



Research Paper

“A Study on the Socio-Economic Life of the AIE River”

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I. Introduction

Rivers are the most important freshwater resource for man. Social, economic and political development has, in the past, been largely related to the availability and distribution of fresh waters contained in riverine systems. The Aie River fondly called as Bima Dwi in local language. Meaning Aie means Mother and Dwi means River. Aie River originates from the Himalayan Mountain of Bhutan and flows through the Bungtang, Citykola and Gelephu and flows through the Chirang and Bongaigaon district of Assam before joining the river Brahmaputra. In Bhutan Aie River is known as Maokola River meaning Mother River.¹ The Aie river is the life line of the region of about 3000 families. They are dependent on the river for their daily life. Crops, fishing, stone and sand collection and many other activities are the livelihood of the people. There are different ethnic communities on the both the banks of the Aie river. She has been a steady water source for cultivation as well as means for livelihood of these nearby villages by providing abundant supply of fishes, dense edible flora and mineral rich. At times during monsoon, she delivers tones of uprooted wooden logs from the mountain to the downstream villages which are then used for household fireworks. They cultivate varieties range of crops which consisted of mainly paddy, jute, mustards, vegetables etc. abundant. Each of the houses possess own garden of betel-nut, bamboo, banana, coconut tree etc. Most of the villagers domesticated cattle, pigs, fowls, buffaloes etc. The women folk weave clothes. They are humble being and live a peaceful life. They have their own cultures and traditions. These serve as the main economic background of the settlers.

The impact of the Aie river never be understood without analysis on Nishima, where the Aie formed and island. The island is surrounded by the Aie river. The Aie river split into two channels at Hagragwlo Forest. The eastern channel is known as Langker or Nangalbangha and western is known as Aie which later on again meet at Hagrama bridge. The people living in the island are mainly belonging to Bodo, Nepali, Rabha, Santhali and Muslim. The island was form in There are three High Schools, five Middle English School, three private English Medium School and one Government Dispensary Hospital in dilapidated condition.² The main occupation of the island is agriculture. The Aie River in the Nishima Island is enhanced by its many canals from early period. which built like the Maopar dongo, Narengwdwi dong, No.5 dongo, No3 Village dongo etc. All the dongo are brought from Aie (Bima Dwi) and Langkar River. All the canal are made temporary because of Flood. The canals are made of Traditional Bandw with the woods, stone and branch of tree which they can break easily during the overflows of water.

The Aie river creates a massive attraction for tourists for the local picnic, other weekends activities and festivals. During summer season the river creates massive damage to both banks of the river. The heavy rainfall causes havoc and makes loss of properties of inhabitants. Hagrama Bridge is also located in the center of this river in Chirang district. Aie river a natural flowing river usually fresh water flowing towards from the Himalaya mountain.³ During the rainy season (June to October) Flood are a very common occurrence. Flooding is a natural part of a river cycles. The majority of the erosion of river channels and the erosion and deposition on the associated floodplains occurs during the flood stage. Aie River Resulted in increased siltation levels, Flash Floods, and Soil erosion in critical down streams of the both river bank occasionally, massive hooding cause's huge losses to crops, life and property. Periodic Flooding is a natural phenomenon which is helps maintain lowland grasslands and associated wildlife. Periodic Flood also deposit fresh alluvium, replenishing

¹ Chandra Shekar Yadav, River of India, p.87

² John K. Jackson. Atlantic coast of North Eastern State, p.21

³ S.S.Negi, Himalayan River Lakes and Glaciers, p.31

the fertile soil of the Aie River.

