, popularly known as Koch Behar, is mainly plain. The soil of this region consists of mixed free soil and ash-colour. The soil is composed of light friable loam, alluvium soil and sand. Several agricultural products are cultivated in this vast fertile land, and all these products are closely associated with the development of the economy (Bhattacharyya 1929: 14; Bera 2006: 36). But the eastern part of this valley, the region of Kamarupa, consists of vast plains, hills, hillocks and forests. The Brahmaputra valley is extremely fertile and suitable for all kinds of agricultural production. "For the most part, it is composed of a rich black loam, reposing on grey sandy clay, though occasionally consisting of light yellow clayish texture" (Bhattacharyya 1929: 14). The plain land of this valley consists of alluvium soil suitable for agriculture.

The land of the Koch state is alluvial. While stiff-quality clay is found in some coastal areas of the rivers, sandy and loose soil is seen all over the state. According to H. N. Choudhuri, the depth of the cultivable surface of soil loam is only 3 feet, less

than in some areas (Chaudhuri 2010: 160). However, the land is fertile and suitable for several kinds of crop cultivation. The different colours of the soil, especially the shade of the ash, are seen everywhere. In the north-east of the state, a different type of black loamy fertile soil is found. Most of the fertile coastal banks of the rivers have been splendid natural beauty of the seasonal cultivation of farmers.

### *Climate*

The Himalayas play a significant role in controlling the climate of the Tista-Brahmaputra valley. The monsoon wind played an unconditional role in changing the weather of this region, and these ecological or climatic changes influenced the development of the topography and economy of this extensive valley. The rainfall, floods, earthquakes and some human activities are also responsible for changing the climate of this valley. According to some Persian records, the climate of Koch Behar kingdom was salubrious and mild, but the 'unhealthy air' of Kamarupa was panic for the people. (Bhattacharyya 1929: 18). The Koch territory is situated north of the tropic of Capricorn (Bera, 2006: 36). The two contrasting climates of the Koch territory, temperate and damp, have always attracted people to migrate here. People of different class and caste formed the social structure of this region. The average temperature in summer is 30° degrees Celsius and 11° degrees Celsius in winter. The summer is longer than the winter (Ibid). But the winter season of Kamarupa invites various diseases (Bhattacharyya 1929: 18). The lonely coastal places of the Brahmaputra and its adjoining areas are always suitable sites for human settlements. The excessive rains during monsoon brought floods in this region. But these floods are helpful for the recycling of topography. The people of this region every year face floods and their related destruction. The western region beyond the Sankosh has been characterized by natural and reasonable rainfall. However, the eastern zone across this river has always been marked for its heavy and excessive rains (Allen *et al*, 1979: 167-169). As per the records, the eight months of the year are rainy in this valley, but only four months are winter. SudhindraNath Bhattacharyya, based on the Baharistan and the Fathiya, pointed out the nature of the rainfall of Kamarupa. According to him, "During March and April, the fall was very irregular and scanty, but from May to September it was more steady, copious and even violent" (Bhattacharyya 1929: 19).

### *Fauna and Flora*

The valley of Tista-Brahmaputra is the abode of the fauna and flora. Various kinds of animals, birds, insects, fishes, trees and flowers have been available in this valley since

the long past. It has been mentioned in the *Tezpur Copper Plates of Vanamala* (middle of the ninth century) about the Brahmaputra and its coastal banks that “in this river the waters have become fragrant on account of coming in contact with the pollens of the flowers, which have fallen down from various trees, shaken by the hissing sound of a crowd of snakes, frightened by the cackling sound of the excited peacocks that have been reclining in their homes in the tall trees standing on the *Udayavelacala*. This was the river where the waves are rendered fragrant by the clouds formed by the smoke of black *agaru* trees burnt by the forest fire occurring in the parks of the city of Haruppesvar” (Tezpur Copper Plates of Vanamala 1978: Line4-7). This statement of the Tezpur copper plates defines the topographical beauty of the valley where the river water becomes fragrant due to the contact with the pollen of the flowers, the crowd of the various snakes and the peacocks screaming and buzzing the valley, the smoke of the forest fire of *agaru* trees burnt by the people have also been polluted the valley and its surrounding. It enables us to understand the beauty of the valley and how human activities pollute nature.

