

CHAPTER 2

REVIEW OF RELATED LITERATURE

2.1. INTRODUCTION

Fish, Fisheries and Fishing technologies and Fishing communities in India and elsewhere have been studied by many researchers over the past two centuries. Although specific studies on the fish diversity, fishing gears and cultural links to fish from South Western Assam was not found, the literature review revealed the presence of many relevant works that forms the foundation of this study. For the convenience of review, the collected literatures have been categorized into seven broad categories as mentioned below –

- a. Studies related to inland fresh water fishes from India and neighbouring countries
- b. Studies related to inland fresh water fishes from Assam and neighbouring states
- c. Studies related to challenges and conservation of inland fresh water fishes
- d. Studies related to fishing gears and methods from India and neighbouring countries
- e. Studies related to fishing gears and methods from Assam and neighbouring states
- f. Studies related to fishing communities
- g. Studies related to cultural links of fish and fishing

These seven categories of reviewed literature include books, research journals published in recognized journals and PhD thesis from some Universities and Sodhganga repository.

2.2. STUDIES RELATED TO INLAND FRESH WATER FISHES FROM INDIA AND NEIGHBOURING COUNTRIES

Taxonomic works on the fresh water fishes in the Indian sub-continent started as early as early nineteenth century. Hamilton-Buchanan's (1822) book *An account of the fishes found in the river Ganges and its branches* was the first elaborate work on the fishes of Indian subcontinent. He documented fishes from the Ganges and its major tributaries.

In the later half of nineteenth century, three significant contributions came from Beavan and Francis Day. Beavan (1877) covered the entire country and published a detailed account of Indian fishes in his book *Handbook of the freshwater fishes of India* published by L. Reeve & Co. from London. Two milestone books of Day strengthened the foundation of fish taxonomy in the subcontinent. His books *The fishes of India: being a natural History of the fishes known to inhabit the seas and freshwaters of India, Burma and Ceylon* (1878) and *The fauna of British India, including Ceylon and Burma* (1889) gives an detailed account of fishes not only from India, but also from Ceylon and Burma.

In the first half of twentieth century, B.S. Bimachar (1942) reported fresh water fishes from Mysore. K.C. Jayaram published a work on Siluroid fishes from India, Ceylon and Burma in the years 1953. In this work he focused on the genus *Mystus*. Subsequently, in 1977, 1979, 1980 and 1982, Zoological Survey of India published 5 Occasional papers of K.C. Jayaram under the Aid to the identification of Siluroids series (no. 1 to 5). All these five papers elaborate taxonomic characteristics of Siluroid fishes and suggest identification keys. Jayaram (1991) revised the genus *Puntius* in *Rec. Zool. Surv. India*, Occ. Paper No. 135: 178

L.D. Edouard and team (1957) covered species found in India and adjoining areas in their book *Fishes of the World* published by The Countryman Press. V.G. Jhingran published an elaborate work in 1974 on the *Fish and fisheries of India*. Apart from including taxonomic account of fishes, he also touched upon some aspects of fisheries including the challenges. Same year, Inland Fisheries Society, India published A.G.K. Menon's work *A checklist of fishes of the Himalayas and the Indo-gangetic plains*. Dutta Munshi and Srivastava (1988) further added taxonomic accounts of Indian fishes in their book *Natural History of Fishes and Systematics of Freshwater Fishes of India*.

Talwar and Jhingran (1991) gave a detailed narrative account of fish taxonomy covering all reported species in their book *Inland Fishes of India and Adjacent Countries*. The book, published in two volumes, also gives new taxonomic keys to identify fishes up to the species level. Most identifications in the current study was carried out following the key given by Talwar and Jhingran.

A detailed zoogeographical account of Indian freshwater fishes was elaborated by K. C. Jayaram (1977) in his paper *Zoogeography of Indian freshwater fishes* published in Proceeding of Indian Academy of Science. Twelve years later, Kottelat (1989) published *Zoogeography of the fishes of Indochinese inland waters with an annotated check list* in Bulletin of Zoological Museum, Amsterdam.

