Chapter 3

HISTORY AS RIVERINE HISTORY:

LOCATING BRAHMAPUTRA FLOODS IN HISTORY

History is a record of the past and the past is never really dead. Our past, being the foundation of our present lives through our present into the future. Our future is deep rooted in our past. (Sinha in Barpujari 1960:vi).

The Brahmaputra is the lifeline of Assam. The Brahmaputra has had an everlasting influence on the groups who migrated to the valley over the centuries. Battles were fought on the river. The presence of the river became so intertwined with the region itself, that the region and the river became synonymous. Just as life in Assam cannot be thought of without the Brahmaputra, life in the Brahmaputra valley cannot be thought of in exclusion of floods. Yet, despite the ubiquitous presence of the Brahmaputra, very little historical work has been done with the river as its focus. Historians in Assam have done commendable work on the socio-political-economic history of what was the former kingdom of Kamrupa, Pragjiyotishpur, and the former province of Assam with the Brahmaputra as the backdrop. But they fall short of looking at the river as a historical entity. The historians in the rest of India, on their part, have hardly accorded serious thought to the history of Assam. Understandably then, their historical contribution in the study of the Brahmaputra is minimal. The understanding of floods in the Brahmaputra makes for sensible reading only if it is located in a context which spans time periods. To this end, this chapter addresses the first objective of the research which was to locate floods in the history of Assam and link it to the socio-economic implications these had for people.

To analyse the history of flooding in the Brahmaputra valley and its socio-economic implications for the people in the valley, the researcher drew upon sources which deal with the Brahmaputra, its tributaries, floods, erosions as a hydrological entity. The texts used to analyse the history of the river and flooding were collected from primary and secondary sources. The secondary sources included the imperial gazetteers, notes on the Brahmaputra in Assam and in present day Bangladesh, historical accounts of British expeditions and field notes of British officers on duty. The river was looked upon a hydrological entity. But it was also looked upon as a cultural entity which has been an active site throughout its fluvial history. A rich
source of data was drawn from Assamese fiction, Mising folktales and folk songs. Mising history transcended the boundaries of the primary sources since it is largely unwritten and oral in nature. In an attempt to know the history of the river and flooding from the people who pride themselves on being the people of the river, unstructured interviews and conversations were incorporated. In this kind of fieldwork, two types of texts were generated. The first was produced from the interactions people have with each other and the researcher did not necessarily generate these. The researcher, in this case, remained a nascent observer. This included discussions among the disaster management committees existing in the village as well as among ward members when asked about times during floods as also in protest meetings organised to discuss the role of the state machinery during floods. This was done in a conscious attempt to minimise the effect of the researcher's presence among the interaction that people have among themselves. Hence, this text was not based on questions asked but by natural interaction that people have without being prompted or probed (Joshi et. al. 2010: 480-481). The other texts were produced as a result of systematic and sustained enquiry carried out by the researcher. These words are the result of a response to the questions that the researcher posed or based on observations of the participant observer. Thus, the first kind of data is people or self generated and the second is anthropologically generated (ibid). From the data so generated, the themes of analysis were cross cutting and intersecting. Based on these themes, the chapter is divided into five sections.

The first section draws largely from the notion of Donald Worster's conceptualisation of history as natural history, albeit, with an analogy. Instead of treating history as natural history, this section looks at history as riverine history. The second section looks at the change in riverine history with the advent of the British in India. This section discusses the epistemological change that riverine life underwent after the introduction of structural modification in the rivers of India. After having discussed the impact of these changes, the researcher focussed on the history of the Brahmaputra and floods in Assam. This is addressed in the third and fourth sections. The third section utilises material from the Imperial Gazettes and from the travel notes of the British explorers. The fourth section uses oral history to construct a timeline of the Brahmaputra and floods therein. This section draws benefits from the
inclusion of Mising folktales and folklore. This also makes the section context specific to Assam. The fifth section draws from all the previous sections when it tries to ascertain whether floods have been understood as normal or pathological by the people of Assam.

**History as Riverine History**

Dominant history writing has focussed on those who have held political power. Hence, history was a place of kings, kingdoms, wars and the victorious. In the past a historian had one central referent: Europe. What happened within Europe was significant; extra European affairs were literally extra—not integral to the historian's concerns (Alvares, 1991: xvii). With the formation of new nation states, this control on history began to loosen as the non European started to be recognised as having a role to play in history. Today, the dominance of early European industrialised countries such as England, France, Germany is no longer even theoretically defensible. Any historian, convinced that the rise of Asia, Africa, Latin America, could be treated as tangentially interesting, would run the danger of testing the credibility of his readers (ibid.). Still, history remained favourable to those who wielded power. Since, the 1970s, the history of everyday lives of everyday people and the subaltern began to find their way in historical texts. While this trend is fast catching up, for most of its course it runs parallel to the dominant discourse. In both these trends, the emphasis of history as a discipline was rather anthropocentric. Even today history is all about humans, everything else is extra- not integral to the historian's concern. Nature and the larger environment as a subject of historical enquiry are yet to become popular away from environmental history.

The idea that nature has had something to do with the shaping of cultures and history is an idea that is both obviously true and persistently neglected (Worster, 1992: 22). Based on Worster's approach, this study utilised the strategy to regard nature as participating in an unending dialectic with human history, seeing the two, as intertwined in an ongoing spiral of challenge-response-challenge, where neither

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1 The title is in spirit of David Worster's presidential address to the American Society of Environmental History titled History as Natural History: An essay on theory and method delivered on December 30, 1982 where he discusses history as the history of nature.
nature nor humanity ever achieves absolute sovereign authority, but both continue to make and remake each other (ibid.). This enabled me to locate nature (or the river in this case), people and culture as dynamic entities which interact with each other all the time. Natural history describes not just “nature,” but society as well (Swami 2003:115). To an extent, culture mediates the human relationship with Nature. It influences behaviour and is manifested in the artefacts and organization of society as well as society's moulding of the environment. This is a recursive relationship in that, as we change Nature to provide for our material culture, we change ourselves (Laituri 2000:451). Therefore, the use of cultural politics of natural resources which treats identities, interests and resources as fall outs of dynamic cultural practices provides for a more holistic understanding of the human–flood interaction.

Rivers were the earliest cradles of civilisation. Karl Wittfogel, an American history professor writing in the 1950s called civilisations that sprang up along the fertile valleys of great rivers, hydraulic civilisations. In these civilisations, Wittfogel saw the adoption of a 'more rational approach to nature'. The citizens of hydraulic civilisations began to look at the world in a more scientific way. They became astronomers and mathematicians and accountants, as well as hydraulic engineers. Until the industrial revolution, the majority of human beings lived within the orbit of hydraulic civilisations' (Pearce, 1992: 13). Such societies had contended with floods throughout history. Culture provided socially constructed myths about Nature. Myth refers to a system of beliefs that are plausible rather than demonstrably true. These myths or systems of belief became part of a worldview and influence human interpretations of natural phenomena (Laituri 2000:451). The presence of myths similar to Noah and folk stories prove that the idea of living with floods had always existed. The Noah story narrates how too much water, wiped out life and property with such completeness that it seemed like divine retribution for the monumental evil people committed (Worster, 1992: 19). In the Babylonian flood saga, described by Lambert and Millard (1969), King Atra-hasis was given seven days by the god Enki to pull down his reed house and build a boat with the materials. The boat was loaded with his possessions, animals and birds and as soon as they were aboard the flood came and, apart from Atrahasis and his passengers, the entire human race was destroyed. In Babylonian tradition the flood lasted seven days and seven nights. Noah appears
under various aliases, not only in the Middle East, but in many other parts of the world including India, China, the East Indies, Polynesia and particularly the Americas (Smith & Ward, 1998). Milne (1986) noted that from the Canadian North-West, through North and Central America and into the southern continents, virtually every tribe and ethnic group has a legend referring to a worldwide flood (Milne, 1986). Universally, flood legends repeat the common themes of arks, mountains and godly retribution and they are often couched in terms of a new beginning rather than of the end of the world and may have diffused from a relatively small number of source areas. Some seem clearly to relate to coastal flooding from tsunamis, e.g. the tales of the Araucanian Indians of Chile; others were undoubtedly the embellished account of a local flood or violent storm (ibid). Indian literature is also rich with myths to describe rivers and floods.

Origin of human life on this earth is attributed to the famous flood legend and Hindu scriptures are full of praises for the rivers, being mentioned as the "Mother of the world." A study of religious-cultural approaches to nature is of great importance in studying environmental history in India, given the overwhelming importance of the former in shaping social structures and institutions (Swami 2003:116). The Ganga is one river which draws obeisance from Hindus everywhere. The river's accumulation of mythological traditions demonstrates the distinctive persistence of natural geographical symbols in India. The Ganga has attracted mythology around her less because of her alliances with the Gods but more because she is worshipped and loved. Here one sees the difference between the organic myth or symbol and the narrative one. For the Ganga's significance is not exhaustively narrative. First, she is a river that flows with waters of life in a vibrant universe. Narrative myths come and go in history. They may shape the cosmos and convey meanings for many generations, and then they may gradually lose their hold upon the imagination and finally be forgotten. But the river remains, even when the stories are no longer repeated. The river flows on, bringing life and conveying the living tradition, even to those of this age for whom everything else is demythologised. The Ganga is celestial—unmediated and immediate (Eck 2003: 45). While the Ganga is the source of many myths, almost all rivers, big and small have their share of myths and stories of reverence.
The earliest literary images in India of the monsoons, the rivers and their role in the development of human settlements, can be traced back to the voluminous Vedic literature (c. 1500-600BCE). The most celebrated instance of this is Rigveda hymn X.75 in praise of rivers (nadistuti). The Rigveda appears to have been more familiar with the Indus and its eastern and western tributaries than the eastern rivers like the Ganga and the Yamuna. The congenial role of the rivers and the valleys in the emergence of human settlements is recognized under the name of 'Suvast' (present-day Swat), literally meaning that it was 'good for habitation'. However, many of these myths are not available in written form and passed on in oral tradition from generation to generation. The general pattern of using hydraulic resources in pre-modern India was to ensure seasonal irrigation by storing water during the monsoons. This was seen as a major break from the indigenous traditional system of water management in India after the late eighteenth and early nineteenth century (Chakravarti, 2008: 76-77). Along with rivers, floods also find their mention and the 'Naradiya Purana' has given one of the first lessons in flood plain zoning. It says that a river does not spill beyond its known boundaries which it defines as the river bed. Around seventy metres (150 hath) beyond the river bed is the river bank and up to five km (one yojan) beyond the river bank is the river belt. 'Naradiya Purana' prohibits people from residing within the riverbed and river bank and recommends dwelling only in the river belts and beyond. These verses, obviously, hint about the shifting courses of the rivers and the precaution to be taken in the event. Chanakya, in his Chanakya Neeti, has pitied a person who has his house located on a river bank, facing threats of erosion (Mishra, 1997:2206). Myths apart, archaeological evidence points to preparedness of people who lived in flood prone areas.