The temperate climate of the Himalayan foothills or Duars is the natural habitat of the faunas, which is proved by archaeological and literary sources. The wild, as well as domestic animals, are attached to human society both for economic and religious purposes. The migration of several groups of people in the long past has distinctly influenced the evolution of the fauna. The rapid clearance of the jungle has started long past, especially in the plains or Duars, for agriculture and living purposes, leading to a rapid decrease in wildlife population. Even some recent reports show the extinction of some rare animals from the valley. While the aboriginal groups of this valley indiscriminately ate the flesh of wild animals, the elite class people and rulers of this valley actively participated in hunting. Some people have always tried to develop their hunting methodology. Even some rulers have announced prizes for killing wild animals (Chaudhuri 2010: 97).

The Tista-Brahmaputra valley is the favourite resort of the faunas. The records of the Survey and Settlement of the Western Duars in the Jalpaiguri (Sunder 2013: 94-106), the Eastern Bengal and Assam District Gazetteers: Rangpur (Vas 1911: 14-18) and some other reports several names of animals, birds, fishes, reptiles and trees are available in this valley long past. Both the wild and domestic animals are closely associated with the rituals and customs of the society. In a quoted passage of the *Uttarbarbil Copper Plates of Balavarman III*, it is mentioned that the grazing lands of animals like elephants, horses, buffaloes, goats and sheep had a special significance in the society. Sometimes the grazing land marked the boundary of the state (The Uttarbarbil Copper Plates of Balavarman III 1978: 135).



Elephants and horses were used during the war, and these animals were associated with the society and culture of this valley. The images of the elephant are invariably present in the seals attached to the copper plate grant of *Bhaskarvarman* (Seal Attached to the Dubi Copper Plate of Bhaskaravarman 1978: 33). *The Nidhanpur Grant* mentions elephants included in the royal army of *Bhaskarvarman* for the benefit of state (Nidhanpur Copper Plates of Bhaskaravarman 1978: Verse-21). In the royal army of *Bhaskarvarman*, more than 20000 war elephants were included (Baruah 1985: 103). The elephant is also mentioned in some archaeological remains like the *Tezpur grant* (Tezpur Copper Plates of Vanamala 1978: Verse 18) and *Parbatiya grant* (The Parbatiya Copper Plates of Vanamalavarmadeva 1978: Verse-18, 23, 25) of *Vanamala*, the *Uttarbarbil grant* (The Uttarbarbil Copper Plates of Balavarman III 1978: Verse-2 and 6) of *Balavarman III*, the *Bargaon grant of Ratnapala* (The Bargaon Copper Plate of Ratnapala 1978: Lines 55-58), the *Gauhati grant of Indrapala* (The Gauhati Copper Plate Grant of Indrapala 1978: Verse-4 and 19), the *Gachtal copper plate grant of Gopalavarman* (The Gachtal copper plate grant of Gopalavarman 1978: Verse-14), the *Khanamukh grant of Dharmapala* (Khanamukh grant of Dharmapala 1978: Verse-10 and 13) etc. Elephants have a special significance in this territory. According to B.K. Barua, “As the tiger was to the Colas, the boar to the Calukyas, the bull to the Pallavas, so the elephant was the natural symbol of Kamarupa” (Barua 1951: 63). It is also mentioned in some other literary sources that the elephant was most expensive both for war and domestic purposes (Bhuyan 1930: 24). Some books were written on the importance of elephants (Amanat Ullah 2005: 55). The achievements of some rulers of this valley have been evaluated based on organizing the *Aswamedha Yajna* or Horse-sacrifices. *Sri Mahendra*, a king of the Varman family, was famous for organizing two horse sacrifices during his lifetime (Seal Attached to the Dubi Copper plate of Bhaskaravarman 1978: 33).

