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Brahmaputra Chronicles: Unveiling A Vibrant Civilisation

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Abstract
The river Brahmaputra, the lifeline for Assam is a significant yet often overlooked force in the historical narratives that has been working in shaping human civilisation and the ecological landscapes for millennia. It explores the intertwined history of the river Brahmaputra and its basin while emphasising the gradual advances in technology that have been exploiting the natural resources leading to ecological degradation. The growing awareness of environmental issues has propelled historians to highlight the ecological concerns in their analysis thus laying the groundwork for an emerging discipline in history. It has taken into account the intrinsic relationship between human societies and nature which has been highlighted by some notable scholars like Donald Worster and Ranjan Chakrabarti in underscoring the pivotal role of the Brahmaputra river in the development of civilisation. In addition, the research has also delved into the geological evolution of Brahmaputra based on its dynamic course along with the significant societal and ecological impacts. The study has tracked the journey of the river from the Tibetan Plateau all through India and Bangladesh. It has further discussed the braided channels of the river and the transport of the sediments that have created a unique yet fragile ecosystem. This includes the historical shift, chronicled in ancient scriptures, modern studies, and colonial studies while revealing the ever-changing nature and its profound influence on the regional culture, politics and economic landscapes. The study also analyses some of the subsistence patterns and dynamic settlements in the context of the Brahmaputra valley while tracing the evolution of the agricultural practices along with the discussion of the rise of the Ahom state and the integration of the diverse influence of the culture. There has been a discussion on the perennial floods and erosion of the riverbank based on the tectonic activity and other factors of the climate which helped in reshaping the valley along with displacing communities and altering livelihoods. Lastly, it advocated for the use of sustainable practices and the need for a nuanced understanding of the historical and environmental significance concerning the dynamic character and support of the resilience of the communities.

Keywords: *Brahmaputra, climate change, environmental resilience, cultural activities, geological life.*

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I. Introduction To The History Of Brahmaputra

Gradual technological advancement has altered natural resources and used it as a site for both extraction and dumping of unwanted residues. To an extent, taming nature has its consequences for both human and non-human life. Therefore, a growing awareness of ecological degradation has set its foot on different branches of knowledge, laying the foundation of new disciplines that have had a profound impact on the writing of history. Historians have addressed various ecological issues disguised in their social, economic, and political histories. Environmental concern is not a new phenomenon; it is deeply rooted in the history of mankind itself. Traces of environmental concern in history writing are found since, in time in memoriam, at various stages of history, it has played a pivotal role. Ranjan Chakrabarti has remarked that the decisions of human society revolve around the natural world. Human civilisation is intrinsic to nature; however, as the ferocity of technology rises, so does the legitimate use of natural resources. Donald Worster stated that every culture and society is built on and is dependent on the managerial relationship with nature.

The fear of a dying world resulted in the development of a new field of knowledge that deals with a constant dialogue between the past and present. The study of environmental history has become an important milestone in understanding environmental studies. Scholars defined environmental history as the medium or tool to elucidate the interaction between humans and nature in the past. In the words of Donald Worster, environmental history deals with the role of nature in human life. Though nature and environment are different concepts, they are not mutually exclusive. Environmental historians are drawn to explanations of change. Ranjan Chakrabarti

opines that environmental history is immediately connected with the history of land use, water, and climate in more than one way. It calls for an understanding of the interconnectivity between water resources on the one hand and, on the other, deforestation, rainfall, river flow, soil erosion, climate change, global warming, drought, famine, and various natural calamities.

Donald Worster once stated "To write history without putting any water in it is to leave out a large part of the story. Human experience has not been so dry as that." Human civilization was born from the womb of a river and at every advance of human history, rivers played a predominant role. Therefore, rivers have an intimate relationship with the societies of the world. Rivers are sustainers of life, and fertility is well characterised by the myths and beliefs of a multitude of cultures. It is treated as divinity, perhaps as the 'mother of the land'. India is a land of great rivers; however, a mighty river like the Brahmaputra has for l has remained silent in the voices of history. Although nature has been infused into the histories of Assam, it has played a minimal role in influencing writing to give a permanent role in history. Unlike other great rivers of the world, Brahmaputra has no significance in historical writings. Histories of Assam have dealt with the political transition over various histories, but have failed to merge their narratives with its river and the changes brought about.