The early Harappan period witnessed the construction of small field embankments that filled field enclosures during the annual floods. The first canals were probably constructed only during the mature Harappan period. The bulk of agricultural production, however, depended evidently on winter and summer rainfall in north-west India that in previous centuries was almost certainly higher than today. Water management was chiefly done through canals, wells and tanks (Krieger:123). The practice of building flood protection embankments along rivers was an ancient one in peninsular India and the Indo-Gangetic plains (Agarwal & Chak, 1991). The peasant
community facing a storm did not have the option escaping a storm. In order to protect themselves from waves and inundation, they constructed embankments along river banks and seafronts. Such constructions were especially prevalent in Bengal and the south-eastern coast, which were exposed to Bay of Bengal cyclones and a relatively heavy monsoon rainfall (Roy 201:12). Occurrence of flood damages was a natural phenomenon and people had to cope with floods situations from the very beginning.

Floods have ravaged portions of India from time immemorial. Earlier, the flood waters spread over the flood plains, flowed back to the river and emptied into the sea in course of time without causing much damage (BIS n.d.:7). The various kings especially in peninsular India, had built tanks to store water for irrigation. Hence, there was not an absence of structures to control water even in the earliest times. But while there were references to channels (kulyah) and digging for water (khanitrima apah), there was otherwise little evidence of any political initiative, or interest, to provide facilities for water storage for drinking and irrigation purposes (Chakravarti, 2008: 77-78). In fact, the period under review probably did not have a developed state polity; efforts at hydraulic management appear to have been largely oriented towards individual or group efforts. One may conclude that the role of central authorities in mitigating disaster caused by unprecedented floods or droughts was not often an issue. Evidently, the rulers of medieval south India did not organize relief efforts. Instead, the extraordinary conditions of flood or drought made the locals realize the power of water and the vital significance of storing it. They were prepared to take the initiative to solve their problems by constructing reservoirs for water resource management (Stephen, 2008:108). However, it is to be noted that, the approach of communities in the past was dictated and driven by the ethics of ‘living with floods’ rather than mastering the flows’. They were in a far better position to adapt to the changing nature of the floods and were, in the process able to maximize the gains while minimising the vulnerabilities to life, property and ecology (Chaturvedi & Saroch, n.d.). Living with floods is not synonymous to resigning to fate. Rather it is about viable development within a flood belt, about adapting not resigning to floods (Sengupta 2007:1851). This knowledge had developed over centuries. Rivers were sacred and everyday at the same time.
The exploration into the river in a rather formal and systematic manner began with the coming of the British. This advent marked a new era in the life of rivers in India—the changes of which were so profound, that the epistemological understanding of the river underwent metamorphosis of a scale previously unknown. This also laid the ground for ushering in a technological age of the river, the effects of which are obvious even to the present day. The next section looks at the changes that the colonial rule brought to the understanding of riverine realities.

**From Sacred to Profane – Riverine History in the Colonial Era**

Imperialism had a deep and long lasting impact on the colonised countries. A series of technological and socio-political transformations convinced imperial Europe that there were no limits to be encountered to the rational manipulation of either man or nature. Technological prowess led to the assumption of moral superiority as well. In capitalist society the prevailing way of perceiving and dealing with the natural environment was through instrumental reason. The peculiarity of instrumental thought is that it destroys traditional religion and value, denigrates all genuine philosophy, recognises no transcending purpose and consequently leaves a deep void in the relationship with nature. Instrumental reason is thinking carefully and systematically about means while ignoring the problem of ends (Worster, 1992: 54). This instrumental reason defined British hydraulic regime in India.

The British believed that they could transcend the limitations of environment and climate through superior science and technology. According to Rohan D'Souza (2006) in British India, the quest to control water and dominate rivers was rooted in the ideological construct of colonialism and its political economic compulsions. He argues that there was a basic incompatibility between colonial capitalism as a social form and nature as a process (ibid.:16). Nature could be mastered, transformed and made more productive. Capitalism created a new, distinctive type of hydraulic society, one that demonstrated how the domination of nature could lead to the domination of some people over others. Water in the capitalist state had no intrinsic value, no sacredness to be respected. Water was not valued by the British as divinely appointed means for survival, for producing and reproducing human life, as it was in the local
subsistence communities. Nor was water an awe-inspiring, animistic ally in a quest for political empire, as it was in the agrarian states. It had become a commodity that was bought and sold and used to make other commodities that could be bought and sold and carried to the marketplace. It was, in other words, purely and abstractly a commercial instrument. All mystery disappeared from its depths, all gods departed, all contemplation of its flow ceased. It became so many 'acre-feet' banked in an account, so many 'kilowatt-hours' of generating capacity to be spent, so many bales of cotton or carloads of orange to be traded across the globe. And in that new language of market calculation lies an assertion of ultimate power over nature- of a domination that is absolute, total, and free from all restraint (Worster, 1992: 52). This change was evident in the way water was treated by the British. Water, rivers and the sea became objects, which like everything else, belonged to the British to be manipulated in any way they desired.

Colonial rule brought with it in Weberian terms a ‘disenchantment with nature’. Water resources lost their mystery, being seen merely as a commodity. Rivers were to be engineered, controlled, tamed and made into a source of artificial ‘rivers’ or canals. The British clearly disliked flooding which also served as a source of irrigation. Prompted by successes of embanking rivers in their home country, the British sought to replicate their native flood measures in India. This brought with it a totally different epistemology in flood control. Whereas local knowledge was critical to development of the particular adaptations to the environment in places such as Sumer, Egypt, and India, in the colonial period, local knowledge was displaced and traditional solutions were replaced with engineering solutions and technology from the West. In India, this arrogance of power encouraged the replacement of flood control measures, which had relied on embankments and channels, with dams and reservoirs (Hill, 1995). With complete disregard of local flood control measures, the British relied on their homegrown solutions to deal with a situation far removed from their own. In this regard, floods were viewed as a calamity which had to be eliminated using macro solutions with structural interventions like building dams and embankments. Coupling colonial power with technological advances they created a particular frame of reference with regard to the natural environment that ignored the unique characteristics of a place.
With specific regards to the transfer of European construction technology to India, two distinct phases can be distinguished. The first began in the late 1700s and the second with the advent of the twentieth century. The first period was characterized by the introduction of buttress dams in line with the Spanish model. The second period witnessed the introduction of advanced building materials, such as the use of steel reinforced power generation. Their introduction, however, did not immediately create major discontinuities in policy formulation. Half a century elapsed before the British applied buttress technology on a wider scale in the 1830s (Krieger, 2008:133). The period between 1810-1830 was a turning point in British civil engineering and dam construction in India. Local techniques were adopted on a wider scale as seen in the Coleroon dam under the auspices of Arthur Cotton and the dilapidated Jamuna canals first excavated by the rulers of Delhi Sultanate and later on the Mughals. Elphinstone reported that expensive embankments had been constructed on the rivers of Khandesh for irrigation purposes, and in Rohilkhand the local chiefs had built aqueducts “traversing corn-fields in all directions.” in the hilly regions, dams blocked streams (as quoted in Alvares, 1991: 54). The colonial authorities, at least, initially, sought to build on the know how of their predecessors, but did so with an eye on large water management projects. Existing structures were sometimes modified without adequately understanding their different functions. Colonial discourses of the period may explain British attitudes. European biases of the nineteenth century created something of a 'hydrological dichotomy'. British civil engineering is set apart from the natural environment and the local communities. The latter were regarded as bearers of inferior technology and, therefore, as an insignificant source of knowledge (ibid.). Hence, the British hydraulic regime was seen as superior to the otherwise local way of water management.

With the coming of the British, the understanding of floods also underwent a change. The new practice of colonial revenue administration in the latter half of the 18th century developed by the East India Company, had shaped the official perception about floods through an attempt to insulate the rivers, mainly of the Bengal Delta. It drastically reordered the Company’s codes of social administration. This led to a major shift in the thought processes which instead of perceiving annual inundation as a natural process, emphasised on treating natural phenomena as ‘calamity’. This shift
in the perception started when floods were seen as affecting the fields which was a major source of revenue for the colonial government in India. Thus the official perception recognised words like floodwaters were to be ‘controlled’, ‘regulated’ (Dutta, 2000). The colonial rulers were able to depict the local people as being trapped in their environment and climate in a state of ‘backwardness’ (emphasis original) that was held to be traditional and centuries old (Hardiman, 2008). In Bengal, dykes had been the usual response to floods, and tanks and reservoirs stored water in case rains proved scarce. Wells were a common feature; and even today, every village continues to have its own well. Where there were no rivers, deep extensive tanks, measuring from three to four hundred feet at their sides, were constructed, with a short temple alongside for adornment (Alvares, 1991: 54). But such people who lived in flood prone areas and their knowledge were shunned as ‘traditional’ and thus became obsolete in the face of superior technological knowledge. The hydraulic engineers, in their role as dominators of the rivers, became for the average farmer the immediate agent of that tyranny. There is no doubt that they destroyed the traditional way of living. Those ways had their own rationality, though it was often incompatible with the market and technological rationality the British imposed (Worster, 1992: 152). Public works were concentrated in Bihar, western Bengal, and the seaboard, whereas in the eastern part of the delta, embankments were not a major state activity. Railway embankments, however, were constructed in all parts of the delta (Roy, 2010: 12). Overall though, under the agenda of flood control, during the colonial recognition of flood as a calamity, the building of “embankments” was the first structural measure adopted. Hence, the measure adopted was mainly to deal with the submerging of revenue generating land. So, the ideology was mainly economic rather than social or otherwise. By the mid 19th century more such structural measures were constructed across Bengal, Bihar, Orissa and parts of southern rivers. As flood control went from a localised activity to a state sponsored one, the nature of flood relief followed a similar trajectory. Roy argues that this development cannot be simply dismissed as a ploy of colonial ‘governmentality’. Rather it was a reaction to the the lack of control that the state seemed to have over resources after disaster had struck (ibid.). From the five instances that Roy states, three of them affected revenue generation while two were politically strategic areas.
Roy's argument admittedly is restricted to the 'natural' disasters which affected the British and the indigenous people in equal terms. It does not extend to the man made disasters such as 'famine' which were restricted by and large to the indigenous poor. However, one can argue that the colonial government stepped in to address a disaster only when it hurt its own supply chain.