The wild pigs, deer and monkeys are treated as the enemy of the farmers. These animals damage the crops of the cultivators. Some reptiles like snakes, crocodiles, cobras and pythons are extensively found in this valley. The hamadryad or king cobra, python, common cobra, karait, Russell’s viper, the purse and one pit viper are also found. Several common grass snakes and water snakes are seen (Grunning 2008: 19). Turtles and tortoises live in the water bodies of this territory. Lizards and common monitor (*gubhisamp*) are also found. Some wild animals were regularly trapped or noosed and hunted with spears, poisoned arrows, etc. The Zamindars and elite class people hunted tigers or leopards to show their self-conceit and bravery. But the indigenous people hunted wild buffalo, deer and other animals for flesh. There are also some other

reasons for decreasing the density of wild animals. These are the gradual spread of human habitations and the destruction of the jungles. Some people deliberately killed wild animals due to the aggressive behaviour of the animals. Even wild animals like elephants, jackals, boars and Indian foxes attacked human habitats for food. Mongoose, hares, squirrels, mice and porcupines are also found near the human settlements. As per the colonial reports, tigers and leopards are common in this valley. Lord Curzon shot several tigers in 1904 CE (Grunning 2008: 15). Another tiger was shot near Baikunthapur in the Jalpaiguri district, but tigers were rarely seen in the western part of Tista. A big tiger measuring 10'2" was shot in western Duars (Ibid).

Some domestic animals like elephants, horses, ass, bullocks and buffalo had a special significance in society. Cows and buffaloes are employed in agriculture, especially in tilling the land and harvesting and threshing crops. Horses and bullocks are used for transportation, especially in the interior and impassable areas. Tonga and bullock carts are used for both human and goods transportation. But these types of transportation were gradually decreasing by replacing the emergence of railways and modern vehicles. However, traditional transport has existed to communicate with the people of mountains and other interior areas. As per the records, natural cattle breeding methods have been practised, but some rulers of this territory tried to improve the breed of cattle and established cattle-breeding farms (Chaudhuri 2010: 104). Eating animal flesh was a common practice among the people of this valley. However, this practice was gradually decreased by the emergence of Neo-Vaishnavism, which patronized the concept of eating vegetables and fruits (Chaudhuri 2010: 104).

The valley has a great variety of birds. The water bodies of this valley, especially the ponds, *bhils* and marshes are the abode of the aquatic population, including coots, water-hens, storks, herons, cranes, cormorants, divers, dabchicks, waders, gulls, terns, paddy-birds, etc. (Vas 1911: 14-18; Sunder 2013: 94-106). In winter, the great flights of duck and teal visit the valley. The common teal, whistling teal, blue-winged teal, wild duck, widgeon, gadwall and white-eyed pochard are rarely visible (Ibid). The geese (grey and bar-headed) and Brahmani duck (ruddy Sheldrake) are found in the coastal banks of the Brahmaputra, Dharla and Tista (Ibid). Spine, jack species, several varieties of sandpipers, stints and snippets are also available on the river banks (Ibid). Among the large birds, eagles, kites, hawks and strikes are found extensively in this valley, but some recent reports mention that these birds are gradually decreasing.

Numerous doves, finches, warblers, tit and a variety of orioles are found in the forests and near the human residents throughout the valley. The Bulbul birds with their typical whispering music, the weaver birds with their excellent skilled hanging

nests, the melodious voice of the Indian cuckoo (Koyel) and Indian morning bird (Kokil), the colourful sparrow have splendid the beauty of this valley according to their seasonal glamour (Ibid). All common varieties of fish have been extensively found in this valley since early times. Fishes are connected to the cultural affinities of both natives and immigrants. Some people were actively engaged in fishing, which led to the development of various social castes and classes associated with all these occupations. Some professions like Kaivartta (fishermen), Naurajja (the controller of the affair of pulling the boats with ropes) and Bhutikas (a fine or tax collector) were related to fishing and its related trade and business (Tezpur Rock Inscription of Harjaravarman 1978: Lines 4-7). Some fishing castes are Jalias, Machuyas, Sikaries, Bajaris, Tiyas and Garos (Chaudhuri 2010: 101). Many people of the valley prefer to eat either fresh or dried fish. Different methods of fishing and drying fish are found in this valley. Varieties of fishing tools are found. Some popular fishing tools are fishing rods, Jakoi, Palo, Daru, Ramdhanu etc. (Chaudhuri 2010: 103). All these fishing tools are made of bamboo, iron, wood etc.