Most of them have provided fragments and facts even in their environmental narratives. Regional folklore and literature have enriched the Brahmaputra in its writing. *Ityadi Padya* (1989), *Ballad Tales of Assam* (1960) and others have celebrated the Brahmaputra in their writing. Over the years, Brahmaputra had found little recognition in the historical narratives but the references to the river in the ancient texts are found in *Jogini Tranta, Kalika Purana* and *the Mahabharata.* Many other Copper plate inscriptions bearing land graduating from the 5th - 11th AD have mentioned rivers of the regions which can be identified with modern-day tributaries of the Brahmaputra. Nagajari Khanikar Gaon Stone Gaurivataka Inscription of Vasundharavarman 5lh Century AD Dibru or Dibo which resembles Dibu which follows into Dhansiri; Tezpur CP Inscription of Vanamala-Abhisuravataka Varmadeva (TCPI), 9lh century AD mentioned river Trisrota, which M. M. Sharma identified with Teesta or Karotoya References of the river in the ancient texts are found in the *Jogini Tranta, Kalika Purana* and *the Mahabharata.*

One can notice the relationship between the physical environment and the formation of the society in mediaeval times in Amalendu Guha's *'Geography behind History'* included in Medieval and Early Colonial Assam. Biographies of saint-scholar Sankardev referred to the *lauhitya* in his narrations. Manas literature of Assam of Mankai, Durgavari and Sukavi Narayanadena corroborates the navigational expertise of the people. Stephen Casella, a 17th-century Jesuit traveller wrote intensively about trade between Gaur, Rajmahal and Patna through Brahmaputra. The best illustration of the river is found in the *Assam Buranji* of Haliram Dhekial Phukan is an introduction to the Brahmaputra Valley which in 1826 became a part of the colonial regime though he acknowledged in a sentence. Surya Kumar Bhuyan's narratives of Ahom-Mughal warfare have portrayed the river's central role in Assam's political history. In recent works, Arupjyoti Saikia's biography on the river Brahmaputra has done justice to the history of the river. Over the last decades, the Brahmaputra has slowly risen towards its recognition as the central narrative in the history of Assam.

II. Geological Life Of Brahmaputra

The Brahmaputra which is home to a large ecosystem and human settlement is an antecedent, snow and large Trans-Himalayan river and ranks as the youngest among the major rivers of the world running over 2880 km (approx). It is one of the largest braided rivers of the world which drains parts of Tibet, India and Bangladesh. The river basin of the Brahmaputra is bounded on the north by the Kailash and Nyen-Chen-Tanghla ranges of mountains, on the east by the Salween River basin and Patkai ranges running along the Indo-Myanmar border and on the south by the Nepal Himalayas, the Naga and Barail ranges and the Meghalaya Plateau and on the west by the Ganga river basin. Originating in the snow-covered hills of the Kailash range in Trans-Himalayas, just south of a lake called Konggyu Tso at an elevation of 5300m, flows eastwards through southern Tibet under the name of Tsangpo (Chinese name-Yarlung Zangbo).

The river runs almost parallel to the Himalayas, after that, leaving the Tibetian plateau the river takes a U-turn called the 'big bend' after Pei at 95 degrees east towards India while cutting two peaks, Mount. Gyala Peri and Mount. Namcha Barwa is a series of rapids and cascades forming a 5075m deep gorge. The Brahmaputra entered India through Arunachal Pradesh at Singing as the Siang has a steep gradient and as the river flows from hills to the plain area it becomes Dihang. The river transverses the mountainous terrain before debouching into Assam Plain near Pasighat at an elevation of 155m, at Kobo near Sadiya, thenceforward Dihang takes a south-west direction and unites with two other trans-Himalayan rivers Lohit and Dibang to become the Brahmaputra. After becoming the Brahmaputra, it flows through a narrow valley called the Assam Valley or the Brahmaputra Valley in a south-west direction for 640 km with a very low gradient. The valley is like a winnowing fan bounded on three sides by hill ranges and a plateau on the south.