In 1994, a milestone book of J.S. Nelson, *Fishes of the World*, was published by John Wiley and Sons. This voluminous work has covered almost all important geographies including the Indian subcontinent. 599 pages of the book includes description of the species and black and white illustrations.

Kottelat and Whitten (1996) in the World Bank Technical Paper 343, *Freshwater biodiversity in Asia with special reference to fish*, have covered a great detail of Asian fresh water fishes apart from other taxons.

K. C. Jayaram's book, *The freshwater fishes of the Indian region* was published by Narendra Publishing House in 1999 that has illustrious descriptions of species with photos. The second edition of this book was published in 2010. In 1999, Zoological Survey of India published its Occasional paper 175 compiled by A.G.K. Menon. It produces a detailed *Checklist of freshwater Fishes of India*.

Significant amount of work on fresh water fishes have been done in the first two decades of the twenty first century. Sugunan (2001) did a specific study on the culture based fishery and published his findings as an article *Status of culture based fisheries in small reservoirs in India* in S.S. De Silva edited volume *Reservoir and Culture based Fisheries: Biology and*

Management. Another specific work by R.J. R. Daniels (2002) on the *Freshwater fishes of peninsular India* was published by Indian Academy of Sciences & University Press.

National Bureau of Fish Genetic Resources (NBFGR) publishes a holistic work by Kapoor, Dayal and Ponniah (2002) covering the latest *Fish biodiversity of India*.

In-depth researches covering smaller geographies were done by several researchers. Joshi et.al. (2009) published their findings *Piscine diversity in the river Betwa* in the Journal of Inland Fisheries Society of India. Lakra et.al. (2010) published their findings *Fish diversity, habitat ecology and their conservation and management issues of a tropical River in Ganga basin, India* in Environmentalist. Sarkar, Gupta and Lakra (2010) worked on the *Biodiversity, eco-hydrology, threat status and conservation priority of the freshwater fishes of river Gomti, a tributary of river Ganga*. Allen, Molur and Daniel (2010) compiled *The Status and Distribution of Freshwater Biodiversity in the Eastern Himalaya*.

Habitat of fish were also studied with a focus on pros and cons for fishery development. Chatrath (1992) edited detailed accounts on *Wetlands of India*.

2.3. STUDIES RELATED TO INLAND FRESH WATER FISHES FROM ASSAM AND NEIGHBOURING STATES

More specific records on the fish fauna of Assam and adjoining states are found from the works of several researchers. K.C. De (1910) published *Reports of the fisheries of Eastern Bengal and Assam* covering some fishes from the Brahmaputra valley for the first time. S.L. Hora's (1921) work *Fish and fisheries of Manipur with some observations on those of Naga hills* throws light on fishes from Nagaland which has similarities with the fishes from Eastern Assam. Motwani, Jayaram and Sehegal (1962) for the first-time published on *Fish and fisheries of Brahmaputra river system, Assam*. It records the fish fauna with observations of their zoogeographic significance.

Malhotra and Suri (1969)'s work on the *Fishes from Nagaland* was published in the *Journal of Assam Science Society*. S.C. Dey contributed significantly to the knowledge on fishes of Brahmaputra river system through his works on *Studies on the probable origin and*

distribution of the ichthyofauna of the river Brahmaputra (1976a), *Significance of fishes in the hill streams of Assam and Meghalaya* (1976b), *Fish and Fisheries of the Brahmaputra drainages- its problems and potentialities* (1978) and *A critical analysis on the fish and fisheries of Assam* (1982). *The fish and fisheries of the Barak drainages (India)* was published by Nath and Dey (1982).

Record of Zoological Survey of India, Occasional Paper 64 by Sen (1985) is another milestone in the ichthyofaunal study in Assam and neighbouring states. The study is titled as *The fish fauna of Assam and the neighbouring North-Eastern states of India*.