This extensive valley is also the abode of numerous floras. The plants played an important role in society and in balancing the ecology of this territory. Bamboo, wood and other trees are used during house construction and other household purposes. *Bhaskarvarman* sent his messenger to meet Harshavardhan with several gifts that contained jaggery in a bamboo tube vessel, which was able to maintain the hygiene or purity of this jaggery during the long period of the journey from Kamarupa to Thaneshwar (Choudhury 1959: 359-360). A dynasty of this territory named *Salastambha* etymologically means Sal tree or one immovable like a pillar (Barua 1933: 107; Choudhury 1959: 111) which signifies respect for the forest and trees. Even some trees treated as the boundary and the instances of 'wish-yielding trees' are also mentioned in the Nidhanpur Copper plate inscription (Nidhanpur Copper Plates of Bhaskaravarman 1978: Verse-25). Hsuan Tsiang, in his *Si-Yu-Ki*, mentions that 'the land produces winter wheat and much cattle, sheep, and horses. The climate is extremely cold (icy). The people are hasty and impetuous' (Tsiang 1884: 199). According to the Uttarbarbil Copper plates of Balavarman III, it was the land of 'areca-trees which used to be covered by encircling betel leaf creepers, and the trunks of the black sandal trees which used to be encircled by the cardamom trees' (The Uttarbarbil Copper Plates of Balavarman III 1978: Verse 5). This inscription mentions that King *Balavarmadeva* donated land to a learned scholar of the Vedic Brahman named *Gabhishthira*. The boundary of this donated land was 'to the east a bush of Vaikantha trees, to the south-east a silk-cotton tree, to the south a *palasa* tree, to the south-west a *kadamba* tree, to the west a cane

tree (bush) lying on the path laid down for demarcation of fields, to the north-west a banyan tree standing in the bush of viti-trees, to the north a blackberry tree, and to the north-east a *sonaru* tree' (The Uttarbarbil Copper Plates of Balavarman III 1978: Lines 52-54). This tradition of demarcating the boundary of the land by the trees is also found in the Nowgong Copper Plate Grant of Balavarman III (The Nowgong Copper Plate Grant of Balavarman III 1978: Lines 47-49), the Suwalkuchi Copper Plate Grant of Ratnapala (The Suwalkuchi Copper Plate Grant of Ratnapala 1978: 176-77), the Guwakuchi Copper Plate grant of Indrapala (The Guwakuchi Copper Plate Grant of Indrapala 1978: Lines 53-55), Subhankarapataka Copper Plates of Dharmapala (Subhankarapataka Copper Plates of Dharmapala 1978: Lines 49-53) etc. As mentioned in all these inscriptions, some trees are the blackberry tree, *shriphala* tree, *sonaru* tree, mango tree, silk cotton tree, fig tree, *sankaramula* tree, *hijjala* tree, *caroka* tree, jack fruit tree, bamboo bush, banyan tree etc. Most of these trees are long-life trees and some of these have special medicinal value as well.

## Economy

Most of the agricultural resources are naturally found in this ecologically rich valley. The valley passed through various stages of agricultural development from the early medieval to the colonial period. Most of the tribes in this region depended on cattle rearing, hunting, natural fruits and plants. For the native people of the valley, in their primitive evolutionary agricultural process, the practice of traditional techniques was helpful for the sustainable development of agriculture. Cow dung, cow cake and leaves have been used as fertilizer since the early medieval period. The mode of livelihood has been distinctly changed by the emergence of land ownership, permanent inhabitation and settlement of various migrant people from other Indian regions and neighbouring countries. The extensive river network system, heavy and seasonal rainfall, vast plains and the leadership of powerful rulers have rapidly increased the agricultural production of this region.