II. SURVEY OF LITERATURE:

1. David Hamilton, “River”, *The Iowa Review*, Vol. 39, No. 2 (Fall 2009), pp. 1-3 states that the River are part of us, and as the summer it made clear, and we all tend toward belonging to a river.
2. Dr. Chandra Yadav *River of India* had mention about dozen of famous River’s, like Brahmaputra, Ganga, Yamuna etc, its highlight about the use of cannel system, tourism, religious hymns, transport system.
3. H.M. Saxena had mention in his book *Environmental Management* about the Natural Resources in his book he had mention about the utilization of water and how to conserved water resources.
4. John G. Laylin in his “Indus River System-Comments” in *proceeding of the American Society of international Law at Its Annual Meeting* (1921-1969), Vol. 54 (April 28-30, 1960), pp. 144-152 states that the more one works on international river controversies, the more one appreciates the need for each side to exercise restraint in imposing on the other its views as to its rights under dispute.
5. Luna B. Leopold, “Rivers”, *American Scientist*, Vol. 50, No. 4 (December 1926), pp. 511- 537 he states that River are both the means and the routes by which the products of continental weathering are carried to the oceans of the world.
6. Noel Williamson, “The Lohit-Brahmaputra between Assam and South-Eastern Tibet, November, 1907 to January, 1908”, *The Geographical Journal*, Vol. 34, No. 4 (oct., 1909), pp. 363-383 attempts to analyses the River shown on the maps as the Brahmaputra enters the north-eastern corner of Assam through the Mishmi hills. To the Assamese it is known as the Lohit.
7. Pallavi Gupta in her book *Save Water Save Life* talks about the use of water in agriculture, like cannel system conservation of rain water in ponds for maintenances of agriculture work and for their daily life.
8. R.K Rai in his book *Environment Resources and Development* he had mention about the concept of flood management and flooding in natural phenomenon which is helps to maintain low land grassland and associated wildlife.

STATEMENT OF THE PROBLEM:

Aie river is the life line of the people of both river bank. Nishima Island is used for canal system for cultivation and it stands as main sources of livelihood of the island. However, the socio economic condition has been most dependent on the Aie river. Therefore, an attempt has been taken to write a dissertation on the topic “A STUDY ON HISTORY OF AIE RIVER”.

OBJECTIVE:

1. To study the socio-economic life of the people of the Aie river and its impact. **CHAPTER**

ARRANGEMENT:

1. Introduction
2. Socio-economic life of the Riparian communities of Aie river.
3. Positive and negative impact of Aie river
4. Conclusion

III. METHODOLOGY:

In the composition of the present study both historical and analytical method will be followed. Data will be collected from primary and secondary sources to get a broader picture of Aie river in the Chirang district. Primary Sources will include filed work and Interview

Socio-economic life of the riparian communities of Aie river

The socio-economic life of the people of Aie river witnesses heavy flood every year. Also, the state has fertile land for the cultivation of crops. The reason behind the flood and the fertile land is due to the flow of the great Aie river River in Assam. There is a saying, “Every coin has two sides”. Similarly, the Aie River flowing in Chirang and Bongaigaon districts of Assam has created both positive impacts and negative impacts in the region. Aie River flows from Buthan through the India chirang and bongaigaon districts of BTAD Assam and the river meets in Brahmaputra valley in Alipurduar⁴.

The agricultural sector of Assam has tremendously grown over the years. This growth and potential of the agricultural sector of riparian communities are mainly because of the existence of the Aie River. The soil in the Chirang districts of Nishma island is always fertile and ready to be cultivated. The river keeps the land fertile which in turn increases the crop productivity. Thus, the river largely helps in agriculture by maintaining the soil fertile as well as the river water is a source of irrigation. Fishing across the river is also business. It is evident that the Aie River is a pillar of Chirang and bongaigaon districts of Assam’s economic growth. Some

⁴ Kalyan Rudra, *River of Ganga Brahmaputra Meghna Delta*, p.29

reaches and studies have clearly proved Assam is one of the top five most favourable states in It quite natural that every positive effect has a negative effect on it⁵.

Similarly, the Aie River also experience the goodness as well as the wickedness. The people of Chirang and Bongaigaon have to accept both the faces of the Aie River. The river has an equal ratio of goodness and wickedness. People enjoy it when there is the success in crops due to the river's water supply. The same people suffer when the flood occurs due to the river's water flow. The river teaches a lesson that everything will not be the same forever. Hence, we must accept the both effects of the river and enjoy the river's blessing with happiness⁶.