By the twentieth century, as experiences of flood control accumulated, it became increasingly apparent that embankments not only clogged drainage systems and magnified flood heights, but also were a substantial drain on the resources of the colonial government in terms of construction and maintenance (Mishra, 1997). As a result, in the early decades of the 20th century, the colonial government began abandoning its responsibility towards flood insulation. Such a shift not only marked significant departure from the initial colonial ‘flood control strategies’, it also highlighted the geomorphological fact that any flood control structure is an obstruction in the natural working of the river. This change in the colonial policy from ‘maximum’ to ‘minimum’ intervention is aptly captured by the famous report of 1928 Flood Committee (which was constituted in 1927) to inquire into the nature and causes of the devastating floods in Baitarni, Brahmini, and Mahanadi. The Committee also proposed that the majority of embankments be gradually phased out. Only those embankments which did not hinder the journey of floodwater to the sea were to be retained. Whereas the only ecologically viable, socio-culturally adaptable and economically appropriate policy would have been to remove all obstacles to nature’s working and thereby improve the drainage of the river. Hence, there was a shift from an economic perspective to a socio-cultural one. However, the recommendations of the committee were never, implemented. If on the one hand, the construction of embankments persisted due to pulls and pressures from protected enclaves, those staying in unprotected enclaves and semi-protected areas feared the fury of floodwater once the construction of embankments stopped, and therefore supported the embankment policy. When the British left India, there were some 5,280 km of embankments on rivers, of which 3,500 km were in the Sunderbans in West Bengal and 1,209 km along the Mahanadi in Orissa (Agarwal & Chak, 1991). While wisdom prevailed towards the end of colonial rule and minimum interference was advocated in the river flow, folk knowledge was already relegated to the background where it
would continue to languish despite its suitability and implementation in the context of India. Such elements of Western technology as were imported between 1850 and 1947 into India, were not really important as far as their actual contribution to the economy can be assessed. In the light of the events that took place in industrial production after 1947, however, they assume considerable importance and significance, in so far as they did determine in part the quality of the Indian responses as a whole to the question of Western technology after independence (Alvares, 1991: 177). It needs to be mentioned that freedom from colonial rule, did not necessarily imply freedom from colonial policies.

Hence, the British period marked the beginning of the end for the approach of living with floods. The intervention in river control was maximum in areas where flood and drought, resulted in disruptions in systems of irrigation and food production, heightening the fear of social unrest and revolt, and putting the security of the colonial government in danger (Swami 2003:120). Yet, in a politically strategic area like Assam of British India, the interventions in the Brahmaputra and its tributaries were at a bare minimum. This defied colonial logic on two terms. One, the area was politically sensitive and crucial for the British to consolidate their hold on the Indian empire. Second, the Brahmaputra valley was important for the recent discoveries of tea and oil were concentrated in the province. The next section will try to answer some of these questions and take up the history of flooding in the Brahmaputra valley.

The Brahmaputra Valley—Tracing the History of the Burhaluit

Assam was one of the last provinces to be conquered by the British. For a greater part

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2 The Brahmaputra is known by many names in Assam. The river which joins the Tsangpo in the north-eastern corner of India, was called Lao-tu (wide water) which later began to be called Lohit. The region through which it flowed, was called Lauhitya which is present day Assam (Nath 1948:2). According to the Imperial Gazette of Assam (Lakhimpur district)1976, the Brahmaputra river had two names—'Lauhitya', which is evidently a Sanskritised form of Tibeto-Burman name Luit. The word Lauhitya means in Sanskrit "pertaining to red", but it is in all likelihood just a Sanskritization of the Pre-Aryan Sino-Tibetan name. It is so called because of the fact that the river takes this colour during rainy season when it cuts through the red soils of the adjoining embankments. Today, Luit and Burha(old)luit are two of the most common Assamese names for the Brahmaputra. Lohit is one of the major tributaries which along with the Dibang join the Siang or the the Disang to for the Brahmaputra in areas near Sadiya in north eastern Assam. The river is referred to as Luit or Burhaluit in literature, music and in everyday language. Luit is also a common name for boys in Assam. Hence, Burhaluit is used by people in an everyday conversation far more than the Brahmaputra.
of the 19th century, the British expressed a kind of disinterest towards the province. Things changed drastically after the Burmese attack was thwarted and the treaty of Yandaboo was signed in 1826. It was a period of renewed colonial interest and a lot of British officers and travellers were keen to write the history of the province. The unexplored hill areas were a colonial anthropologist's delight because of the variety of tribes who lived there. Their ways of lives and manner greatly interested the colonial rulers. Another topic of burning interest was that of the origins of the Brahmaputra. Many expeditions were sent upstream to find the source of the river. The interest in the Brahmaputra led to documenting the origins of the river, its importance in mythology and its transnational character. Of course, transnational at that time involved Tibet and parts of present day Arunachal Pradesh, all of which were not a part of British India.

There is very little documented historical work on the Brahmaputra before the advent of the British. A reason for this could be that the Brahmaputra valley is an alluvial country where the impetuous, snow-fed rivers which flowed from the Himalayas found such little resistance in its friable soil that they constantly carved out new channels, eroded their banks and consequently no building erected in the neighbourhood could be expected to remain for more than a limited time, except at a few points like Guwahati, where rock pierces through the alluvium. This resulted in the destruction of a lot of copper plate inscriptions and the reason why very few memorials survived. There are traditions where it is said that Koch king Nar Narayan straightened the Brahmaputra near Pandunath, where it had previously run a very circuitous course. According to Muhammadan (sic.) writers, in 1636, the branch of that river which formerly flowed past Hajo is said to have dried up and this was conjectured to have been in consequence of the gradual enlargement of the channel cut by Nar Narayan more than half century ago (Gait 1926:21). Floods also had strategic importance in aiding and abetting invaders. In the Assam Valley, floods were one of the chief obstacles to the Mughal invaders; and the rivers in Sibasagar, where there was a large Ahom population, were protected by strong embankments. So neither floods nor protective structures new to the people of Assam. There is definite proof that the Ahoms built embankments in certain places to keep away the water. But with the disappearance of the native system of compulsory labour, these works were
allowed to fall into disrepair. But as is obvious, not too many written records about the Brahmaputra have survived from the ancient times.

The British attempts at record keeping and archival work became the single most important source to construct the history of the Brahmaputra. To analyse aspects of floods or the positive and beneficial effects of the changing course of the river, Ahom Buranjis, memoirs, diaries, traveller’s accounts and British archival records were used. All historical sources have their own bias and limitations. As Sharma (1998) puts it, historiography in colonised countries, had two identifiable trends. The first is where colonialism was an accepted phenomenon. The British historians and the Indian historians schooled in the British tradition followed this trend. If, at all colonial policies were criticised, they failed to analyse the impacts of these policies on the people. In such a scenario, colonial does not refer to just a time frame but to a basic conceptual framework and the techniques of history writing. Colonial, thus defined, Sharma argues continues till this date (Sharma 1998: 66). For their part, the British sources are rich in their description of the ecology and the environment — of the changing patterns, floods and disaster, as well as the material benefits of the river systems — they are for the most part state-oriented, the military and political concerns of the British empire are dominant and there is not much reflection on the views and perceptions of the people or the impact of disaster on them. Notwithstanding such bias, different sources have been used as a complement to one other to construct a view — disaster and dynamism — of the Brahmaputra.

Before, the onset of colonial rule, Buranjis³ had been in existence in Assam. These Buranjis were in the medieval tradition of annals and chronicles which were external records of the historical consciousness of that time. Buranjis have had such a telling impact on history in Assam, that history as a discipline is known as Buranji. It is also one of the few Ahom words that have found their way into Assamese. Edward A Gait and Surya Kumar Bhuyan⁴ made available these Buranjis to a larger audience for

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³ Buranjis refer to chronicles kept by the Ahom rulers. The earlier Buranjis were written in the Tai Ahom script. But from the 14th century, these have been written in Assamese. Buranjis have details of the Ahom advent into Assam and socio-political life in the Ahom kingdom to the 18th century.

⁴ Edward A Gait employed a young and educates Assamese clerk Babu Chand Golap Chandra Barua who was employed with the District Commissioner's office in Lakhimpur. Gait gave him a committee of five Deodhanis (Ahom priests) to learn the Ahom script which was written in characters derived from the Pali. It took three years to trace and translate the manuscripts. Surya Kumar Bhuyan undertook a massive task of translating all the Buranjis, thus offering a view into the Assam of the Ahom days. These scholars also laid ground for future historians to interpret these
further interpretation. Gait considered the *Buranjis* after 1228 CE during Sukapha's reign, as worthy of being considered a historical source. Prior to this, the *Buranjis* did exist but were full of accounts too 'far fetched' to be true.

The Brahmaputra or the Tsangpo or the Dihang or the Siang is joined by the Dibang and the Lohit before it enters the plains of Assam. The great river Burrampooter or Brahmaputra, was known to the ancient by the name Dyardanes, as it rose in the mountains of Tibet where it was called the Tsangpo and flowed first easterly, then westerly and finally in a southerly course into the Bay of Bengal where it joins the mouth of the Ganges. One of the earliest records had supposed the origins of the river correctly as mythology had clearly established the Tsangpo as the Brahmaputra (Arrowsmith 1839:628). But by the 18th century, the Lohit had been established as the main channel of the Brahmaputra erroneously. Not only this, the Brahmaputra was presumed to originate from the Brahmakund or the Parashuramkunda\(^5\) near Tezu in Arunachal Pradesh. While the legend of Parasuram's axe creating the lake like structure is prevalent, a lake had never existed. Prior to the 1950 earthquake, the river had been encircled by a rocky wall, such that it appeared like a lake. Post 1950, the walled in formation was destroyed. The present day Parashuram Kunda looks quite unlike a lake. Yet, every year in mid January during Makar Sankranti people come in thousands to take a dip in the 'kunda' and wash away their sins.