According to some historical sources, systemic cultivation was developed in this region by the Varman rulers. They donated land for agriculture. The *Nidhanpur Copper plate* was issued by the Varman king *Mahabhutivarman* (518-42 CE) for the Brahmans to enjoy tax-free land. But this grant was burnt in a fire, which made the tax-free land taxable. Later, *Mahabhutivarman's* great-great-grandson *Bhaskarvarman* renewed this inscription from his temporary residence at Karnasuvarna, the capital of Sasanka (Majumdar 2005:43), the king of Bengal. More than 200 Brahmans of *Mayuraslamalagrahara* of the *Chandrapuri Vishaya* enjoyed the tax-free land by this royal

order (Pashchimbhag Copper-Plate of Maharaja Sri Chandra 1967: 81). Padmanath Bhattacharya, based on the *Nidhanpur Copper* plate inscription, mentions that *Chandrapuri Vishaya* was located in the Rangpur district of Bangladesh (Bhattacharya 1982: 65f). The Sanskrit term '*Mayurasalmalagrahara*' is derived from the four terms i.e. '*Mayura*', '*Salmala*', '*Agrahara*', and '*Kshetra*'. In Sanskrit, '*Mayura*' means peacock and *Salmal* is the name of a tree. According to the name of this tree, after the death of *Bhaskarvarman*, a dynasty of Kamarupa came to be known as *Salastambha*. '*Agrahara*' means 'many villages were given as *agraharas* or a benefice to Brahmins' (Sharma 1990: 33-34), a popular socio-political entity of the *Guptas* and, *Khetra* means land or field. Therefore, etymologically *Mayurasalmalagrahara* means a Brahman-dominated ecologically rich village. These Brahmins were engaged in practising and developing the process of cultivation, which made this village self-sufficient in agriculture. Even this inscription mentions '*bhumichitranyaya*', meaning the purpose of the rent-free land, was donated to convert the uncultivated land into arable for the first time (Nidhanpur Copper Plates of Bhaskaravarman 1878: Line 53). This inscription states *Bali* and *Charu*. *Bali* signifies that several candles, flowers and uncooked foods are offered to the deity, and *Charu* is the rice, milk and sugar-boiled cake to the gods (Nidhanpur Copper Plates of Bhaskaravarman 1978: Line 126).

Although *Yogini Tantra* deals with religious matters, many places of this text mention various names of pulses, fruits, mountains and rivers. This text refers to coconut, date, palm, rice, sesame, barley, etc. (Saraswati, 1385: Uttarkhanda, Chap. V, Stanza: 288-91). The text mentions various names of the rice such as *Sastidhanya*, *Rajadhanya*, *Brihatdhanya*, *Somadadhanya*, *Shignadhanya*, *Bagnadhanya*, *Raktashali*, *Ketaki*, *Kalambik*, *Narayan Dhanya*, *Madhab Dhanya*, *Pradip*, *Vishnu Dhanya*, *Ballabh*, *Bhogya Dhanya*, *Asok*, *Nagakya*, *Panchak*, etc. (Saraswati B.S.: Chap. V, Stanza: 290). *Bhaskarvarman* sent various presents to *Harsavardhan*. The content of this long presented list signifies that the rural economy of this valley was gradually developed from this time onwards. Apart from individual needs, some people cultivated aloe bark, cucumber, betel nuts, bamboo, and varieties of fruits and flowers for trade and business purposes (Bana, 1897: 214). Even the technology of making 'fine writing' paper from aloe bark, preparation of mango juice, black aloe oil and silk-making (Ibid) was developed, and all these economic activities were eagerly patronized by the Varmana rulers helped to motivate the farmers to engage in trade and business. Hsuan Tsiang noticed plenty of jackfruits and coconut trees during his visit (Watters et al, 1905: 185). It was the land of extensive plantation of betel nut, which is mentioned in various archaeological sources (The Uttarbarbill Copper Plates of Balavarman III 1978: Verse 5).