The average width of the channel of the river varies from 8-18 km and further occupies one-tenth of the valley, taking a southern turn, the river enters Bangladesh as the Jamuna near Dhubri and meets the Ganga at

Arichaghat and further travels 180 km south along with Ganga and Megha to merge with the Bay of Bengal. It is termed as 'a moving ocean' for its vast size. The course of the river has subsequently transformed over various geological years to achieve its modern embodiment. Physical factors like climate- rainfall patterns, topography, earthquakes and floods have assisted the river's evolution process. The Brahmaputra flows from the dry region of Tibet in the rain shadow of the Himalayas to the Eastern basin receiving high rainfall. The catchment of the Brahmaputra, excluding the Tibetan portion forms an integral part of the monsoonal regime of Southeast Asia. The river drains over 700,000 square km of area, as the river follows its braided course through the valley, it meets with Himalayan streams on the north bank are Subansiri, Kamaj, Bhareli, Dhansiri, manas, Champamati, Saralbhanga and Sankosh rivers and on the south bank, major tributaries are Nao Dihing, Burhi Dihing, Disang, Dikhu and Kopili. The Brahmaputra also had tributaries flowing in North Bengal: Teesta, Torsha, Jaldhaka, Kaljani, and Raidok emerging swiftly from narrow gorges with steep slopes widened out in the plains. The Teesta forms the largest tributary in Bangladesh and joins the river at Dharla outfall. The Brahmaputra ranks among the leading sediment-transporting rivers of the world carrying the highest quantity of sediments to the ocean. The river is like a massive conveyor belt carrying water and sediment from the world's greatest mountain system into the Indian Ocean. The Brahmaputra valley built by deposition of sediment formed by the rise of the Himalayas and Chin hills ranges to the east took shape 11.6 to 5.3 million years ago. Sedimentation of the Bengal basin began after the breakup of the Gondwanaland and further geological events in the Miocene period hastened the process. The rapid uplift of the Himalayas led to a steeper gradient of streams flowing south slopes energetically eroded rocks resulting in a huge volume of sediments. Sedimentation also leads to the braiding of rivers, and a huge amount of sand is dispersed in Brahmaputra. Finer sand particles move out of the channel during the bank floods which also affects the agriculturally based population. Most of Assam is covered with new alluvium, only 5% of the land consists of alluvium. The Brahmaputra carries the maximum amount of silt and sand because the river bed consists of young and un-weathered rocks having little clay while containing high water content which is loosely compacted. During the post-monsoon period, sediments settle and form islands called *chars*. When sediments could not make it to the mouth of the river, they assembled in huge quantities along the river course leading to a decrease in the area available for the river and its actions.

