

CHAPTER-2

REVIEW OF RESEARCH LITERATURE

2.0 Introduction:

A review of previous studies on fishery sector is essential for the study. The information of the study gives opportunity to go in depth and to identify the unknown areas. Many authors deal extensively with various aspects of fishery sector. Some of the following studies are reviewed systematically in the year wise.

Sehara et al (1983) in their study on the evaluation of fishermen economy in Maharashtra and Gujarat examine the socio-economic conditions of fishermen in these two states. This study examine the socio-economic factors of the fishermen such as literacy, size of family, earning, number of annual fishing days, household, income, saving pattern and expenditure. According to the authors, the socio-economic status of the fishermen in the two states depends upon the natural environment which plays an important role for increasing the income and expenditure of the fishermen in the post monsoon period.

Rao (1986) *Economics of Fisheries*, New Delhi, Daya Publishing House. The author states that the financial resources allotted to the fishery sector in general and to specific schemes in particular is very merge. Although, some schemes have been proposed in each five year plan most of them were not completed in the respective plans. There is a lack of co-ordination between government departments and some different agencies connected with the implementation of the different fisheries plan and programme to raise the level of fish production.

Choudhury (1989) explains the socio-economic conditions of fishermen community in two districts of Assam. In the fishery sector the socio-economic condition of fishers plays an important role in productive activities. Especially the author focuses in his study on the income level of the fishermen, the family size, expenditure on food,

cloth, fuel etc. The study states that income and family size of the fishermen are directly correlated.

Srivastav (1992) in the study “*fishery sector of India*” deals with one of the most important economic sector in the country. The author states on the status of fishery resources from the sea, brackish water and fresh water environment. He basically mentions in this study about the fishery research, training, institutional finance, marketing and transportation of fish. The study is a case study and the author has focused about the future strategy for fishing in deep sea, brackish water aquaculture and reservoir fisheries.

Bailey (1994) “Employment labour productivity and income in small-scale fisheries in South and Southeast Asia” observes that small-scale fisheries in South and South-East Asia have undertaken dramatic changes. The vast use of capital-intensive technologies has resulted in overexploitation of the resource base. According to the reports of the author, the evidence to indicate that it has been a net growth in the employment of the fishery sector. He raise questions the generally held notion that the economic status of fishermen is very bad than those found elsewhere and the small scale fishers are the poorest of the rural poor.

Bhaumik and Saha (1994) in their study focusing on the socio-economic condition of Sundarban, West Bengal mentioned that the majority of the scheduled caste fishermen plays dominant role in the fishing sector and the involvement of higher caste community in aquaculture activities are very less.

Chong (1994) examines that in developing countries fishermen have not reached the level of awareness, understanding and appreciation of the merits of including and excluding fishermen from over exploited fisheries. The development, implementation and administering of any management measure which limit entry or constrain fishing will be failed if no workable alternatives are offered in place of the restrictions imposed. The author concludes that limited entry of fishermen as a management measure is not economically, politically or socially feasible or viable in developing countries.

Rahman (1994) argues that the conservation and management of coastal fisheries has to be developed on a rational basis mentioning biological, environmental and political and the socioeconomic issues. In view of the increasing multiple use areas has to be considered in the extensive context of coastal zone management with a bio-socio-economic approach. The natural systems involved comprise an integral totality and it is necessary to serve them as such, if management is to successfully promote the proper use of the resources and the human environment as a whole.

Rao, P.S (1995) in his “Importance of fishing industry in Indian Economy” analyze the employment opportunities of the fishermen in India and he suggests for expanding the fishery industry in the country and reveals that the majority fishermen belong to rural areas and these areas of the fishing community are situated on the banks of river, estuaries, ponds etc. These area are far away from urban or town area. The fisher folk of these areas are deprived from some facilities such as transportation and communication, marketing, warehousing facilities etc. Even the fisher folk do not collect proper information from outside and therefore the author stresses on the local authorities to provide adequate facilities to the fisher folk in the rural area.

Hazarika (1995) in his study on “Core problems of Scheduled Caste of Assam” mention that fishing is the main occupation for scheduled caste people in Assam. Basically most of the kaibartta community of the scheduled caste people in the Brahmaputra valley in Assam is involved in fishing sector. Fishing is the main source of livelihood of the community. The author opines that the socio-economic status of the scheduled caste community is not good. Most of the people are below poverty level. He focuses on the core problems of scheduled caste community in Assam. The main problems of the community are uneducated; unemployment and poverty. He explains that due to defects of the State Government fisheries lease process some ineligible parties get lease the fisheries.

Kurien,J (1996) ‘Towards A New Agenda for Sustainable Small Scale Fisheries Development’ focuses in his study that the country artisanal fisheries provide livelihood to the significant numbers of fishermen and their families. Considering that

these fishermen are the most deprived communities in the country, and the fact that they avail very little occupational mobility. He stresses at the study to ensure their spaces in the sector otherwise the fishermen may transform into refugees. The study clears that the fishermen and fishing community should take major role for empowering them by forming some fish worker organization like cooperative societies, trade unions and other organization.

Ananth and Sithadevi (1998) in their survey, reveals that though motorization of traditional crafts have made a strong base for fish production, and transformed this sub sector, the fishermen confront various problems that hamper reaping the benefits in full. Capital investment has identified as the biggest challenge, followed by availability of engines and after sales services. Lack of knowledge, high maintenance cost, inadequate infrastructure supply of fuel, etc. has been identified as main constraints reported by the respondents. The fact, however, remain that such constraints or challenges have not reduced the pace of mechanization.