The economy of the *Salastambhas* is based on agriculture. Therefore, they continuously engaged to develop the methods of cultivation and related techniques. The land was divided according to fertility, geographical location and agro-climatic conditions. The different categories of land such as homestead land, paddy fields, ponds, and mounds, (The Uttarbarbil Copper Plates of Balavarman III 1978: Lines 40-43; The Nowgong Copper Plate Grant of Balavarman III 1978: Lines 40-43) dry land, grounds, grazing land (The Nowgong Copper Plate Grant of Balavarman III 1978: Lines 40-43), etc. were noticed at this time. The Uttarbarbil Copper Plates of Balavarman-III mention the grazing land for elephants, horses, camels, cows, buffaloes, goats, sheep, etc. (The Uttarbarbil Copper Plates of Balavarman III 1978: Lines 40-43). The fertile lands produced two thousand units of paddy per year (The Uttarbarbil Copper Plates of Balavarman III 1978: Lines 36-40) and four thousand units of paddy per year (The Nowgong Copper Plate Grant of Balavarman III 1978: Lines 33-38) were also noticeable. The tradition of donating land to villagers or Brahmans for agriculture and religious reasons continued during the reign of *Salastambhas* (Tezpur Copper Plates of Vanamala 1978: Verse-32; The Parbatiya Copper Plates of Vanamalavarmadeva 1978: Verse-28). Apart from farmers, some other professions were *Kaivartha* (fishermen), *Naurajja* (the controller of the affair of pulling the boats with ropes), *Bhutikas* (a fine or tax collector), (Tezpur Rock Inscription of Harjaravarman 1978: Lines 4-7) dancing girl, prostitution (Tezpur Copper Plates of Vanamala 1978: Lines 14-20), etc. The overall holistic approach of the *Salastambha* rulers towards the environment and ecology was the 'welfare to all'. They worshipped the river *Lauhitya* (Brahmaputra), the Kailasha Mountain (The Uttarbarbil Copper Plates of Balavarman III 1978: Verse-2) and other natural elements.

Like the Varmans and *Salastambhas*, the pillar of the economy of Palas was agriculture. Different categories of land during the reign of the Palas were grazing land, dwelling houses, forests, road-squares, roads, bars, sacrificial grounds, the temple grounds, (Pushpbhadra Copperplate Grant of Dharmapala 1978: Verse -13) as noticed during the Varmans and *Salastambhas*. Some new categories of lands of the Palas like wells and dry land, signified (Khanamukh Copper Plates of Dharmapala 1978: Lines 32-35) that wells and dry land were to be registered by the authorities to increase the revenue. The agricultural land was divided based on units of production. Eight thousand units of paddy-producing land (The Gachtal Copper Plate Grant of Gopalavarman 1978: Line 63) six thousand units of paddy-producing land (Subhankarapatakaa Copper Plates of Dharmapala 1978: Verse-21) and two thousand units of paddy producing land (Khanamukh Copper Plates of Dharmapala 1978: Lines 26-32) were



found. Grazing land for elephants, horses, camels, cows, buffaloes, goats and sheep is also mentioned.