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\(^{5}\) The Parashurakunda has religious significance. Parasuram, an incarnation of Vishnu had murdered his mother. After this, he was unable to get rid of the bloodied axe with which he had killed his mother. He is supposed to have travelled all over the country in an attempt to get rid of the axe. He was finally able to do so in the Lohit near present day Tezu. Hence, this is a sacred spot and every *Makar Sankranti* thousands turn up to take a dip in the waters and attend the Mela thereafter.
With the coming of the British to Assam, the origin of the Brahmaputra became an obsession. While the treaty of Yandaboo had been signed in 1826, the earliest expeditions had begun almost a century ago. One of the earliest mentions of the Brahmaputra was made in Du Halde's account. The Sanpoo, or Thibet river, was supposed by D'Anville to be the same as the Irrawaddy in Burma. Orazio della Penna, writing in Tibet (1730), had stated that the river was then believed to join the Ganges, explaining (from such maps as were available to him in those days) 'towards Rangamatti and Chittagong.' A conjecture to the same effect occurs in Pere Regis's Memoirs On The Map Of Tibet, by, at the end of Du Halde's work. Giorgii in his Alphabetum Tibetanum (Rome, 1762), stated the Tzangciu, or Tzanga, was seven miles from the foot of Mount Kambala; and is crossed in the way to Lassa, about twelve miles farther on, either over a bridge, or in a boat. The bridge, was composed of iron chains that stretched from side to side, with planks or logs laid across them. The Geography of Tibet represented the Yarlung Tsanpo as rising to the west of Tsang (West Central Tibet), passing to the north-east of Jigar-Kungkar (south of Lhasa), flowing south-east some 400 miles, and then issuing at the south of Wei (or East Central Tibet) into the region of the Lokh'aptra, or the' tattooed people' (i.e.

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6Du Halde in his book 'The General History of China' volume 2 mentions about the Tsangpo and his cartographer D'Anville were one of the first to try and map it. D’Anville, an authority on the rivers of the region considered the Tsangpo of Tibet as the head of the Irrawaddy; the Brahmaputra having been unknown to him.
Mishmis); then turning south-west it enters India, and discharges into the southern sea (177-178). Major Rennell, who was a celebrated adventurer and cartographer had propagated the same notion in the 1760s. According to him,

’On tracing this river in 1765, I was no less surprised at finding it rather larger than the Ganges than at its course previous to its entering Bengal. This I found to be from the east; although all the former accounts represented it as from the north; and this unexpected discovery soon led to inquiries, which furnished me with an account of its general course to within 100 miles of the place where Du Halde left the Sanpoo. I could no longer doubt that the Burrampooter [sic], and Sanpoo [sic] were one and the same river, and to this was added the positive assurances of the Assamers “that their river” came from the north-west, through the Bootan Mountains (1788:78).’

Rennell's actual knowledge of the Brahmaputra extended only to 91 degrees east, a few miles above Goalpara, but his sketch of the probable entrance of the river from Tibet was quite close to the truth. He supposed the Brahmaputra, to enter Bengal on the northeast, and join the Ganges near the sea. In 1765, he traced the Brahmaputra about 400 miles above the conflux; that is, as high as the latitude of 26° north, longitude 91° east; where the Bengal districts end, and those of Assam begin. He was not permitted to go any higher to trace the river further. However, a few Europeans, engaged in the Goalpara trade, and amongst others, Chevalier, the late Governor of Chandernagore, by permission of the King, went as high up as the capital of Assam, about the year 1762: but was under a considerable degree of restraint, with respect to making remarks, either on the course of the river, or on the country. As M. Chevalier, however, went on a very large embarkation, it was obvious that the river was navigable for large boats, through a space about equal to the Ganges (Rennell 1788:90). In the course of his journey, he did speak with the locals to know more about the Brahmaputra. He further wrote that,

‘The Assamers informed me that the Brahmaputra has a long course previous to entering Assam and it comes from the north west through the Tibet mountains. The Lama's map of Tibet in Du Halde, describes the course of the Sanpoo to within 120 miles of the assumed situation of the capital of Assam: and still nearer to some parts of the Burrampooter that are known, and have been described by the Assamers. These facts, together with those respecting the Ava river and Nou Kian, establish (I think) the strongest presumptive proof possible of the Sanpoo [sic], and Burrampooter [sic], being one and the same river, under different names: and positive proof can never be obtained, but by actually tracing them; a circumstance unlikely ever to happen to any Europeans, or their dependants. The interval between the known part of the Sanpoo and that of the Burrampooter, is described by dotted lines, to Lassa, in the Lamas’ map is about 24° 17' west from Pekin, or 91 degrees 40' (Rennell 1788: 90-92).

But Rennell's efforts were not recognised immediately. In fact, his work was

7The Geography of Tibet in the 14th volume of the French collection of Memoires concernant les Chinois, a document compiled by order of the Emperor K'ang-hi, and issued in 1696.
criticised and was negated by subsequent expeditions. JP Wade (1805) was the first to
denounce Rennell's work. In Wade's Geographical Sketch of Assam he lists sixty one
rivers including the Berhampooter (Brahmaputra) and its two tributaries Dehing
(Dihang) and the Lootcheh (Luit). Wade supposed the source of the Brahmaputra to
be in the north east of Assam in a range of mountains beyond Nara. He believed that
three streams originated in Brahmakunda (Parashurmankunda). These were the
Sirilooicheh, Boodalooichech and Looicheh Gabroo-Looicheh or the Brahmaputra.
The Lootcheh or the Brahmaputra was supposed to be flowing in a westerly direction
through Assam and Kamrup. Based on the accounts of the natives, Wade dismissed
the possibility of the Brahmaputra being the Sanpoo in Tibet (Wade 1805:140). This
misconception continued well into the late nineteenth century. 'A Geographical Sketch
of Assam' (1805), where he discusses the sixty one rivers in Assam remain his
greatest contribution to the riverine knowledge of Assam.

Montgomery Martin (1838) was also quick to dismiss Du Halde, D'Anville and
Rennell's work as 'utterly founded on error' to have believed the locals and placed the
source of the Brahmaputra to the east and north east beyond the mountains of Nara.
He instead propounded his own hypothesis. According to him, Brahmaputra appeared
to rise beyond the mountains of Nara, through the tracts of Sadiya, through Assam
and to the confines of Bengal. About 120 miles east to Rangpur, at Doimoinamukh, he
supposed the Brahmaputra to divide into the Luit and the Dihing. William Robinson
in his A Descriptive Account of Assam (1841) concurred with the view prevalent at
that time of the Luit being the main stream of the Brahmaputra. He identified the
Dihang, Dibang and the Luit as all contributing to the Brahmaputra but remained
sceptical of the narrow Dihang being the actual wide Tsangpo that flowed from Tibet.

Francis Hamilton (previously Francis Buchanan) discovered the width from the
Brahmaputra to the northern frontier to be, on an average, about one and a half day's
journey, or about 25 miles. He used Wood's survey, to ascertain that about 104 miles
above Gohati (sic.), the Brahmaputra divided into two branches; of which the
northern is by far the greatest, and preserves the name, while the southern was
presumed to be the Kolong. He supposed that these two branches separate at
Arikatarmukh, and rejoin at Kajolimukh ninety miles below, leaving between them an
island, which by his informants was reckoned five days' journey in length, and about
one in width (Hamilton 1940: 35). Hamilton disbelieved his informants and opined that at the above mentioned place Brahmaputra flowed from the north to south, and descended to this island from the mountains and continued to flow to the plains at the place called Brahmakunda. The people of Asam believed that the Bara or Great Luhit river originated from the same Brahmakunda that gives rise to the Brahmaputra, or the Sanpo of Thibet, flowed into. He also observed, that, as the western branch of the Erawati, or river of Ava called Bara Luhit by the Asamese or Lusit, so the Brahmaputra, proceeding from the same place, in their common language was called Lusit or Luhit. In Sanskrit it was called Lohitya, as well as Brahmaputra. The former name seems to be an alteration of Luhit, in order to give it a meaning in the sacred language. From this he inferred that the Brahmaputra and river of Ava communicated by a branch scarcely inferior in size to either river; but thought it to be probably incapable of being navigated, on account of its rapidity near the place of separation. For the Dihang, Hamilton supposed that the Luhit or Brahmaputra seemed to have forced its way, having separated into two channels at Tikliapotar. The southern branch, although now the principal channel of the river, was presumed to be the Dihing, because it occupied the ancient channel of that river, while the northern branch; commonly called the Buri or old Luhit, or *Boree Lewit* according to Major Wood was considered as the proper Brahmaputra (Hamilton 1940: 77-79). Hamilton did identify the Dihang as a stream of the Brahmaputra, but failed to identify it as the principal one. Rather based on the accounts of the locals in Assam and Wood's account, he remained steadfast in his belief that the Luit was the principal stream of the Brahmaputra.

Attempts to trace the Lohit in reality were made at various times-Wilcox and Griffith in the early part of the nineteenth century; then Rowlatt, and, in 1869, Cooper. Of these Wilcox reached the farthest point, the Ghalum river. In 1854, the French missionaries Krick and Boury penetrated as far as the Zayul valley, in which Rima lies, but were murdered by Mishmis the same year. In 1882, the great traveller A-K carried his explorations down the Zayul Chu as far as Sama, a few miles below Rima, and prior to this certain influential Khamtis had on three different occasions traced the river from Assam up to Rima. In 1885 an attempt was made to prove that the Zayul eventually found its way, not into the Brahmaputra, but into the Irrawady.
The following year the ground was cut from below this theory when Needham and Molesworth followed the river up to within a short distance of Rima. None of these travellers gave a reliable map of the region, and it remained unvisited for the next twenty-one years (Williamson 1909:364).

![Figure 2: Unknown section of the Brahmaputra (Bulletin 1906: 301)](image)

Even after four decades into Assam's annexation by the British the Tsangpo-Brahmaputra conundrum remained unsolved. The presence of the hill tribes and the Tibetan's dislike for the British had make this task even more difficult. The official records were of the opinion expressed as such,

'The Council trust that the Indian Government will now see their way to carry out this exploration, which is of extreme interest and importance, on the following grounds: By it would be finally settled the question of the connection of the Sangpo of Tibet with the Dibong (Brahmaputra) of Assam. If these falls (which are said by the Tibetans to exist) should be discovered, much light would be thrown on the geology of the region. In particular we might expect information as to the structure of the country traversed, and the relation borne by the vast Himalaya ranges to the elevated plateau against which they abut. Nothing is known at present of the tribes who inhabit the tract through which this part of the river passes. Valuable collections of the fauna and flora would probably be obtained. It is possible that a good route might be discovered leading from Assam into Tibet by the great river; such a route would have much importance in promoting British trade with Tibet (Society 1906: 301)'.