Chirang district BTC Bodoland Territorial Council for ages together has been a riverine civilization, society and economy. Even today largely it continues so, albeit, recent changes in its social and economic structures. The foundation and Centre of this riverine society and economy has been and continues to be the mighty river of 'Aie river'. This river with a network of 3 tributaries has influenced and continues to influence the social and economic life of of Chirang

districts and its people in a matrix of layered inter-relationships. A simple economy basically has three important components i.e., livelihood (production, consumption, exchange and employment), infrastructure and institutions. All these three important components and their temporal and spatial interactions make an economy live and continuous. Aie river was considered and is being considered to be the life line of Chirang districts of BTAD and more so in its economic dimension⁷.

It is because it has predominantly been influencing and shaping the livelihood, infrastructural and BTC for ages together has been a riverine civilization, society and economy. Even today largely it continues so, albeit, recent changes in its social and economic structures. Aie river was considered and is being considered to be the life line of riparian communities of the Aie river and more so in its economic dimension, it is because it has predominantly been influencing and shaping the livelihood, infrastructural and land. This historical state has its unique history, geography, culture and economy and has always been considered a bridge between Chirang district. It has beautiful fertile plain lands. An important feature of economic development of any economy is the structural changes that happen in its income and employment of economic growth.

The Aie river is central to creation of livelihood opportunities of people in riparian communities of Aie river in the fields of cultivation, fishing, boatmen, tourist operators and employees of ferry services etc. About 80 per cent of the total population is engaged in agricultural activities. Annually irrigable land constitutes 65 per cent of the gross cropped area. Much of this irrigation facility has been created directly based on the Aie river. All the places that are situated along the river bank of Aie river depend on these river for different livelihood related activities including cattle wading, irrigation etc⁸.

The irrigation canal is made in traditional system. Which are called Bandw in local language. There are numbers of small Bandw or canals which are made of temporary where they can break easily during overs flooding. An informed understanding of the impact of Aie river on the socio-economic life of Chirang district can never be possible without an analysis of 'Nishma island', small island of chirang district Located in the BTC of Assam, the island is surrounded by the river Nangalbangha and langkhardwi or rivers on the eastern, Bimadwi on the western⁹.

The island is accessible by ferries and about 20 km north from the Bongaigaon town. The people living in the island are mainly belonging Bodo, Nepali, Muslim tribes who have migrated from local place. They speak mainly Bodo, Nepali, Assamese languages. They had their own cultural and religion and also their own traditional dress. Each tribe belief their own religion and follow their rule and all the tribes are friendly to each other's. The main Many religions

programmed are held every year and even cultural programmed to bring up the culture society. Here main religion is Batou, Brahma, Christian, Mosque and Hindu. Among of them the Gargasina puja religion are believes every month april in the Aie river and also Bwrsi puja festival also celebrate in Aie river. There are three High Schools, five Middle English Schools, not less than 30 Lower Primary schools and two civil hospitals in dilapidated condition with poor service in the island. Main occupation of the people living in the island is agriculture. The people living on the Nishma island has it own religion and culture and live peacefully life. The main religion is Bathou Religion, Christian, Brahma, Mosque, etc are the main religion of the riparian communities of Aie river.

The main economic income of the people is cultivation of agriculture, domestication of animals, mineral resource of Aie river like sand, stone, grable, battlenut garden, banana garden, different types of

⁵ Nazrul Islam, River & Sustainable Development, p. 283

⁶ Paul S. Giller, The Biology of streams and Rivers, 1998, p.1

⁷ S. Sengupta, Rivers and Riverine Landscape in North East India, p.163

⁸ O. Varis, Management of Transboundary Rivers and Lakes, p.6

⁹ Chandra Bhusan, Assam its Heritage and Culture, p.69

vegetable and fruits, fish husbandry etc. This are the back bone economy development of the riparian communities of Aie river¹⁰.