Central Inland Capture Fisheries Research Institute published a report on *Investigations on factors relating to the decline in fisheries of the river Brahmaputra* in 1991. Nath and Dey (2000) published a book titled *Fish and Fisheries of North Eastern India (Arunachal Pradesh)*, that covers the species found in Arunachal Pradesh and bordering areas of Assam. National Bureau of Fish Genetic Resources published Ponniah and Sarkar's (2000) work, *Fish biodiversity of North-East India*. Vishwanath (2000) published *Fish Fauna of Manipur*, that covers all identified species from the state of Manipur. Viswanath expanded his work and two years later in 2002 published *Fishes of North East India*.

Specific works focusing a species or a particular type or group of fishes have been found from different parts of North East India. Dey (1989) studied the *Ornamental fish resources of N. E. India*. Sen and Biswas (1994) reported a new species *Nangra assamensis* from Assam, with a note on comparative studies of other known species in *Records of the Zoological Survey of India* V. 94 (nos. 2-4). Yadava and Chandra (1994) published their work on *Some threatened carps and catfishes of Brahmaputra river system* in *Threatened fishes of India*.

Nibedita Sen published a series of observations on collections of fishes from different river systems in *Records of Zoological Survey of India* that included a collection from Subansiri and Siang district of Arunachal Pradesh (1998 a), a collection from Lohit, Tirap and Changlang districts of Arunachal Pradesh (1998 b), a collection from Subansiri and Siang districts of Arunachal Pradesh (1999 a) and a collection from Lohit, Tirap and Changlang districts of Arunachal Pradesh (1999 (b)). Later, 2003, Sen published *Fish fauna of North*

East India with special reference to endemic and threatened species in Records of Zoological Survey of India (101: (Part 3-4).

Dutta (2000) wrote an article on the *Ornamental ichthyofauna of Assam* in Ponniah and Sarkar edited NBFGR publication *Fish Biodiversity of North East India*. Sarma and Dutta (2000) contributed an article on *Present status of Tenuulosa ilisha* (Ham.) in the *Brahmaputra river*, in the same NBFGR publication. While the former presents a checklist of ornamental fishes, later article analyses the conservation challenges of *Tenuulosa ilisa* (Ham.).

2.4. STUDIES RELATED TO CHALLENGES AND CONSERVATION OF INLAND FRESH WATER FISHES

Challenges and various conservation aspects of fishes have been studied by several authors. Das and Lakra (1992) published about Conservation of Fish Genetic Diversities in India in *Sustainable Management of Natural Resources*. Soon after that, in 1994 IUCN published a *Red list of Threatened fishes*. Zoo outreach organization and NBFGR in 1998 published a *Report of the workshop on “Conservation Assessment and Management Plan (CAMP) for Freshwater Fishes of India”*. Based on the inputs from experts from across the country, this report has produced a CAMP status for each species vis-à-vis the IUCN status. Sarkar, Pathak, and Lakra (2008) studied the challenges of fresh water fish conservation in India. Gupta and Lakra (2010) studied the diversity, eco-hydrology, threats and conservation priorities in Gomti river. Sarkar et.al. (2012) studied *Freshwater fish biodiversity in the River Ganga (India)*. They also studied the changing pattern, threats and conservation perspectives. At the global level, challenges of freshwater fish conservation was elaborated by Reid, Contreras, MacBeath and Csatadi (2013) in *Global challenges in freshwater fish conservation related to public aquariums and the aquarium industry*.

Some studies and publications on fish conservation has been published from North East India as well. Goswami's (2000) article on *Education and awareness programmes on conservation of fish germplasm resources of North East India* published in Ponniah and Sarkar edited *Fish Biodiversity of North East India* is one of the noteworthy works. Mahanta (2000) wrote an article on *Importance of Peoples participation in fish genetic resource*

conservation programme of North East India in the same volume edited by Ponniah and Sarkar and published by NBFGR.