When all means failed, the British decided to undertake a series of espionage attempts. Under the guidance of Colonel Montgomerie and General Walker, a scheme was devised to train Indians in the rudiments of the geological Survey at Geological Survey of India, Dehradun. The Indians selected had mongoloid features and could speak Tibetan. The men were taught to undertake basic survey work using improvised
instruments and techniques, and record them concisely. The techniques used to keep these records included giving them rosary with a hundred beads instead of the hundred and eight Tibetan customary beads to keep a count of paces. The prayer wheels were modified to keep a prismatic compass with hidden notes inside it and rolls of paper to take notes. They also had thermometers to measure the boiling point of water and compute altitudes by that means. They were also taught to recite their findings as though reciting their prayers. With a complete new identity and blending into the Tibetan environs, nobody could realise that these men were not Buddhist monks. This band of men were sent on several expeditions to survey the area, unlock the mystery of the Tsangpo–Brahmaputra course, and to bring back geographical, and political information which would further the British imperialist ambitions. While these men were not scholars in the strictest sense of the word, they were referred to as 'Pundits' and referred to in the Survey of India annals by code names. Nain Singh was S.N., Kishen Singh was A.K., Mani Singh was G.M. and so on (Dutta 2001:37-38).

Nain Singh entered Tibet in 1865 from Shamsung and reached the Tsangpo after crossing the Nolan pass. He trekked 2,400 kilometres westward bearing with him invaluable records. He followed it with many other forays into Tibet, his last and great journey being in 1873 when he followed the Tsangpo eastward into Assam. He charted a crude map of the Tsangpo from its source in Chema Yungdung glacier unto the south of Lhasa. Kishen Singh was by far the most adventurous of the Pundits. In 1872, he undertook a circuitous route in his first trip. On his second trip he reached up to Mongolia via Taklamakan desert and Kinsu, where he was almost killed. The mentors in India had given up all hope, when he returned alive after three years. He crossed the Yangtze, Mekong and the Salween and established the course of the Irrawady and hence, prove conclusively that none of them could be the Tsangpo. In one of the mentors recollection, the route Nain Singh used was used by Captain Bailey who went on to establish the Tsangpo and the Brahmaputra to be the same.

During the meetings of the Geographical Society Trotter recounts,

“When I first went out to India fifty years ago the great geographical question of the day was: What became of the Tsangpo river? Some few years later, in 1874, when returning with the Forsyth Mission from Kashgar, I had the satisfaction of sending off Nain Singh, the famous pundit, on his well-known journey to Lhasa, and I recollect giving him instructions to proceed to Lhasa, a distance of 1200 miles from his starting-point at Leh, and thence to pursue a south-easterly course, and, if possible, follow down the Sangpo river to India. He got to Lhasa and struck the great river in a hitherto unknown portion of its course near Tsetang, in the north-west
corner of the map. He fixed roughly the course of the river for about 30 miles below that point, but was forcibly prevented from following it any further, and returned to India from Tsetang by the same route that was recently followed by Captain Bailey's party on their way home, and I have this evening, to my great satisfaction, heard from Captain Morshad that Nain Singh's route survey was of great use to him, and had saved him a good deal of work, especially in bad and unfavourable weather. Various but unsuccessful attempts were made later on by the Indian Survey at different times to solve the problem. One Pundit succeeded in tracing the river from Tsetang to Gyala in about 95 kilometres long in the north-east corner of the map, but his survey work was somewhat unreliable. Again, some years later another Pundit, A. K., was employed on the same quest, and, although unable to follow the Tsangpo, passed north and east of the point where the great river is now known to turn to the south, and, then proceeding by a long detour to the south, was able to prove that no big river passed through the mountain ranges north-east. This convinced the Indian authorities of the moral certainty that the Tsangpo did flow into the Brahmaputra, and not into the Irrawadi or even the Yang-tse Kiang, as had been conjectured by various authorities (Trotter 1914:363)."

These Pundits were instrumental in getting the geo-physical evidence which dispelled the various myths of the Tsangpo. By the means of trial and error, the puzzle of the Brahmaputra begun to be completed. The source of the Tsangpo and the topography of the Tibetan plateau were charted out. A process of continuous elimination resulting in discarding the theory of most rivers in the region being the Tsangpo and the Dihang became the most likely successor of the Tsangpo. Kinthup or K.P. (a Sikkimese explorer) spent four years from 1879 to 1882 in Tibet. His mandate was to travel in disguise as far east along the Tsangpo and cult and float specially marked logs down the river. On receipt of the news that the logs had been desptached, survey officials would keep watch on the lower reaches of the Dihang for these logs. This would prove conclusively that the Dihang was the continuation of the Tsangpo. However, due to a twist of fate, there was a time lag in his sending the logs. H.J. Harman had kept watch for two long years, waiting for the logs to arrive. When Kinthup finally sent the logs, the vigil had been abandoned. Kinthup returned to India after four years, but no one was ready to believe his tale. This deprived him of the honour of being the first person to establish the link of the Tsangpo to the Brahmaputra.8

The British continued to make quite a few expeditions up the Lohit, Dibang and the Dihang. Needham travelled up the Lohit in 1855-56 and proved that neither the Lohit nor any in Myanmar could be the Tsangpo. It was Needham again who trekked up the Dihang to conclusively establish that it was the only possible southward stream

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8 Arup Kumar Dutta's 'The Brahmaputra' has a detailed account of this expedition. The loyalty and courage of these brave men to complete the missions they were entrusted with lead the British to develop authentic maps of Central Asia.
of the Tsangpo. Rennell was almost vindicated when this began to be accepted. However, till the 19th century, no one had succeeded in tracing the entire course of the Tsangpo-Brahmaputra. The segment from Pemako and Onlet which had been reached by Kinthup, to the point where Needham saw it enter India, was not accounted for. The question which remained unanswered was how did the Tsangpo which disappeared into the high eastern mountains at around 3657 metres above sea level, enter India at around 300 metres? How did the river descend such a height at a distance of barely 200 kilometres? And the question of did the world's highest waterfall exist haunted the British even then. All these questions were answered only in the twentieth century.

By the twentieth century, the Tibetans had grown less wary of the British. In 1913 Colonel F.M. Bailey and Captain H.M. Morshead undertook an expedition from Mipi above Sadiya. They discovered the Gyala Peri peak, across the Namcha Barwa mountains. They also discovered numerous rapids and deep chasms but no water fall exceeding ten metres in height. There was a difference of 39 years between Nain Singh and Bailey's trip to trace the Tsangpo. In Bailey and Morshead's account;

“Near the Indian frontier we had some trouble, as the road had been carried away by floods, and we were obliged to ford one stream thirty-two times in a day's march. Our last day's march was mostly over the plains of India, and part of it was done at night in a buffalo-cart. We reached Rangiya station at 2 a.m. on November 15, after a journey of about 1680 miles from Mipi, which is itself fourteen days' march from the railway opposite Sadiya.

The chief geographical results of our exploration were as follows:
1. The mapping of some 380 miles of the Tsangpo, which had previously only been done by untrained or unreliable explorers.
2. The mapping of the lower course of the Nagong Chu.
3. The discovery of Gyala Peri, a snow-peak 23,460 feet in height, and of the glaciers on it, and on Namcha Barwa, the peak on the opposite side of the river.
4. By taking observations for altitude on the river where it breaks through the Himalayas some information regarding the enormous drop in the river has been gained, and the falls reported to be 150 feet in height have been proved to be merely an exaggerated rapid of 30 feet.
5. The upper waters of several branches of the Subansiri have been discovered, and the fact that this river rises north of the Himalayas and breaks through the range in several places has been established.
6. In the area which Capt. Morshead surveyed were many snow-peaks, mountain ranges, and rivers. The two largest of the latter, which were previously unheard of, are the Chimdro and the Nyamjang. Several large towns were visited, and the size and importance of Tsetang and Tsona had not previously been realized. In addition to the geographical results, small but interesting collections of mammals, birds, and butterflies were brought back, among each of which were new species (Bailey 1914: 359-60).

This expedition was not an officially sanctioned one as the hills of Assam were
considered out of bounds for British nationals. Hence, it was a private expedition funded for by private resources. Despite this, Bailey received the Royal Geographical Society's gold medal and a flower, Blue Poppy, as well as a species of butterfly were named after him. Holdisch of the Royal Geographical Society while congratulating Bailey mentioned that the great feature of Captain Bailey's exploration was not merely confined to geographical discovery. It was also important to know the most primitive tribes, and to unravel some of the problems which are to be dealt with in studying the ancient history of humanity in Asia. Of particular interest were the Abors (Adis) and the Mishmis and the Daflas (Nyshis), and those other illiterate and savage (sic.) tribes who inhabit the buffer land between Tibet and India (Holdich 1914:362)? The need to classify the people in the lesser known parts of the colony compelled others like Waddell to take up these causes.

After the Bailey-Morshead expedition, only about eight kilometres of the course between Pemokchung and Lagung where the river took the great southward bend remained unmapped. This stretch was finally mapped by soldier botanists Kingdon Ward and Earl Cawdor in 1924. Moving along the south bank of the Tsangpo, they reached the place called Pe at the point where the river began its southward bend. The tributary Po met the Tsangpo at Pe. The river became so narrow at this point, that it could be crossed by a cane bridge constructed by the locals. They saw a thirteen metre waterfall, the highest so far and called it the Rainbow Falls. Having crossed the cane bridge, they undertook a two days climb and reached a higher spot, where they were startled to see the Tsangpo flow 4,000 feet below. Following its course, they discovered the wide arc which the river made while taking on a southerly direction and noted that the river came down through narrow gorges in the mountains (as narrow as three to four metres), in a series of low rapids and cascades descending at a rate of 400 feet per mile while skirting the twin peaks of Gyala Peri and Namacha Barwa (Duuta 2001:49-50). This, was the fitting end to the greatest mystery that shrouded the Tsangpo-Brahmaputra. The British dream of discovering the world's greatest waterfall or establishing an alternate trade route to western China remained unfulfilled. But the undertaking of these expeditions opened up the north eastern frontiers of India to the British even more.