After the Salastambhas, the Khenas came to power in this land (Barua 2004: 21; Das 1995: 23). Buchanan Hamilton, a Scottish Zoologist, visited India during the colonial period and described the topography of Kamatapur, the capital city of Khenas, and its surroundings. According to him, 'Beyond the residence of the minister, at a little distance farther north, I was led to visit what is called the king's bath, which I found in a field, cultivated with tobacco, at a place called Sitolvas, a name that implies coolness' (Martin 1838: 428). Buchanan also mentions an Indigo factory, a palace, and other natural resources such as wood, stone, bamboo, etc. The Khenas were actively involved in 'transacted businesses' (Martin 1838: 430). The mythology of Gosanimangal is associated with the history of the Khenas dynasty. The origin and development of this dynasty are described in this text. Although historians have raised several questions about the authenticity of this book, it deals with the society and economy of the Khenas. The market economy and the export-import business of the Khenas were based on agriculture, and the rulers of this family eagerly patronised trade. Trade relations between the hill and the Duars people were to be conducted under the supervision of the Khenas rulers. The trade routes were well connected as well as well maintained. The trade route from Chamurchi to Rangpur in Dinajpur through Jalpesh temple was famous for indigenous and foreign traders. While traders of the mountaineers were exporting Tangan horses, blankets, precious stones, incense, cotton wool, etc., the traders from the plain region were actively engaged in cultivation. Rice, wheat, salt, mustard oil, dry fish and betel nuts of this land had a huge demand. The river Tista-Torsha not only meets the protein demand by producing various fishes but also a fertile coastal region of Tista-Torsha enriches the agriculture of this region (Das 2008: 89-95).

Some root fruits were popular among the people of the valley. Potato, onion, garlic, turmeric and ginger were cultivated for household and commercial purposes. The farmers of this region were not extensively habituated to using manure and other chemicals or pesticides for agriculture. Ecologically sustainable manure like cow dung, oil-cake dust and tree leaves was used. Most of the rulers of this region were not permitted to construct river dams for irrigation. Large dams were always hazards and dangerous for this earthquake-prone zone. We find small channels connected to rivers, lakes and ponds for irrigation. Different types of food grains like wheat, rice and various pulses like Moog, Masoor, Khesari and Kola were the common food-producing crops of this region. Tobacco, oil seeds and maize were popular horticulture that boosted

the economy. The renowned historian Amanat Ullah Ahmad mentions that several valuable crops and vegetables were grown in the state. He stated that oranges, peppers, different types of perfumes and tree roots for Ayurvedic treatment in this region were regularly exported to other parts of India and neighbouring countries (AmanatUllah 2005: 53).

In agriculture and horticulture, the women and children were also actively engaged. Women participated in sowing seeds and planting rice, wheat, pulses, etc. They also participated in gathering and cutting paddy, husk paddy, etc. They were also very familiar with marketing crops (Chaudhuri 2010: 32). The neo-Vaishnava movement propagated by Sankaradeva in the fifteenth century had left an impact on the agricultural process of this region. This class-less and caste-less religious movement concentrated on the socio-religious reforms and changing the traditional agricultural process practised in this territory. All the Satras of this region were promoted and encouraged to use the plough in place of the digging stick and hoe. The hard-working hill tribes of the Himalayas, economically dependent on natural food grains, gradually migrated to plain areas and became a peasant class. All the sections of people, from the upper to lower class, benefitted from the encouragement of the Neo-Vaishnavists. Both the male and females equally participated in the process of agriculture. Even Brahmin women participated and contributed to crop production (Guha 1987: 487).

## Conclusion

The summary of this paper reveals primarily two aspects: the economy and its associated features and the topographic characteristics of this extensive valley from the early medieval period to the colonial period. While the economy and its associated features of this region had guided the courses of the economic strength of this period, the topographic changes had also revealed several benefits and limitations of the society that also helped the next generations how to deal with the topography and its associated features for the development of the economy. As it is the land of several natural calamities, such as earthquakes, droughts, and floods, the ruling authorities and the people of this land should always deal with this ecologically rich valley by adopting naturally sustainable projects both for the development of the economy and topography.

## Recommendations

Even the available historical sources have various limitations. Some include mythological components, and some exaggerate historical facts, which makes it difficult to justify

the historical facts or incidents. However, the available historical data or records reveal several stages of economic development and evolution. The topography has also changed due to natural calamities and human activities. This study guides future generations and scholars, encouraging them to implement various development strategies based on previous research into the topography and economy of this vast valley. Additionally, it aims to promote the growth of healthy economic sectors within this rich ecological region, which will, in turn, foster a stable economy that positively impacts other socio-political aspects of the state.

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