The *Management action plan for Deepor Beel wetland of Assam* prepared by Assam Science Technology and Environmental Council (ASTEC) in 2003 produces a list of fishes identified till 2003 from Deepor beel. Bhattacharjya's (2004) article on *Floodplain wetlands of Assam: Management issues and options from fisheries perspectives* was published in *CIFRI workshop proceeding*, which throws light on the various challenges of beel fisheries in Assam. Kalita & Goswami (2008) carried out a focussed study on *Problems and Prospects of Wetlands in five wetlands of Goalpara district, Assam*. Kalita (2011) in his unpublished PhD thesis has analysed the *Diversity, Status and Conservation of Fishes in Certain Protected Areas of Assam*. This work included Deepor beel Sanctuary area. The thesis reports the fish species found in the Deepor beel sanctuary area and also lists challenges of conservation. Goswami (2002) in his edited book *Jalah aaru Eeyar Nirikshan* [Wetlands and their Observation] has mentioned about the challenges of wetlands conservation in Assam and the possible solutions.

Studies on conservation also includes the legal side. For that, this researcher reviewed two books – first one edited by Trivedi & Singh (1996), titled *Environmental Laws on Wildlife* and the second one edited by Phukan (2001), titled *The Assam Fishery Rules, 1953*. The Assam fishery rules clearly states the prohibitions regarding breeding seasons, mesh sizes of the nets etc.

2.5. STUDIES RELATED TO FISHING GEARS AND METHODS FROM INDIA AND NEIGHBOURING COUNTRIES

Fishing gears have been extensively studied across the globe by various authors. The gears used in marine fishery and gears used for inland fishery are different. There have been elaborate studies on the small-scale fishing gears in India and abroad.

Food and Agriculture Organization of the United Nations published a Catalogue of small scale fishing gears compiled by Nédélec (1975). This is widely referred internationally by all researchers and classification of the gears used in different geographies are broadly done

after Nédélec. Brandt (1984) studied the *Fish catching methods of the world* and recorded gears and implements from different parts of the globe. Schneider, James and Merna (2000) wrote a chapter on *Fishing gear* in Schneider and James edited *Manual of fisheries survey methods*.

A study on the fishing gears from neighbouring country Nepal has been published by Shrestha (1994) in his book *Fishes, fishing implements and methods of Nepal*. Alam, Ali and Tsai (1997) wrote an article on the *Fishing gears of floodplain fisheries in Bangladesh* in Tsai and Ali edited volume *Open Water Fisheries of Bangladesh*.

In Indian context Homell did significant contributions through his studies on *Fishing methods of the Ganges* (1924), *The Fishing methods of Madras Presidency, Part I: The Coromandel Coast* (1925) and *The Fishing Methods of Madras Presidency, Part II: The Malabar Coast* (1938). Homell's (1950) work titled *Fishing in Many Waters* published by University Press, Cambridge covers a wide variety of fishing gears used in different types of water bodies.

Hora (1926) worked on a typical fishing gear from Kangra valley in Punjab and published it as a paper titled *On a peculiar fishing implement from the Kangra valley, Punjab* in the *Proceeding of Asiatic Society of Bengal*. Bimachar (1942) reported fresh water fishes and some narration on fish harvesting from Mysore. Faruqui and Sahai (1943) wrote an article *On the methods of catching fish in U.P.* in the *Proceedings of the National Academy of Science, India*. Gopinath (1953) published a paper on *Some interesting methods of fishing in the backwaters of Travancore* in the *Journal of Bombay Natural History Society*. The gears reported by Gopinath are suitable in backwater condition. Job and Pantulu (1953) reported various *Fish trapping devices and methods used in different geographies in India*. Saxena (1964) did a specific study on *The fishing nets and traps in a session of the middle reaches of Ganga river system of India*. South Indian Federation of Fishermen Societies (SIFFS) (1992) did a *Census of the Artisanal Marine Fishing Fleet of Kerala State* and published a report. Krishnaiah (2010) elaborated the *Initiatives of National Fisheries Development Board in Fisheries development in India*. Khanna (1970) has explained various types of fishing gears in his book *An introduction of fishes* published by Central Book Depot.

2.6. STUDIES RELATED TO FISHING GEARS AND METHODS FROM ASSAM AND NEIGHBOURING STATES

De (1910) mentioned about some aspects of fishing in Assam. This is believed to be the first account on fish harvesting techniques in the Eastern Bengal and Assam. Joseph and Narayanan (1965) has given an account on fishing gear and methods of the river Brahmaputra, which was a direct reference for this study.