Along with these countless distress brought on the people, this mighty river has also some positive stories to tell and blessings to offer to the natives of this island. Farmers also grow large varieties of paddy and vegetables because of alluvial soil deposited on the cultivable land due to frequent flood in the island. The other three important occupations which have direct positive connections with the river include fishing, boat making and pottery. Besides, people are also engaged in few other economic activities such as dairy, handloom, and mask making which are somehow indirectly dependent on the water of the Aie river. Of late, the island is attracting a good number of tourists sport like Hagrama bride, Sadumara forest etc particularly in the autumn and winter months¹¹. This is because the island is the abode of beautiful place The island is also a treasure and hotspot of flora and fauna, which harbors many rare and endangered avifauna species and migratory birds that arrive in winter season.

SIGNIFICANCE OF THE AIE RIVER

The Aie river is central to creation of livelihood opportunities for thousands of people in Chirang and Bongaigaon districts of BTAD Assam in the fields of cultivation, fishing, boatmen, tourist operators and employees of ferry services etc. About 80 per cent of the total population is engaged in agricultural activities. Annually irrigable land constitutes 65 per cent of the gross cropped area. Much of this irrigation facility has been created directly and indirectly based on the river Aie and its tributaries¹². Almost all the places that are situated along the river bank of Aie river or its tributaries depend on these rivers for different livelihood related activities including cattle wading, irrigation etc. This table makes it amply clear that all most all the 22 districts mentioned, people and communities use the river for meeting their livelihood necessities in the form of wading of cattle, fishing, cultivation of different types of crops, boat transport etc.

Minerals Resource of Aie river

Aie river is give heavy mineral resource like sand stone and grebale which are very important for building of construction of house, road and many others thing Nearly all major economic deposit that earned by government. Stone and sand are available in Aie river and one famous demanded mineral. This sand and stone area are given contract to the tender by government. Number of parts are made and given tender for using mineral resources of Aie river. Each tender had own area. Tender are looking their own area and selling the mineral goods. They earn huge amount of economic from that resources these are the important mineral of Aie river¹³.

Water Transport

Next to livelihood, the extent and nature of some of the physical infrastructure particularly transport and communication is greatly dependent on this river system. Historically water transport has been one of the oldest and cheapest modes of transport along with road transport. During the days of village economy boats and rafts were used to transport the goods as well as the people from one place to another on a very limited basis. With the development of economy and trade within and outside the boundary of a nation, water transport gained a lot of significance. As it is evident from the table, in most of the places in these near districts of the BTC state Assam people use the ferry services for transportation of men, animals and materials that include agricultural inputs and outputs, fish, milk, household gadgets, bamboo, groceries, clothes, cows, goats etc. The other 50 per cent are spread over in many districts of BTC. A number of finished products, raw materials like sand and stones and forest produce are transported from Nishma island to different part of BTC area¹⁴.

. Agriculture is the life line of the people of Aie river can be defined as cultivation of animals, plants, fungi and other life forms for food, fiber, befoul, medicinal and other products used to sustain and enhance human. It is the most comprehensive word used to show the many ways crop plants and domestic animals contribute in order to sustain the global human population especially in providing food and also other products. Agriculture development is important especially for social and economic benefit, where agriculture increases food production, increases net income and improves family productivity, reduces income imbalance between rural agricultural employment and urban income of factory workers, and improves Agriculture becomes extremely important as a main source of food production to feed the population in this planet. On the other hand, agriculture provides a lot of benefits to the people of the area as food and non food product, transportation

¹⁰ Hiranya Kumar Bhattacharya, Economic development of Assam, p.33

¹¹ T.R.GopalaKrishnan, Vegetable crops, sumit pal, p.27

¹² John Wiley, River Confluence, Tributaries and the fluvial Network, p.187

¹³ J.B. Wright, Geology and Mineral Resources of West Africa, p.155

¹⁴ Interview, Mongkisor Narzary, Vill-No, Thaisoguri, P.O. Patabari, Dist. Chirang, Date: 26/07/20

and balancing the environment¹⁵.