British anthropologists, doctors, priests and administrators were fascinated with the
many tribes and groups who inhabited the Brahmaputra valley. They were of the opinion that these 'primitive' tribes needed to be observed and their lives documented before they were taken in by the Assamese way of life. Waddell was one of the first to document the demography of the region based on the reaches of the river. He perceived the history of the province prior to the British occupation, to be that of one long tale of violent inter tribal conflict, invasion and cruel exterminations (Waddell 1986: 2). The rich fertile central valley and its chief tributaries seemed to have attracted the more powerful tribes from the mountains. On leaving the resilience of their hills; however they exposed themselves more freely to attack. Their comfortable living inevitably resulted in their degeneration and absorption by the older settlers in the plains, eventuating in their being conquered sooner or later by a more active horde of mountaineers, who again in their turn succumbed in like manner to a fresher batch of invading hill men. This process which seems to have been going on from time immemorial has resulted in considerable mixing of races in the central valley; whereas the mountain tribes appear to have retained their purity of stock to a much greater degree (Waddell 1986:9). The Brahmaputra valley in this way was similar to the western frontier of the country where every subsequent group established their supremacy to be overthrown by another group. But the diversity in terms of race in the Brahmaputra valley interested the British who were keen to classify the many groups and communities. EA Gait, WW Hunter and BC Allen were the pioneers in this regard. Their accounts of the river valley and its people yield valuable information about the interest and perceptions about the colonial administration. They began with the origin of the river. The Tsangpo which was eventually identified as the Brahmaputra along with with their countless affluents and distributaries, were heavily laden with silt, much of which was deposited in times of flood in the neighbourhood of their banks. The slope of the country was thus always away from, and not towards, the river channels, and the water in the numerous cross–channels flowed from and not into the main streams. A mighty volume of turgid water thus spread over the country, until it found an exit by fresh drainage channels, leaving the silt behind, (Allen et al. 1993:4). Allen contributed to the Imperial Gazetteer of the Bengal province and later modified to suit the Assam province. The description in these gazettes provide a wealth of information about the river, the
topography, the vegetation and the people in these areas. To quote Allen,

“The Brahmaputra Valley is an alluvial plain about 450 miles in length, with an average breadth of 50 miles, shut in, by hills on every side except the west. In its lower portion it lies almost east and west, but in its upper half it trends somewhat towards the north-east. The Brahmaputra flows through the centre of this plain, and receives in its course the drainage of the Himalayas on the range, and the Assam Range on the south. The principal tributaries on the north bank are the Dibang, Dihang, Subansiri, Bhareli, Dhansiri, Barnadi, Manas with its tributary the Ai, the Champamati, Saralbhanga and the Sankosh; on the south, the larger affluents are the Noa, Buri Dihing, Disang, Dikhou, Jhanzi and another Dhansiri. A short distance below the junction with this Dhansiri a considerable body of water separates itself from the Brahmaputra, and, under the name of Kalang, flows with tortuous course through Nowgong district, rejoining the main stream 10 miles above Gauhati. The Kalang receives the Kapili which brings to it a larger part of the drainage of the Mikir, the North Cachar, and the Jaintia Hills, and the Dignu from the Khasi Hills. Below Gauhati the most considerable affluents on the south bank are the Kulsi and Jinjiram. The valley, as a whole, is a plain of fairly uniform breadth, except in the centre, where the Mikir (Karbi) hills project from the main mass of the Assam Range, almost up to the southern branch of the Brahmaputra. Between Tezpur and Dhubri there are outcrops of gneissic rock above the alluvium, even on the north bank of the river, and the central portion of Goalpara district is much broken by ranges of low hills; but elsewhere there is little to interrupt the even level of the plain” (Allen et al. 1993:18).

The description of the river and its vegetation makes it easier for the reader to understand the province as it was seen in the nineteenth century. The Brahmaputra, through the greater part of its course, is bounded on either side by stretches of marsh land covered with thick grass jungle, interspersed here and there with patches of mustard and summer rice. Farther inland the level rises, and there is a belt, usually of considerable breadth, of permanent cultivation. The plain is covered with rice–fields and dotted over with clumps of bamboos, palm and fruit trees, in which are buried the houses of the cultivators. The British were also taken in by the beauty of the villages in the valley. They described the villages in the plains as scattered clumps of houses, embedded in dense groves of bamboos and fruit trees. But they also observed that in the flooded tracts the cottages were often huddled together on sites which were artificially raised above the known flood–level. In the hills the villages were generally built on open sites near the summit of the ridges. The rice–fields were interspersed with groves of feathery bamboos, on every side are pools, rivers, and woods, and in the wilder parts nature is seen freed from the restraining hand of man. The slopes of the lower hills were covered with forests, and the rivers that debouch upon the plain flowed through gorges of exceptional beauty.

In terms of rainfall the British had found no equal anywhere in India. The Imperial gazettes described the entire province to be blessed with an abundant rainfall. It needs to be noted that while rainfall was unfavourably distributed occasionally, failure of
the monsoons and the famine associated thereof were unknown. This plentiful rainfall aided agriculture. The climate, the soil, and the river systems were favourable to cultivation, and such a calamity as famine or even scarcity were practically unknown (Allen et al. 1993:7). The land of the delta was enriched by yearly deposits of silt; and, in spite of the presence of great number of rivers, several of which were of enormous size, the damage done by flood was noted to be seldom serious. Hence, while floods were known to have been prevalent, they were not perceived to be disastrous. The rainfall, was heavy everywhere, but in certain places was immense, and the rivers were frequently unable to carry the torrents of water suddenly precipitated on their catchment areas. The British also noted that except in a few places, where the high bank came down to the water edge, the floods of the Brahmaputra rendered a broad belt of land on either side of the river unfit for ordinary cultivation in the rains, and a considerable amount of local damage was sometimes done by the spill water of its tributaries. Assam was liable to earthquakes the province being in a high seismic risk zone. The shock of 12 June 1897 wrecked all masonry buildings in Shillong, Sylhet and Guwahati, and upwards of 1600 persons were killed by falling houses and landslips (Allen et al. 1993:5). During this time, there was a marginal presence of the state or charity, and greatly activated labour and grain markets. However, there were much better information flow (than during the earthquake twenty years ago), due to press reports in Calcutta. Thinly inhabited, Assam experienced relatively low mortality. But despite that, the information for Assam was available probably because Assam was a politically important territory (Roy 2008:276). Hence, there are several accounts for the 1897 earthquake. It was also realised that the earthquake of 1897 in some way affected the drainage channels and levels of the country; and ever since floods, especially in Lower Assam, became longer and more intense. Large tracts, which used formerly to bear rich crops of mustard, began to remain too long under water to admit of seed being sown; and special works were rendered necessary for the protection of Goalpara and Barpeta, as after the earthquake these towns were found to be below the flood-level. The condition of Barpeta had been improved by drainage works, in which people co-operated without payment (Allen et al. 1993:25). The massive earthquake that struck on 15 August 1950 had far reaching consequences on the Brahmaputra and its
tributaries. According to an eye witness's account,

“The earthquake struck without warning an hour after dark on the night of 15 August 1950; that is, at about 8 p.m. local time. There were no preliminary tremors unless a slight, an almost imperceptible jolt immediately preceding the main shock can be called that. We reckoned that the main shock lasted five or six minutes. It was certainly of long duration and extreme violence, the motion being vertical, as though the crust of the earth were caving in, but found difficulty in getting through the hole. The illusion of everything falling down an immeasurable shaft was, of course, heightened by rocks pouring down the mountain sides all round us with a fearful clatter (Kingdon-Ward 1953:172).”

It was this earthquake which had an impact so severe on the Brahmaputra that the behaviour of the river changed completely in the years to come. This issue came up in a lot of interviews when the changed nature of the Brahmaputra floods were discussed. So while earthquakes had been a serious disaster for the British, floods in the Brahmaputra were never taken very seriously. There could be a number of reasons for this distinction. The first is the existence of riverine structures even before the British annexed the state. The Ahoms had built embankments especially around their capital cities of Sibasagar. Even the Koch kings had diverted the river on certain occasions. These structures were maintained by compulsory labour. Hence, they served their purpose. But with the advent of the British, these fell into a state of disrepair though the Imperial gazettes did emphasise that steps were taken for the restoration of the embankments built by Ahoms.. The second, is that the same rulers who were busy digging canals in undivided Punjab and building a network of embankments on the Mahanadi, Kosi, Ganga and damming rivers across the Western ghats and Bengal, were reluctant to make structural interventions in the Brahmaputra. In Assam, the main sources of revenue for the British were tea and oil. The tea gardens were on elevated grounds which were rarely, if ever, flooded. The same was true for the oil wells. Both the tea gardens and the oil wells were located largely in the southern banks of the Brahmaputra. A third reason was the geopolitical location of Assam. Its proximity to Tibet and China made the British very wary. Their primary obsession with the Brahmaputra was in the hope of opening up a new trade route to western China. The various expeditions were on the source of the Brahmaputra, but not to interfere in the Brahmaputra. The two banks of the river were never joined. Hence, very little technological input was invested in areas other than the southern side of the Brahmaputra. A third reason was that riverine trade upto Calcutta was by means of the river. Almost all the major cities and towns in the valley and East Bengal were on the
River. Riverine transport was also a cheap way of transporting goods. Although the river Brahmaputra formed the highway of communication, navigation along the river before the advent of steam was always uncertain and at times extremely hazardous (Barpujari 1960:1). With the coming of the British and the steam engine the river was far more navigable when in spate. There is an intimate connection between floods and business. High floods and low business go hand in hand (Ballou 1885:1160). Valuable timber could be sent down the river, the same technique which had been followed by the earliest explorer of the source of the Tsangpo in Tibet. So while the earthquakes in Shillong and Guwahati were a cause of major concern, floods were understood as routine. Since the province was thinly populated, floods did not cause much damage. It was also seen as a routine phenomenon without calamitous effects. In the case of the Brahmaputra, unlike elsewhere in colonial India, large scale structural interventions such as embankments began post independence, an issue that has been dealt with in detail in chapter 4.

This section used the written sources of history to build a picture of floods in the Brahmaputra valley. But archival sources have limitations. They are based solely on the written word such that anything unwritten is excluded. The practice of writing history advantages the one who has the power to write. In doing so, cultures where the written word was secondary or non existent tend to lose out. In the case of Assam, Buranjis were an important source of knowledge. But the Buranjis were introduced by the Ahoms. The many communities who inhabited the hills and plains of erstwhile Assam prior to the advent of the Ahoms, had their own languages and customs but not a script. These communities passed on history orally. As Kanak Kuli (2010) writes, the Misings have always had a rich language but lacked a script. As a result of this, literature or history could not be codified. The Misings passed on knowledge orally with the result that their versions are not held in the same vein as the more established and codified accounts. The Misings are a riverine community who lives on the banks of the Brahmaputra and Subansiri and many smaller rivers. They experience rivers and floods closely. The history of the floods and the Brahmaputra would remain incomplete without the history of riverine communities and others in the Brahmaputra valley. The knowledge of generations of people who have lived with nature at its closest forms a large part of what can be termed as folk knowledge, traditional
knowledge, or indigenous knowledge. The logic of including knowledge of the common folk is only fair for a study such as this one which is rooted in constructivism. The next section discusses the findings which I acquired from people that helped me understand the Burhaluit as a socio-cultural entity, a living legend.