Yadava, Choudhury and Kolekar (1981) studied the *Fishing methods of flood plain lakes in North Eastern region*. In the same year Yadava and Choudhury published two other papers on *Katal fishing - A special device for catching fish in Beels of Assam* (1981a) and *Banas fishing in beels of Assam* (1981b) in the *Journal of Bombay Natural History Society*. Dey (1984) analysed *Community fishing in Assam and its impact on beel fisheries* in a paper published in *Assam Science Society Conference Proceedings*.

Kar & Dey published three communications in the *Journal of Applied Zoology Research* on *Gill Nets in Lake Sone of Assam with their Economics and Impact on Fishery* (1991), *Variegated encircling gears in Lake Sone of Assam* (1993) and *Scooping Gears of Lake Sone in Assam* (1996). All these three communications from Lake Sone in Assam gives a detail account of the different types of gill nets, encircling gears and scooping gears used in Beel fishery in Assam and their economic impact.

Bhattacharjya, Manna and Choudhury (2004) in their book *Fishing crafts and gears in North East India* have produced a detailed account of gears and crafts from different parts of North East with illustrations. Gurumayum and Choudhury (2009) in their paper published in *Indian Journal of Traditional Knowledge* studied the Fishing Methods with focus on only the Riverine ecosystem of Northeast India.

Majuli presents a unique ecosystem for fishes. N. C. Das (2013) in his paper published in *International Journal of Social Science Tomorrow* did a detailed study on the *Fish Harvesting Method of Island Fishermen* belonging to Kaibarta community of Majuli.

Dutta, Das and Kar (2016) studied *the Fish Catching Devices with their Efficacy and Cost-benefit Analysis in the Towkak River in Assam and Nagaland*.

2.7. STUDIES RELATED TO FISHING COMMUNITIES

References of involvement of different communities in fishing, fish processing and fish selling are evident from the works of Dey (1984), Bordoloi, Sharma Thakur and Saikia (1987), Bordoloi and Sarma Thakur (1988), Bordoloi (1991), Dutta et.al (1992), Basumatary (2004), Sharma Thakur (2007), Deka, J. et.al. (2008), Deka, T.K. (2008), Deka, J. et.al. (2011), and Baglary (2016), Das (2018) etc.

Risley (1891) in his book *The Tribes and Castes of Bengal* has elaborated about all the tribes and castes in Bengal. He mentioned that Kaibartas are a large fishing and cultivating caste of Bengal, ranked below the Nava Shakha who derive their livelihood from water.

Gait (1905), in his book *A History of Assam* has given a detailed historical account of all the tribes and castes of Assam. He mentioned that Koch is a Hindu caste which received the converts to Hinduism from Kachari, Lalungs, Karbi and other tribes.

Rev Endle (1975) in his book *The Kacharis* has given a detailed history of the Kachari dynasty and how the tribe entered Assam and branched out to different parts of North East and Bengal. He has shown seven 'sub-tribes' of the Rabhas – 'Bitliya', 'Dahuriya' 'Koch', 'Maitoriya', 'Pati', 'Rangdaniya', and 'Sangha'.

Doley (1980) in his book *Assam and the Assamese Mind* has given the evolution of all major communities and their migration and integration process in the greater Assamese culture.

Assam Institute of Research for Tribals and Scheduled Castes (AIRTSC) published a series of books titled *Tribes of Assam: part I, II and III* edited by Bordoloi, Sharma Thakur and Saikia (1987), Bordoloi and Sharma Thakur (1988) and Bordoloi (1991) respectively. *Part I* covers elaborate cultural account of Boro-Kachari, Deori, Dimasa-Kachari, Karbi, Tiwa, Mishing and Rabha tribes. *Part II* covers elaborate cultural account of Barmans, Hmars,

Kukis, Rengma Nagas, Sonowal Kacharis, and Zeme Nagas tribes and *Part III* covers elaborate cultural account of Hajong, Garo, Khasi, Jaintia and Mech tribes.