It has been remarked that the Brahmaputra was not only famous for its vast alluvial deposits but also for the historical changes which took place in its course. The Brahmaputra has occupied and abandoned numerous courses. Early Assamese Bengali scriptures, European travel accounts, folk literature and colonial maps have testimonials verifying the changes in the Brahmaputra's course. The river's erratic nature in the 16th and 17th centuries was testified in the cartographic visualisation and surveys of the landscape. In the 18th century, the Brahmaputra had a westward move, before that river flowed independently to the Bay of Bengal. According to James Rennell's map prepared in 1782, the Brahmaputra flows eastwards through the Madhupur tract (present-day Old Brahmaputra). The 1782 earthquake, followed by a flood in 1787 contributed to the shifting of Old Brahmaputra to a new course named Jamuna. The same flood forced Teesta to merge with the Brahmaputra near Mymensingh. Debhash Roy's *'Teesta Nadir Pare'* suggested that Teesta was a tributary of Ganga. According to ancient scriptures, 82 and 83rd chapters of Kalika Purana and 55th chapter of Padma Purana confirmed the Tibetan Himalayas as the source of the Brahmaputra. The mention of *Luit* or *Lauhitya* in Sanskrit literature suggests that the river Lohit formed the main course. Wade in 1927 formulated the first geographical account of the river of Assam and accepted river Lohit as the main course for the Brahmaputra in ancient times. On the other hand, Radhakamal Mukherjee in his '*The Changing Face of Bengal'* described the Brahmaputra as a sedate ancient river in parts of Eastern Bengal, bringing water-logging and descendants but in North Bengal, it is a youthful mighty stream and has re-sculptured the landscape and fashioned new prosperity not dating back then the last century. T. Holdich in his works opined that the course of Brahmaputra diverted from the original course through China and forced it to cut a passage through the Himalayas. In 1908, S. G. Burrard, and H. H. Hayden stated that Brahmaputra formerly flowed through Tibet from east to west direction. According to a study in 1915, Kobo was the confluence point; in 1975 confluence point was shifted to Laikaghat, 16 km downstream. Henceforth, the river and its tributaries continued to reorganise its course due to tectonic factors, fluvial activity's flood, tributary switching, and river piracy as an increased situation. The present physical configuration of the valley and its ecological structure took shape in the Pleistocene period and gave birth to a region characterised by low-lying alluvial floodplain and moderate highlands which have a close resemblance with the environment of South-East Asia. The lower Assam depicts the flora of Upper Gangetic plains while Upper Assam resembles South-East Asian flora. The river along with its tributaries constantly make and unmake the floodplain's space and its geomorphological features. The river along with its tributaries had developed a congenial environment. Life in the valley revolves around the strength derived from the alluvial soil and also sustaining huge biodiversity and aquatic culture. However, human activity has a limited impact on the landscape.

III. Life In The Valley

Man has been dependent on nature from hunting-gathering to the formation of the modern state, without natural resources human lives are empty vessels. Water is a necessity for sustaining life and since time immemorial, rivers have formed the base for all civilizations of all times. Amalendu Guha claimed that civilization in the Brahmaputra valley dated much back compared to the Indo-Gangetic plains. The river *Lauhitya*, appears in the folklore of Mahabharata compiled in 400 BCE to 400 CE which indicates Sanskritization has reached the shores of the valley. According to archaeologist Suniti Kumar Chatterjee, the process of *Aryanisation* of the ruling parts of Assam, Kamrupa was completed by 400 A.D. However, human settlement in the valley predates this. Archeologist Dilip Chackravarti has argued that by this time, the Valley's population had already formed a political structure that had various interactions with the kingdoms of Indo-Gangetic plains. Archeologist Dilip Chackravarti has argued that by this time, the Valley's population had already formed a political structure that had various interactions with the kingdoms of Indo-Gangetic plains. In prehistoric times, the Brahmaputra Valley comprised several tribes whose dialects are identified with the *Bodo* community of the Valley.

Physical constraints and isolation from the mainland of the Indian subcontinent could not stop cultural contact. Amalendu Guha propounded that cultural contact prevailed between the valley and the Chinese civilization. The polity of Assam is highly dependent on the river for political consolidation. Cultivable lands largely determined settlement patterns. Along the river bank, temples and shrines were built on hill locks to avail the water routes provided by the rivers. The famous Kamakhya temple in Guwahati located at the hilltop is one of the most sacred shrines of the Sakta Hindus. The river route was used to visit various ashrams, for instance, the ashram of Shankara Acharya navigated through Brahmaputra. From the first millennium CE, people of the valley tried to bring the floodplains under control by converting the floodplain into agricultural tracts. However, the immediate areas along the riverside were ignored due to regular floods and erosion. The Ahoms introduced vocabulary to name the natural resources including the rivers and began a process of cultural and social integration in early mediaeval Assam facilitating the growth of Ahom state in the Brahmaputra Valley. The Brahmaputra with its tributaries at both banks helped form Ahom military forces. Records witnessed that Namrup, which was located in the extreme southeast, was a centre for the exile of criminals and fugitive kings. River islands were installed as camps and military stations of warfare.