**Riverine Historians- Valuation And Application Of Folk Culture**

The idea of a river as a cultural entity was replete in the beginning of civilisation. People and communities who lived along the river and in the flood plain were not immune to the river. In the absence of technology, the earliest inhabitants tried to live with their environment in a manner which ensured least harm to them. They feared things they did not know or understand and subsided these fears through obeisance and myths. People try to make meanings of things around them and in the absence of complete knowledge, they come up with myths. Apart from the feelings of fear of the unknown, there was a symbiotic relationship with what was known in their surrounding.

Folk narratives form an important part of oral history which not only provide a cohesive force to the community at large but also reflect sharply the process of ethnicity formation. Most of the time they come in the form of myth; yet myths are not always mythical. At times they provide a base for social solidarity (Gogoi, 2004: 33). Myth may be 'mythical' in our perception but to the native it is a living reality (Malinowski, 1932). Myths in a folk narrative are an essential and deliberate presentation although they carry a fictional overtone that diminishes and limits their realism. This lack of elements of reality seems to be deliberate because the logic of realism is not important here. Inspite of its fictional overtone, a folk narrative reflects social reality. Folk narratives are basically social experiences and the reflections of these experiences are mostly prescriptive in nature. They often reaffirm and restore moral values and common loyalties of the group (Gogoi, 2004: 33). Folk language is highly literary and harmonious, rich in analogies and metaphors, numerous fairy tales and stories of mocking imagination.

Oral literature is a great and legitimate part of any literary and cultural heritage, the first human perception expressed and preserved in language, it can serve as one of the
most valuable sources of information about people and their lifestyles. Family lore, ballads, superstitions etc., passed on through generations, opened a window on how people in the past thought about themselves. It is upto the researcher to be able to be discerning in the interpretation of oral literature (Singh 2004:45). Mainstream history is often criticised because of its lack of inclusiveness. This is not to say, that one should unquestionably accept popular wisdom as such or be misled into believing that “people are always right”, because that is neither true historically or socially (Borda, 1988:69). Yet one cannot deny that it is through feelings one can understand the primal forces of people's culture and symbols. They are like an affective logic. Sentiment as affective logic sharpens the people's imagination in a chain of successive effects which are expressed creatively in a thousand and one ways. The oral histories of water and political rule are, then, those of people experiencing ecological and rural marginality, engaged both in struggles over scarce resources even as they are caught in the paradox of articulating subalternity in the idioms/ practices of royalty and privilege (Mosse:214). People's version of history was recorded in the form of myths and folklores. The recovery of people's history was done through the rendering of selected events concerning floods in the past, which the people of the villages and regions were able to produce through their own collective memory, individual recollections and oral tradition, as well as through documents and objects found in family trunks and coffers. The people's history, was different in its emphasis and meaning from the academic or university version (ibid). The Misings after having discovered the importance of the written word have begun to codify their own history. But even more important they have begun to recall the rich oral tradition that has been their source of identity. The creation myth of the Misings is shared with all the Tani tribes. Creation myths or their parts have been transcribed in the first place to certain commonness and then establish the extent to which they embody the characteristics of oral culture. Not surprisingly all of them have water, earth, sun, moon , air and other phenomenon, narrated in their own ways or modes but more prominently the narrations highlight how man has come to be created and how their own groups or societies have been created with some heroic figure, for an ancestor or forefather (Nagaraju 2004: 143). This is no different for the Misings.

Abotani, the forefather of the Tani group (to which the Misings belong), who was
born to Ngayu Tani and Chiwa Chite. He was a handsome man with a powerful body and plenty of wealth and knowledge. He knew no sorrow and pain (Nagaraju 2004: 144). The Mishings regard the Sun (Doynee) and the Moon (Polo) as their ancestors. They regard the Moon as their father and the Sun as their Mother. And therefore in any ritual performance, they first recite the name of ane’ Doynee (Mother Sun) and Abu Po: lo (Father Moon). As per their legends (Pegu,1956:II), Kiling-Kange was the original abode of the Mishings (now in the Adi area of Arunachal Pradesh) from where they came down to Regi-Regam and spread to the South. On their way down from the hills, they were confronted with a rapid (gili) stream with extremely steep banks on either sides. Their effort to cross the stream having failed, they began to worship the Sun (Doynee) and the Moon (Po:lo), their generators. One day, they found two huge creepers of golden colour (Maying and Mankong) growing by the bank, which, on cutting formed a bridge across the stream. These creepers they usually refer to as two golden ladders by which their forefathers came down from heaven (Kiling-Kang). Shedi Babu (Father Shedi) according to them, is the creator of all animates and inanimates. His predecessor - Pudolondo-the Divine one, emerged out of Infinity (Tapapumang). Shedi Babu first created the Melo-Nane (Mother Melo). All others on the Earth are created by Shedi Babu and Melo Nane. Accordingly, the Mishings trace their clan organisation. Legends in this context are collected by Payengkataki (1935) around the rivers Siang and Subansiri of Arunachal (Mipun, n.d: 16). The Misings have more folksongs and prose narratives related to the river. Besides the Subansiri and other tributaries, Brahmaputra reigns supreme in these renditions. The Mibu-abong or Mantras of the priest are with reference to the Siang. In the mantra it is narrated how Mibu crossed the great river by constructing a boat and reached his destination. There are Mising legends narrating the tale of their migration from the hills to the plains in the wake of an inter clan conflict. The family of Yakko and Ber came down to the plains by boat and settled down. There is also a legend associated with the origin of the name of the Siang river. ‘Si’ in Mising and other Tani languages means water and ‘yang’ means dead body. The dead body refers to the corpse of Tusung, the legendary hero, who was drowned by the Dihang river which since that day is known as Siang (Boro, 2010: 152). Many folk songs are based on the river. An interesting feature which can be noted in the relationship of the
Mising with the river is that of love which is human and not divine (ibid.). This is unlike the songs on many other Indian river which are steeped in religious feelings and where the river is sacred and divine. Siang, Silli, Siyom, Siji, Sissi, Silla, Siripaani, Kamsi, are rivers in the Mising inhabited areas on the northern bank of the Brahmaputra. ‘Si’ in Tani means water. The river which marked the end of the kingdom of Kamrupa was called Dikrong. Dikrong is comprised of two Tani words. The Assamese meaning of Dikrong is 'a pure spring that comes gushing from a high mountains'. This is supposed by Kuli to be the first Mising word as also a river name which was committed to a script by Sanskrit scholars during the Mahabharat era. This also proves the existence of the Misings in Kamrup valley at the same time. On the south bank, rivers from Sadiya to the Parashurmakunda have rhythmic Tani names which have been replaced by more Sanskritised names. Abonari is better known as Subansiri, Dingri as Jiadhol, Dimong as Dimou, Siji as Gainadi, Siang as Dihang, Silla as Jalakiasuti, Kamsi as Kaanibil. According to Mising folklore, the east flowing river which originates at the glacier near the Mansarovar (Kajeng Siyeng) is known as the Tsangpo (Kuli 2010). Ironically, Kuli utilises the very same source of knowledge which the British could not dream of trusting to establish the origin of the Brahmaputra. In fact the word Tsangpo, Kuli argues, is not Tibetan in origin. It is comprised of the Tani words Siyeng (snow)+Assi (water)+Bitsang (flowing)+Kampung (white) = Sisangpo or Tsangpo as is better known. This nomenclature is direct proof of the myth that it was along this Tsangpo river (known as Tsiang in present day Arunachal Pradesh) that the Misings came from the Bamiyan province in western Tibet towards the east. Crossing this Siang river has been captured by a Mising folk song as,

Pousina Poutang Amo: Moyang
Siyangbhou Berkong Amo: Moyang

which can be translated as just as a wild fowl jumps, the Misings had crossed the Siang from their original homeland in Tibet. There are similar folksongs for the Abonari or the Subansiri which express how the Misings have lived for generations on the gold yielding sands of the Subansiri. The Misings share a very close relationship with the Abonari. It is impossible to think of the Misings society, religion, work and culture away from the Abonari. This association with rivers and
riverine life continues unbroken till now. The Mishings villages are situated along the river courses of Upper Assam. The distribution of villages along the courses of the rivers Brahmaputra, Subansiri (Abonari for the Misings), Dishang, Dihing and their tributaries indicate the immigration of the Misings. The Mising villages are founded in a haphazard manner without proper planning (Mipun). The Misings build their dolong or village on the bank of a river. It comprises some 15-40 houses. The front side of the houses generally faces the river. The houses of the Misings are on piles, about 4ft. to 5ft. above the ground. The level for the floor is obtained from stilts. It may be made of wood or bamboo. On the stilts, they build the floor with thick bamboo splits. The platform forms the main house which is walled by matings of split bamboo. Thatch, bamboo, cane and reeds like ikora and khagori (locally available reeds in the Brahmaputra valley) constitute housing material. These material grow abundantly in the alluvial soils of the rivers (Dutta 2010: 146). The people grow three types of paddy, that is, Sali, Ahu, and Bao. Ahu is sown in winter and harvested by July before the floods come. As informed by the villagers under study, Bao (suitable for marshy and swampy land), was the only paddy cultivated by them prior to the Independence of India. Baodhan grows even in waterlogged fields and can be cultivated in low lying tracts along the banks of the Brahmaputra. This variety is sown by the end of February and harvested by December. Though in the monsoons, the flood waters sink the river bank and deposit silt for about three months, yet the forests are not destroyed. The Misings depend on the forest for their existence and it is the Brahmaputra which sustains these forests. The silt deposited helps in the growth of flora which is essential to the Mising way of life. The Misings are accustomed to floods. They operate boats and live on houses on stilts. During the high waters, the Misings often travel long distances by boat carrying forest products and to collect driftwood (Gogoi, 2010: 130). Their folk beliefs reflect the symbiotic relationship with rain and water. The sighting of a lajuki bandar (slow loris) is considered an ill omen because it symbolises heavy rainfall and hence floods (Bhuyan 2011: 63). The Mising way of life cannot be understood away from the river, rains and the geography of where they live. It is common to hear of migration due to floods to different areas but never too far away from a river. The mid-1960s symbolise the rediscovery and romanticisation of local knowledge through the stereotype of ‘primitive’ people in
harmony with nature. At that time, a western counter-culture movement marked the rediscovery of local people and knowledge. Certain sectors in western society questioned the ability of science and technology to solve all problems. People started to react against the remoteness of science and its perceived arrogance and negative technological outcomes (Ellen and Harris 1996, p 16). But it is important not to idealize all indigenous practices or communal societies. There are several issues related to including people's knowledge. As James Axtell suggests there are three basic problems with reality on oral tradition to recreate the past. First, one's knowledge of the past is determined by what people are currently talking about, so one has little perceptions of the past except in terms of the present. The danger, as Axtell says, is that, 'myth and history tend to merge'. Second, while oral knowledge is very conservative, it is also subject to 'structural amnesia'. This means that those elements that no longer have any relevance for contemporary society can be forgotten or transformed. Third, oral knowledge depends on human memory, which is, of course, fallible. Information can be lost by simple mistakes or by the death of a member of the community. This is particularly true since many cultures have men or women who become the repository for knowledge about the community's history and traditions. The loss of such a person could be devastating to a cultural group (Singh 2004:45-46). Many traditional societies are clearly repressive, while even seemingly highly participatory traditional resource management systems can be inegalitarian, and common property in reality can exclude large numbers of people from enjoying full benefits of its holdings. The exclusion of women from the decision-making and/or the benefits of such systems is perhaps the most readily available example of inequality, although similar exclusions based on class, caste and race are also very common (Watson 1989 in Vivian 1992: 62). Notions of traditional, indigenous, or ‘primitive’ peoples imagined an idyllic harmony with nature which western civilisation had lost. However, recent research shows that the relationships between traditional societies and civilisations and the environment have been anything but idyllic and well informed. As problematic as it may seem, folk knowledge is important to understand reality. The wealth of local knowledge in the case of the Brahmaputra has also clearly demonstrated the existence of an understanding of floods which has been ignored by the technocrats who continue to objectify the river.
Had the British listened to the locals, they would have established the origin of the Tsangpo-Brahmaputra much earlier and without losing a century in efforts that cost them lives. Bringing local people into the picture, to include diverse cultures as well as biological species, all of which work to reshape one another ensures that nothing is ever finished in the dialectic between history and natural history (Worster, 1992: 22). Perennial flood prone areas include an interaction of humans with the living environment. But it is only biological beings, humans and other animals who experience floods as a disaster. The last section strives to use history to establish whether floods can ever be considered to be normal or they are to be understood solely as natural disasters.