Choudhury's (1988) book *Assam-Bengal Relations from the Earliest Times to the Twelfth Century A.D.* gives some account of communities living in these two states, their culture and migration patterns. He mentioned that there is evidence of Kalita kingdom in very early times as well as during the 15th-16th century. Kalitas started migrating from North and East India to Assam during the 11th century rule of Dharmapal.

Nath (1989) in his book *History of the Koch Kingdom* has elaborated the origin and descent of Koch Rajbongshi community. Koch Rajbongshis or Koch Biharis ruled the Kamatapur dynasty from 1515. Koch (Rajbansi) population forms a major detribalized group.

Bakshi et.al. (1998) edited *Contemporary Political Leadership in India* in which he mentioned that the Kalitas in Assam are considered next only to the Brahmins in the caste-hierarchy. They are "the non-Vedic Aryans" who are responsible for bringing Aryan culture to Assam.

Waddell (1999) in his book *Tribes of the Brahmaputra Valley: A Contribution of Their Physical Types and Affinities* has narrated about different tribes, their cultural and anthropological relations with other allied tribes.

Ghosh and Ghosh (2000) in his book *"Sutradhars". Legends of Origin of the Castes and Tribes of Eastern India* described Sutradhar as a Hindu caste within the Vishwakarma community of India. They are also known as Suthar or Sutar.

Grierson (2000) in his book *Languages of North-Eastern India: A Survey* has narrated the migration patterns and affinities of the Assam-Burma group of the Tibeto-Burman speakers of the Sino-Tibetan speech family. He mentioned that the Bodos, who migrated to eastern India in the second millennium BC are the largest plain tribe of Brahmaputra Valley.

Kurien (2001), in his article *The Socio-Cultural aspects of Fisheries: Implication for food and livelihood security- A Case Study of Kerala State, India* published in McGoodwin (ed) *Understanding the cultures of fishing communities: A key to fisheries management and food*

security, FAO Fish. Tech. Pap. No.401 said – “*Aquarian ecological context of Kerala has made its people fish eaters, and they devised various techniques to capture fish*”.

Ved Prakash (2007) in his book *Encyclopaedia of North East India, Vol. 1* has written about various tribes and castes living in North East. He mentioned that the Kalitas belong to the Kshatriya caste of Hindu religion.

Sarmah Thakur (2007) edited the *Selected Essays on Tribes and Castes of Assam* published by Directorate of Assam Institute of Research for Tribals and Schedule Caste. It has articles written by different authors on different tribes and castes.

Deka, Bhuyan, Baruah and Rahman (2008) did a specific study on the *Sustainable Economy and Livelihood through Participatory Approach in the Deeporbeel Wetland of Assam*. Deka (2008) did a wider study on the *Status of Wetlands and their Impact on the Livelihood of fisherman Community of Assam*. Barman and Boro (2008) did a study titled *Wetlands in Assam: an Appraisal of their Natural and Socio-economic Importance*. Kakati et.al. (2008) studied *Garzon Beel: the unique wetland of North Kamrup in relation to biotic resources and socio-economic condition of the fisherman community of Hajo circle*. Devi, Sarmah and Borkotoki (2008) studied the *Need for community-based protection measures for the Rangagarh beel (Lake), North Guwahati, Assam*. All these five papers were published in the *Proceedings of the National Seminar on Wetland and Livelihood, Guwahati, 2008*.

Indira Barua's (2009) work on *Conservation and Management of Community and Natural Resources: A Case Study from North East India* throws light on the bioresources utilization pattern and participatory resource management practices including the fishery resources.

Deka et.al. (2011) studied the *Impact of climate change on sustainable livelihood in Deepor Beel's Keotpara area*. This study published in NeBio has given some direct reference in deciding the survey population of the present study.