Cultivation is an activity through which humans become directly involved in the management of the lives and life cycles of certain plants. In abstract terms, this can be considered a change from a largely extractive approach to subsistence towards a highly regulative one in practice, Aie river is important for cultivation involves manipulation of soil, water, and other components of the plant environment. At its most basic, it involves sowing of seeds on soil which has been cleared of other vegetation¹⁶. In low-intensity systems, this may come about through burning of vegetation by taking advantage of fresh deposits of silt by river floods. It usually involves preparation of the soil by tillage using crop rotations with legumes or fallow periods. This represents an important component of cultivation, scheduling the seasons of sowing and harvesting and inter annual patterns in crop rotation and fallowing. Water is a key input into any cultivation system. The main crops living of the riparian communities are rice, jute, different types of vegetables and fruits, mustered oils, paddy, wheat, cron and garden like battle and nut, banana, sugarcane etc. which they work different season crops in different season.

Irrigation agriculture

Irrigation agriculture is another critical benefit which people derive from Aie rivers. As with fisheries, crops grown under irrigated systems support livelihoods, with the potential for significant revenue generation with commercial production. Irrigation can also support food security through improved stability of food supply in area subject to drought and seasonal variability, increased food availability and better incomes for farmers. However, the stream of benefits is largely determined by the objectives of the scheme investor and irrigation design, management. Benefits may also be unevenly distributed. People close to irrigation schemes are at higher risk of diseases while high level benefits such as food security are dispersed. Furthermore, expansion of irrigation is a major pressure on water ecosystems. Over-abstraction can cause river degradation. Reduced downstream flows devastate ecosystems, as flow is the most important factor for biodiversity¹⁷.

Agricultural inputs including pesticides and fertilizers cause pollution and eutrophication. Infrastructure such as diversions and impoundments also disrupt ecosystems and negatively affect other services. Downstream water users may be subject to reduced allocations which threaten their livelihoods, or alternatively, irrigators can lose access to water in favor of large urban centers, as alternative higher-value uses. This illustrates the importance of applying a political economy lens to the societal benefits of river ecosystems. They built traditional canals from early period. Some canals are like Maopar Dongo, Narengwdwi Dongo and all the village had their own canals or Dongo. All the canals are made of temporary where they can break easily during the over flood. This canal is important for cultivation of different types of agriculture crops. All the canals are brought from over flowing water of Aie river¹⁸.

Tourism

Aie river a blessing that around the important tourist hot spots of the state are situated near the banks of river Aie. Cruise tourism has also emerged as an astonishing adventure, pleasure tourism, and feel good experience across the river in recent years. It is to be noted that has acknowledged Brahmaputra cruises as one of the top ten most adventure cruises. Innovative tourism activities on river Brahmaputra has been launched in recent years. This made an increasing number of tourists visiting Assam every year. An increase in the tourist is directly proportional to the state's economy and revenue growth. Hence the tourist. Many people came to see the Hagrama bridge and beautiful scenario of Aie river¹⁹.

River Ghats

Boat ghat service has now become very essential to the people of Nishma island that carry passengers, goods and required materials of the people. There are nine (9) boat ghat in the Nishma island. This ghat are made contract with the government authority and work as a tender. Each ghat had nearly six to eight labors and survive their family. It is delighted to know that the operation of river ghat services across Aie river has given has significantly raised the creation of employment to the people of Nishma island. Through the river ghat service, it is even possible to transport the motorcycle and others good²⁰.