During foreign invasions, native forces withdrew into the thick forests beside the river and made blockades by gathering boulders at the course of river channels creating artificial lakes and breaking them down during summers creating havoc in the enemy camps. For instance, the small force of Ram Singha used a similar strategy near Saraighat. The Ahom kingdom also developed civil communication along the river course. A department of boat making (*Naosali*) functioned for both militaries as well as civil purposes. Military forts were built on the banks of the Brahmaputra, early Copper plate inscriptions of Kamarupa recorded how kings built their fort towns and military garrisons on the banks of the river. Assam became a part of British-India by the treaty of Yandabo in 1826 signed after the end of the Anglo-Burmese war. The East India Company (thereafter, EIC) had completed the process of takeover of the valley in 1838. The EIC officials realised the potential of the river to become an ally of the empire. After Assam and East Bengal were united into a single administrative unit in 1905 facilitated imperial control over the products and people of the floodplain.

IV. Subsistence Of The Valley

The Assam valley in India is highly dependent on the river Brahmaputra for the creation of their livelihood opportunities. Assam Valley consists of a complex agrarian landscape that demands continuous interaction between floodplains, hills and foothills. Even at present, about 61% of the total population of the state is dependent on agriculture. We have seen in the last chapter that from ancient times, various tribes and kingdoms have opted for various locations for cultivation that determined their settlement patterns. However, in the long run, the valley witnessed changes in demography over various stages of history that affected the natural vegetation of the valley which in some cases elevated to a crisis. Not all land in the floodplains was suitable for permanent cultivation due to recurrent floods and erosion. As noticed in the last chapter, the immediate land beside the river was ignored for settlement as well as cultivation. Hence, cultivation began on higher grounds and in those areas where the river did not change its course. In the hills of Assam, there were less drastic and violent environmental changes. cultivation in the valley had to be carried out according to the opportunities and constraints of the climate, floods, and terrain.

The diverse political decorum and diverse cultural contacts within the valley had their imprints on the agricultural practice of the valley. The Pre-Ahom society was agrarian and practised shifting cultivation due to the frequent changing of the course of the Brahmaputra. The arrival of the Ahoms had an immense effect not only on the polity as well as the economy of the state. The predominant agrarian economy had assisted the Ahoms in consolidating their political power. The introduction of the *Paik* system under the Ahom state strengthened agrarian production as well as brought tribal societies under feudal control. Throughout Ancient and Medieval times, Assam remained a very thinly populated region because of its terrain, an agriculturally retarded tribal

population and its forest and swamps. Annexation with British India had changed Assamese society. Although Upper Assam and Lower Assam differed in their natural vegetation as well as in their ethnic composition these two sub-regions have become somewhat blurred through centuries of intermingling. Pastoral activities in the floodplains increased since 1000 BCE and the domestication of animals also increased which benefited farming. The Brahmaputra valley circled the river and the activities that were present included peasantry, fisheries, pottery, navigation, boat-making as well gold washers were all varieties of livelihood sustained on the river while the major activity of the valley was the cultivation of rice. It has been observed that cultivation was carried out by shifting cultivation or slash and burn or *jhumming*. Along with that, wet rice cultivation with an irrigation technology dependent on the construction of ridges was common before the Ahom state.