**Floods As Normal, Floods As Pathological**

'Misfortunes may happen; untimely rains in the hills may send the floods rushing down, healthy plants and swelling fruits are swept away, and the work of many weeks goes for nothing. The Dhimars accept such disasters as part of the game, and begin all over again, without too much grumbling, if there is any hope that a crop may still be raised before the onset of the monsoon (Maw 2003: 67).'

This instance is not from Dhemaji. Yet, the local response to and practice during floods is similar in flood prone areas of Dhemaji. Local practices are not static traditions; they are rather complex adaptive responses to external and internal changes that have evolved throughout the generations from trial and error (Berkes 1999). The duration and frequency of the forcing events are likely to be key factors in determining the scale of cultural response. Familiarity with the risk involved ensure that the environmental and physical risks are continually weighed and socially controlled. People appear willing to take risks in the case of rare events in order to reap short-term benefits. Groups are shown to have chosen to ignore natural hazards where the long-term benefit of locating a settlement in a particular location or the lack of suitable alternatives appear to override any concern relating to rare, if catastrophic, environmental events (Torrence and Grattan, 2002: 12). In the case of the Misings, their way of life is accustomed to the floods. A Mising house built on a platform is highly adapted to the frequent floods that are common in Assam. According to JS Bhandari (1992), during normal (emphasis mine) floods a Mising village looks like a
vast canvas with their houses above the water level. Unless the flood waters rise above seven feet, the houses remain safe. People's lives during the normal floods are modified but not disrupted. The cattle are taken to higher grounds, but the poultry and pigs are housed on raised pigsties and platforms. Each household possesses a few large boats and dug out canoes which are used as a means of transport during the floods. Every Mising man, woman and child knows swimming and rowing to adapt to the floods which begin in late May and go on till mid July (Bhandari 1992:42). What has changed since Bhandari's (1992) account is that boats have become more expensive to own and the flood season has become prolonged and unpredictable. But even now, floods are not unwanted. People emphasise that the routine floods are beneficial. The benefits of floods include the annual clean up of the area under the stilts as well as the replenishment of soil with silt. What is pathological is the unseasonal and prolonged floods, sandcasting and erosion. Erosion results in loss of land while sandcasting renders arable land useless. Both of these are fatal for an agricultural community. This corroborates Bhandari's (1992) work. In that sense, routine floods are considered normal and are treated with nonchalance.

People's adaptive or coping practices can protect them from the impacts of natural hazards (i.e., preventative measures), and can help them to reduce the negative effects of natural hazards (i.e., ‘protective measures’, ‘risk reduction mechanisms’, ‘impact-minimising strategies’, ‘risk-spreading strategies’), (Dekens, 2007:24) or help them to escape certain peak values or their consequences (i.e., ‘avoidance strategies’). Local practices are mediated by local institutions and associated power relations. Local practices may be different from one level to another. Certain disaster preparedness practices may be found only at the household level while others may be found only at the community or village level. Practices may differ from one social group to another according to factors such as age, gender, profession, caste, or ethnicity (Dekens, 2007:25). But areas which experience perennial floods, have had their own systems of coping. Knowledge systems included myths and actions to deal with this annual phenomena. In the Dhemaji and Lakhimpur districts which face floods every year, contamination of ground water is an acute problem. As deep tubewells and hand pumps go under flood waters, sources of drinking water are hit the worst. This results in danger of water borne diseases and morbidity and mortality attached therewith. A
study carried out by Rural Volunteers Centre (RVC) to know the traditional methods of water purification, found that a normal sand filter without any specification of sand grain size can remove about 70 % of the bacteria from water. This finding encouraged the team to increase the effectiveness of the filter using the local materials to remove the iron content as well as the pathogens. This increases the effective permeability of the column. The coarser sands without mica particles are used in the top layer followed by the less coarse sand grains preferably without or with minimum mica particles, this layer is followed by a small layer of charcoal (2 inch thick) and a layer of stone pebble above a plastic screen. The sieve size at the bottom of the pot is made a little larger. The discharge from this filter is thus increased to 2.5 litre per minute and the pathogens are reduced by 98 per cent and almost 100 per cent of the dissolved iron is removed by this process. The public health promotion activities of RVC have promoted sand filter based on this principle in more than forty villages of Dhemaji and Lakhimpur districts. It was found that the use of sand filter can reduce the prevalence rate of water born diseases by more than 80 per cent. The incorporation of safe water storage and proper water handling with this technology can reduce the prevalence of water born diseases by 95 per cent. Thus, this is a wonderful example of how an existing practice can be made even more effective with a little more input and creativity.

The second good practice is that of community based disaster response teams. Various funding agencies across the Brahmaputra valley have encouraged grassroots level organisations to train community people under the disaster risk reduction projects. Existing village groups such as the naamghar (place of worship for Vaishnavites) or mahila samitis (womens' committees) are trained to face disasters the year round. This starts with simple activities like enumerating the villagers, plotting the map of the village, marking important resource centres as well as vulnerable population groups, flood proofing documents, identification tags for children under the age of 5 years, keeping a stock of emergency material at hand and finally to actual relief and rescue operations. The motto is to use existing groups to mobilise people and be prepared for disasters rather than respond to them at the last hour. The groups are formed in a democratic manner and a president and secretary are also elected. The group meets at regular intervals and takes stock of the situation. These committees
are especially useful for remote and far-flung areas where help is hard to come by and woefully late and inadequate even when it does come. These committees are formed with the hope to empower people to deal with disasters and reduce the dependency on external aid. This is not to undermine the negative effects of floods and riverine erosion. Historically in colonial Assam Lakhimpur division of Lakhimpur district (which includes present day Dhemaji) did not have a railway line because of the heavy rains and floods. While agricultural production did not suffer, the division was most hit by the 1950 earthquake and the events which followed. Even as long back as 1879, Hunter noted that the Misings seemed to cultivate fallow land due to the constant floods. But the impact on the riverine community has become more in recent years. Previously self-sufficient communities have been forced to work as labourers on fields of others. There has been massive internal displacement and migration to urban centres in the wake of loss of land. Religious and cultural events such as the Porag (harvest festival) have begun to be held every four-five years instead of being celebrated as an annual festival (Bhuyan 2011:15). Porag requires elaborate arrangements which the flood hit Misings cannot afford in the present circumstances. Weaving which was an intensely private occupation has become a major economic activity. The loss of land has resulted in women reaching out to markets which was not common even two decades ago. The danger of floods is, indeed real. But this evolution of floods from normal to pathological has several reasons. First, the increase in the height of the river bed following the earthquake of 1950, has influenced the high flood level. Second, the denudation rate has increased from 1955 to 1979 in the middle and lower Himalayas. This has resulted in faster erosion of the fragile mountain slopes. Third, deforestation has contributed to the higher erosion rates in the upper reaches of the Brahmaputra and its tributaries. The northern tributaries (including the ones in the study area) which come from more forested areas cause more flood problems than the southern tributaries. Fourth, there is conclusive evidence that floods are inherent to the ecological setting with little human control but anthropogenic interference cannot be overlooked. Rapid population growth, destruction of wetlands (beels) which acted as buffer zones for floods and ill-kept embankments have all alleviated the problem. Fifth, the proposed dams have begun to create artificial floods where water is released from dams without
prior warning. These and flash floods cause the maximum damage because of the uncertainty and the unpreparedness they involve.

Hence, the historical analysis followed by an appraisal of the current scenario demonstrate how people in the Brahmaputra valley lived and coped with floods for generations. The Mising way of life had evolved with the many moods of the Brahmaputra. The river was revered and feared in equal measure. Even during the colonial era the region experienced little interference in its riverine flow. The scenario changed altogether after 1954 when flood control was introduced. An ill equipped state with little understanding of the geomorphological changes in the river bred a sense of false security among people. Age old coping mechanisms were abandoned in the wake of embankments which protected people for about two decades. This historical analysis shows that there was an epistemological shift in the way floods were looked upon in Assam. Beginning from nonchalance to strict monitoring of the river, the idea of floods as a resource or calamity have evolved through a specific set of social and economic practices in particular historical settings (D'Souza 2006: 274). In this chapter the researcher looked at the the time period in which floods were looked upon as a resource and culturally accepted as such. In doing so, the Brahmaputra's importance to the colonial rulers as purely an economic resource and to the local people as a socio-economic-cultural resource became evident. The difference that such an understanding brings along was made explicit. In the next chapter, the idea of floods as a calamity, the beginning of State involvement in floods and the present day state of floods and erosion in Assam is analysed.