¹⁵ Interview, Rubiram Brahma, Vill-No. 3. Sudempara, P.O. Patabari, Dist-Chirang, Date: 16/06/20

¹⁶ Interview, Sainal Narzary, Vill-No. 4. Thaisoguri, P.O. Patabari, Dist. Chirang, Date: 29/06/20

¹⁷ Williamson Noel, *The Lohit Brahmaputra between Assam and South- Eastern Tibet*, p.34

¹⁸ Vijay P. Singh, *The Brahmaputra Basin Water Resources*, p.35

¹⁹ Berendien Lubbe, *Tourism Management in Southern Africa*, p.29

²⁰ Chandra Shekar Yadav, *Rivers of India*, p.89

Fishery

The people in Assam are fond of fishes and a considerable proportion of rural people are meeting their own requirement of fish by catching them from the water bodies. Basically fishing is a tradition in the state. Although fishery is quite popular in the state, it is not developed up to the desired level. In same mode in Aie river also number of fisheries are there who survive their family by catching fish. Different types of fish are found in Aie river. Traditionally fishing are used number of method some are catch with net, with jikai, and also with bamboo materials like koka, burung etc. These fishing also one of the economic development of riparian communities of Aie river²¹.

Aie river is important life line people of the riparian communities. As mentioned in the introduction, the life-line of the economy and society of has brought in untold miseries to the people of Assam. These miseries which have manifested in the form of increased river bank erosion, denudation, saltation and sandcasting etc. have directly and indirectly affected the livelihood of the people of the state through Chirang and Bongaigaon districts BTC Assam situation in the front of displacement, loss of livelihood, land and jobs. In recent times, there has been enormous internal displacement and migration to urban areas because of loss of land by the natives like the Bodo, Nepali, Muslim, Raba and other communities²². This is because pathological floods bring in untold economic hardship to the people and had reported that bank erosion has wiped out more than 10-15 village and many cultural heritage and forest, affecting the life of people.

Flood

The Aie River is lifeline to thousands of people. Not only it delivers vital nutrients to the down of Chirang and Bongaigaon districts and also causes widespread misery to the people. It has earned notoriety for the awesome hazards of annual flood and erosion that create mayhem every year, bringing misery to the people and shattering the fragile agro-economic base of the region. When the water cascades down from the mountain to the soft alluvial soil of BTC it damages banks of the River. As a result, thousands of acres of cultivable lands are lost. Besides it deposits tons of sands on nearby cultivable lands making it less fertile or unusable by the farmers. Due to this many farmers have become landless and have been forced to migrate to different parts of the country in search of alternative source of livelihood. It has been experienced that flood occurs almost every year in one or other part of the lower Brahmaputra river basin in Assam with varying frequency and magnitude. This occurs particularly in the monsoon season from the month of June up to October. Due to frequent flood of violent nature many houses, properties and community infrastructure are damaged on regular basis and there is loss of human life and cattle. Every year the seasonal flood damage huge causes of the people of riparian community's villages. Some flood effected villages are Ambari, p.o. Deoshri, district chirang Recently year flood occurs in this village. Seasonal flood damage huge economic crisis, and for living house hold all the village were flood. Nearly flood remain more than two weeks. Daoka Baha, and Komabari p.o. patabari (FV) district Chirang This two villages are bank erosion from the year 2010 and till toay the village remain only few acres of land. Balagari, p.o. Amguri, district Chirang Both village are damage huge of agriculture land, village forest and also house and religion houses of the area. Kagrabari, p.o. Ouguri, district Chirang Burijahar, p.o. tukrajhar, district chirang. This village are recently flooded by Aie river where the number land is swift away by many crops like paddy, jute was destroying by Aie river. Number of family were settle relief camp. Jaipur, and Marderpur P.O. Marderpur, district Chirang etc are the most effected village in every year. The aforesaid year was disastrous for the people as those communities residing near the banks were displaced due to heavy flooding and erosion. It is to be noted that, there was no proper step from the government authorities for disaster management towards prevention of floods. The settlers termed these seasonal floods as Sila Bana, Khasi Bana and Pathw Bana which mainly occurred during the monsoons.

The above-mentioned study represents early efforts to recognize, prioritize and incorporate the social and cultural importance of the Aie river flow assessments. The purpose of this incorporation is to improve water management and governance by connecting human communities, satisfying spiritual and religious needs, and protecting Indigenous rights and well being, in accordance with international human rights standards. Nevertheless, these cases only scratch the surface of the multitude of relationships between humans and rivers²³.