2.8. STUDIES RELATED TO CULTURAL LINKS OF FISH AND FISHING

McGoodwin (2001), in his technical paper *Understanding the cultures of fishing communities: A key to fisheries management and food security* published by Food and Agricultural Organization (FAO) has explained that fishing, one among many ways of providing for human existence, requires certain human adaptations and behaviours, which in turn, help development of certain cultural characteristics. These adaptations are rooted in the requirement of exploiting particular ecosystems with whatever technologies are available at a particular time, and then are ramified through the cultures of the fishing communities. Therefore, it is important to underscore that a fishing community's approaches to fishing, the fishing gear, its uses and its organization of other fisheries activities is usually the result of considerable experimentation over a long period of time.

Social customs, food habits, songs, rituals, festivals, livelihood etc of different communities and links with fish and fishing have been studied by some authors. Gogoi (1969) in Assamese book *Bihu eti somikkhya* has mentioned about many Bihu songs that has mentions about some species of fish and some fishing gears and events of fishing. Dutta (1974) in his Assamese book *Goalpariya Lokageet* has mentioned Goalpariya songs in which fish and fishing are mentioned. Dey (1984) has studied about *Community fishing in Assam and its impact on beel fisheries*. Community fishing on certain special occasions has been a heritage of Assam. Brahma (1989) has studied the *Social Customs of the Bodos*. Baruah (1989) has included songs about fishes in his book '*Ei gaon ei geet*' (This village, this song). Sarma, Nabin Chandra (1993) in his edited book *Padma Purana: Bhatiyali Khondo* has mentioned about fishes and linkages to Goddess Padma. Many songs of worshiping Padma has mention about fish and fishing. Dutta (1999) studied the Folk culture of different communities in North East India. In his book *Folk Foraging in India's North East*, he has mentioned many folklore from the South Western Assam apart from the other parts of North East.

Sugunan (2001) reported that 90% of the population in Assam are Fishiterian. Ramakrishna (2008) in his book *The Cultural Cradle of Biodiversity* has mentioned about the bioresources dependence of people in North East. Basumatary (2004) in his Bodo book *Fukri Jaonanwi*

Na Fishinaini Nem-Khanthi has elaborately given the process of fish culture by Bodo community and how to increase economic return from fishery.

Gogoi (2001) in her unpublished PhD thesis has explored the cultural link of fishes to Assam's folk culture. Baruah (2001) has mentioned many songs of worship in his book *Dihanaam* published by Jyoti Prakashan. English translated version of Lakshminath Bezbaruah's famous book *Burhi Aair Saadhu* was published by Anwesha Publications in 2003. It has six stories that have links with fish or fishing. Baglary (2016) has mentioned about use of fish among Bodo community in her book *Boro Somaj Aaru Sanskriti Sampriti*. Das (2018) has mentioned about use of fish among Rabha community in her book *Rabha sokolor utsav anusthan*. Majumdar, (1991) studied the culture of Rabha community living in South Kamrup in his paper *Dakkhin Kamrupor Rabha Sanskritit Abhumuki*.

Dry fish preparation has been an age-old practice in different parts of Assam and neighbouring places including Bangladesh. It has been studied in detail by some authors. Dutta et.al. (1992) did a detailed study on *Drying of fish and meat for scientific preservation with reference to the methods used by plain Tribals of the Brahmaputra valley*. This project report funded by Assam Institute of Research for Tribals and Scheduled Castes produces a checklist of fishes used by the communities for preparing various types of dry fishes. Saisithi (1994) studied the Traditional fermented fish, especially the fish sauce production. Muzaddadi and Basu (2002, 2003, 2012) have explained how the fish is fermented traditionally to prepare Shidal and what are the influences of modernization on the process. Sharma et.al. (2013) has given a detailed procedure of making Hukoti, another type of dry fish in their paper *Hukoti – An indigenous dry fish product of tribal communities of Upper Assam* published in Indian Journal of Traditional Knowledge.

These reviewed literatures formed the basis of this study. These helped in identifying the communities, populations and the methodology of the study. For designing the research methodology, Kothari (2004)'s book *Research Methodology: Methods and Techniques* was referred. Narayanasamy's (2009) book *Participatory rural appraisal: Principles, methods and application* was referred to design the methodology for focus group discussion, interviews and participatory rural appraisal.