V. Dynamics Of Life In The River Basin

The Brahmaputra basin covers only 1% of the world's land area but it is home to a tenth of all humanity and it stands as a lifeline for Assam, while demonstrating catastrophe floods every year affecting the demography of the area, displacement and dispersion are two common phenomena of such floods. The internally displaced people in the North-East are victims of environmental degradation, skewed developments and ethnic conflicts. Flood and riverbank erosion in the plains and landslides in the hills have caused deaths, and destruction and displaced millions of people over the years in the Valley. The fluctuating nature of the river along with its tributary has displaced millions of peoples as well as biodiversity. Every year 64000 people are displaced by erosion of riverbanks. Floods ravaged the Assam valley since time immemorial. It has been noted earlier that the shifting movement of the riverbed is assisted by tectonic movements, climatic factors, and geology, which together form a unique yet catastrophic picture. Throughout history, despite multiple efforts of various powers to establish control over the floodplain by building massive embankments, however, these structures could not survive the ravages of the water. The river continued to wreak havoc by uncontrollable floods. Moreover, the snow-fed tributaries of Brahmaputra carry huge amounts of sediment that they empty into riverbeds in the plains that lead to braided channels which results in the widening of the river by eroding the banks.

This silent repositioning of the great river had displaced millions of people. About seventeen districts of Assam are affected by riverbank erosion. The mighty Brahmaputra belt is highly dynamic due to ongoing seismic activities; the continuous tectonic movement on active faults has successfully broken through the embankments. Various folklore and songs have grasped the duality with paradoxes of life and death, of replenishment and devastation caused by recurrent high floods. Since the colonial regime, attempts have been made to mitigate floods. After independence, the government introduced several measures to cope with the damages of floods. The Assam Embankment Act of 1953 was followed by the formation of the Brahmaputra board to cope with natural disasters in the Valley. The British were least bothered about floods in the 19th century and perhaps saw them as a natural phenomenon that affected the villages. Only peasants, their cultivated lands, were prone to regular floods. The flood of 1929 caused huge damage to crops, especially jute and property in Assam. Railway tracks made in 1903 were covered with flood waters. However, official records state minimal considerable damage to the railway tracks.

At Sibsagar after embankments were built, people returned to their land near the river. As a consequence, their faith met with a disastrous flood in 1927. C. K. Rhodes observed that in the long run, the embankments created a big depression in the ground that allowed flood water to enter the land and damage cultivable lands. Few scholars have noted that the construction of railways in the Valley disturbed the natural flow, and the retreating floodwaters and thereby, made low-lying lands between the river and the railway. Thus, embankments are permanently liable to floods and unfit for cultivation. Intense rainfall in the Naga Khasi hills (southern area) caused heavy discharge of siltation into the riverbed in 1934. Extensive damage to major roads and Chaparmukh-Silghat railway line which traversed the central part of the valley. This flood caused widespread damage to jute cultivation. By 1969, 3341 km of embankments were built along the riverbed of the Brahmaputra and its tributaries apart from 700 km of drainage channels at an estimated cost of Rs. 333 million. By 1978 Assam had more than 4000 km of embankments protecting 1.3mha of agricultural land. *Rashtriya Barh Ayog* (National Commission on Floods) was formed in 1976 and evolved a 'national plan' to control floods and bring agrarian prosperity to the Valley. However, the river remained determined to be untamed, the North Bank tributaries continued to behave erratically. During the 1986 flood, the waters breached embankments all across the Valley and affected 1.35mha of agricultural lands. The Assam government stated that embankments had changed the nature of the river. It suggested no more construction of embankments on the Brahmaputra. Thus, it can be concluded that the river has long tales of flood and cultivation and thus it surrounds the life of the people living around the bank of the driver.

In conclusion, the Brahmaputra River stands as a dynamic force in the history, ecology, and livelihoods of the Assam Valley. From ancient times to the present, its course has shaped civilizations, influenced political structures, and sustained diverse ecosystems. Despite its pivotal role, the river has also brought challenges, particularly through its erratic flooding and shifting courses, which have displaced populations and shaped

cultural narratives. Efforts to tame the Brahmaputra through embankments and other interventions highlight ongoing struggles to balance human settlement and agricultural development with the river's natural dynamics. As we reflect on its geological and historical significance, the Brahmaputra remains both a lifeline and a formidable force, embodying the complex interplay between nature and human society in the region.

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