Economic

An informed understanding of the impact of Brahmaputra on the socio-economic life of Nishma, where Aie river from an island in Nishma can never be possible without an analysis of 'Nishma island', the small river island in the BTAD Assam. Located in the north of Chirang district of Assam, the island is

²¹ Bandhana Bargoyari, The Essence of Aie, p.11

²² Xuenzhong Yu, Balancing River Health and Hydropower Requirement in the Lancinb River Basin, p.22

²³ Interview, Anysor Narzary, Vill-No.4. Thaisoguri, P.O. Patabari, Dist. Chirang, Date:13/05/20

surrounded by the river Aie on the. The people living in the island are mainly belonging to Bodo, Nepali, Raba, Muslim etc. They speak mainly Bodo, Assamese and Nepali language. The Nishma island was formed hundred centuries before exact date is not found till today. During the rainy season from June to October these Nishma island use to suffer with the number of problem. Such like with the heavy rain Aie river occur flood and blocked the transport and communication with others places²⁴. This flood made numbers problem like sick people, because there is no good hospital in the island and can't cross the river, small tradeis lacking due to flood, day today living required materials used to finished during the flood times for the student flood impact because there is no higher secondary and college in the Nishma island area and also people are dying recently few months before one man was dead while crossing the Aie river. Such thing make economic back work during the seasonal flood from June to October in Nishma island²⁵.

Soil Erosion

The Aie River generally experiences high levels of bank erosion. Bank Erosion is the process of the wearing away of the river banks due to flooding. Chirang and Bongaigaon faces extreme bank erosion around the Aie River as well as in the tributaries each year. It is claimed that around many hectares of land has been lost annually in BTC Assam due to bank erosion. Bank erosion has also increased the width of the Aie River largely. The width of the river is increased up to 15 kilometres as a result of bank erosion. Each year government is spending several hundred crores of money to fix the damage due to bank erosion. The high endemic floods coupled with continuous river bank erosion leading to depletion of landmass have compelled many of the established 'Satras' to relocate to places outside of Aie river for reasons of safety and economics²⁶.

Deforestation

Deforestation along the land region near the flowing Aie River may not help to reduce the speed of water during the times of flood. The empty land after being deforested makes the flooding water to move swiftly. Hence, deforestation is one of the reasons which makes the flooding in Assam aggressive. The deforestation has also led to the soil erosion of the fertile soils of Assam. Planting tree saplings along the riverside can help to reduce the speed of water flow during the flood. There by the negative effects of the floods can be significantly reduced by afforesting the riverside. Many forest drained away by Aie river such as Hagraawlao forest, komabari forest are the two example²⁷

IV. Conclusion

The history of Aie river management highlights changes related to a highly dynamic relationship between nature and society. River restoration is still dominated by ecologically driven projects. However, objectives are becoming wider, and especially in urban areas, may be tied to larger goals of community building and regeneration. Aie River fondly called as Bima Dwi in local language meaning Aie mean Mother and Dwi mean River. Aie River originates from the Himalayan mountain of Bhutan and flows through Bungtang, Citykola and Gelephu and flows through Chirang and Bongaigaon districts of Assam and join in Brahmaputra River. Aie River is the lifeline of the people of riparian communities. Agriculture is the main economic development.

has braided channels in its traverse through the entire plains of Chirang and Bongaigao district of Assam. Due to the heavy sediment load formation of sand shoal and constant shifting of these channels are very common features of the river. The river also has a tendency to shift laterally. Besides this lateral movement the river attacks its banks sporadically through active erosion and cause loss of land each year through the process of erosion. The erosion is mainly attributed to extreme sediment charge. The extent of loss due to erosion depends on these verity of flood²⁸.

The important aspect of the Aie river is that it provides livelihood to the local community living in the bank. A majority of the low-income group population of artisan fishermen depends on the bioresearches available from these ecosystems for their daily food, health care and energy needs. The resource conservation and management of environment needs a holistic approach involving strong cooperation of the people in the participatory programmer. Many a time, economic and legal instruments and suitable interventions are essential to protect these resources. Unless the minimum requirements of the poverty driven inhabitants who are solely dependent on these ecosystems for their daily needs are met, effective management of the ecosystem is not possible and the protection and conservation practices may fail. The sustainable exploitation of natural

²⁴ Laylin John, Indus River System Comments. P.112

²⁵ Angus Maddison, Class Structure and Economic Growth, p.86

²⁶ H.M. Saxena, Environmental Management, p.153

²⁷ Michael S. Asante, Deforestation in Ghana, p.178

²⁸ Chandra Shekar Yadav, Rivers of India, p. 92

resources and developing efficient markets for the resultant produce is critical to durable enhancement of local livelihoods²⁹. This includes development of manufacturing of fishing gear, nets and bamboo products, development of cage culture, involvement of womenfolk in handicraft business which acts for poverty reduction as well as conservation of fish resources. But the task of exposing rural women of socio economically backward area to new technologies that can help them to generate income and improve quality of life is really challenging³⁰.

In economic factor Aie River made a massive development by giving water water to the riparian communities. Irrigation canals are developed from the Aie River. which helps many people for agriculture and domestication of animal and other works. It is imperative that a close watch of the changes taking place in the Aie river drainage system should be monitored to at least prevent further deterioration of the important habitat. Continuous erosion has reduced the land resources and recurring flood has affected the virgin crops of the agricultural field at flood time. On the other hand, the prevailing traditional system of agriculture along with slow growth of non-agricultural sector has failed to generate more employability to the people of Aie River. It gives boost to the problem of livelihood among the ever increasing youth population. That is why it is the high time to take appropriate strategy to address the situation to some possible extent. Number of scheme are made for the protection of soil erosion by the government of BTC and government of Assam. For restoration of bio resources and their habitat in Aie river three parameters should be taken up simultaneously through which resource management could be achieved³¹.

Aie River is a natural river where developed huge natural resources and develop economy of the area and Aie River is the life line of human being different types of animals, insects, and all the flora and fauna which are available. The Aie river made massive development for all³².

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INTERVIEW

- [8]. Mongkisor Narzary, Age 56, Vill- No.4 Thaisoguri (Patabari), P.O. Patabari, Dist. Chirang, Pin. 783394, Date: 26/07/20, Time: 2:20 pm.
- [9]. Depok Narzary, Age-59, Vill-Maopar, P.O. Ouguri, Dist.Chirang, Pin.783394, Date: 02/06/20, Time:4:30
- [10]. Rubiram Brahma, Age-48, Vill-NO.3. Sudumpara, P.O. Patabari, Dist. Chirang, Pin 783394, Date: 16/06/20, Time:4:30
- [11]. Agwning Narzary, Age-85, Vill- No.4 Thaisoguri (Patabari), P.O. Patabari, Dist. Chirang, Pin. 783394, Date: 27/07/20, Time: 3:20 pm.
- [12]. Sainal Narzary, Age-60, Vill- No.4 Thaisoguri (Patabari), P.O. Patabari, Dist. Chirang, Pin. 783394, Date: 29/06/20, Time: 3:30 pm
- [13]. Jiskel Narzary, Age-59, Vill-Maopar, P.O. Ouguri, Dist.Chirang, Pin.783394, Date: 02/06/20, Time:4:30
- [14]. Junas Basumatary, Age-24, Vill-No.4. kagrabari, P.O. Deoshri, Dist. Chirang, pin.783375, Date:20/06/20, Time:2:00pm

²⁹ Pallavi Gupta, Save Water Save Life, p.123

³⁰ David Hamilton, River, p.24

³¹ R.K. Rai, Environment Resources and Development, p.330

³² Interview, Junas Basumatary, Age 28, Village. No 4 Kagrabari, P.O. Deaoshri, Dist. Chirang, Date: 20/06/20