Gordon (1998) explain that those fishermen who are willing to take the source of livelihood in fishing sector in Asia while increased commercialization of fisheries sector where they get benefit through higher prices. Some numbers of fishermen tends to displace the livelihood which depends on traditional processing or local marketing. The author stresses the role of strong and sustainable community groups, along with the need to empower these groups, controlling them over fish marketing or trading and other activities. It is an institutional approach which expects good participation in management of a resource for their living.

K.K.P. Pannikar, et.al (1998) observes “Structural Changes in the traditional Fishery of Kerala and its socio-economic implication”. It highlights the socioeconomic implications of the structural changes on the traditional fishery sector. The author opines that before motorization period rural landing centers were primary markets for traditional sector. Increased ring seine operation with its huge landing attracted many traders. As a result bargaining capacity of the traditional sector increased. The share of fishermen has been increased. The study also reveals that the fishing used by the

fishermen are destructive, posing the problem of conservation of fish resource. Better economic performance has resulted in increase of using of modern technique, higher investment and operation cost.

Sathiadhas (1998) examines about the structural changes that have taken place over the years in the Indian fisheries sector and their socio-economic impact. He also draws attention to the decrease catch per unit of effort due to overcapacity in fishing fleet. It has affected heavily the traditional fishermen. It is believed that there is no scope to increase fishing effort in the deep waters. The author considers “co-operative fishing” instead of competitive fishing through community participation or involvement in fishery management by making awareness among fishermen.

Srinath (1998) reveals that development of fisheries sector in India depends to a great extent on the technological empowerment of small fishermen. Despite the efforts towards technological development and transfer, fishermen are not able to use them due to lack of organized effort and effective extension work. In this context, the Government in India, at the federal as well as at the state levels adopts a policy of upgrading traditional fishing vessels into motorized boats.

Sutton Michel (1998) in his study “Harnessing market forces and consumer power in favor of sustainable fisheries” explained that huge public engagement in the fishery management process must be encouraged and helped for taking positive step for fishery sector development. Marketing economic incentives and strategies must be made to promote sustainable fishing. Fishery constructive activities like conservationists working with responsible persons, progressive sea food companies and other stakeholders must develop reforms that will encourage fish buyers to purchase their products only from sustainable, well managed fisheries.

Thampy(1998) reviews the status of fishery education and Human Resources Development programmes in the country and observes that they are not fully meet the requirements and challenges which have been faced by the fishery sector. Therefore, diversifications at middle and quality improvement at higher education levels are the immediate needs.

Sinha (1999) in his study “Rural aquaculture in India” focuses about the national policy on fisheries development for optimal utilization of natural resources. According to the author most of the fishermen in rural area can be developed their socio-economical status when they will avail the various government schemes and programmes. Many researchers of the study opine that when the various government schemes will be gaining popular among the fishers or fish farmers then automatically the fisher will get more economic benefit.

Karmakaret *al.* (1999) suggest in their study for overall socio-economic condition of fishermen, better educational arrangements and provision for basic amenities of life, easy credit facilities, government supports and incentive for other allied activities.

Baruah et al. (2000) state that for sustainable development of beel fisheries in Assam, a community-based co-management model is quite necessary like those applied in reservoir fisheries in Northern Brazil. They mention that there are many beel fisheries in the state where government is the management authority .Government should organize and conserve the existing beel and river fisheries and other rest of the unorganized beel and wetlands.

CIFRI (2000) reveal that the result of the study is found that the highest average production potential of 1,221kg/ha/year by the beels of lower Assam, 1,245kg/ha/year by the beels of upper Assam, and 1,060kg/ha/year by the beels of central Assam. CIFRI further estimated average fish production of 17 beels (surveyed) to be 134kg/ha in the Brahmaputra valley while the corresponding figure for 6 beels of Barak valley was estimated at 285 kg/ha, the average production of the state being 173kg/ha .

Goswami & Sathiadhas (2000) state that fish production is substantially raised at Lakhimpur community Tank, Darrang due to community-based tank management programme as compared to individual tank's production near by the Lakhimpur community tank. This also led to initiation of some social welfare activities among the members taking part in community management. This mechanism has been collectively done through some government schemes and progrmmmes.

Mahanta, P.C (2000) analyzes the status of fish seed production and strategies for fish marketing in North East Region especially in Assam. In the study he mentions that there is a favorable environment of fish seed production in the state. He finds that the fish seed production is gradually increasing due to construction of hatchery. According to the author the fish seed production give a satisfactory result to the fishery sector of the state.

Mathew (2000) examines the application of the Code of Conduct for responsible fisheries in the management and development of marine small-scale fisheries in India. In his study he analyses the genesis of the Code, the problems and prospects of applying the code, the reservations of some of the signatories to readily implement it, the scope and advantages of implementing it. He has suggested adaptation of the code to suit the Indian small-scale fisheries.

Pathak, S.C (2000) states on the fisheries resources of the North Eastern Region. According to him despite the adequate natural fishery resources in the region fish production has not been able to self-sufficient. The author highlights the necessity of credit support for the growth of the fishery sector and he clears that the fishery sector is now gaining popularity in North Eastern Region. The author also focuses on the necessity of indigenous fish production in the region which can be meet up the demand of fish in the state.

Sugunan and Bhattacharjya (2000) give a comprehensive overview of the ecology and fisheries of beels of the state of Assam based on extensive field surveys conducted by CIFRI in both the Brahmaputra and Barak Valley. In the study the author suggests to conservation some beel fisheries of the state for ecological purpose.

Bhattacharyya (2001) states that for effective development of Assam Beel fisheries, emerging participatory approach to management including fisheries co management is necessary for ensuring greater benefit in case of development interventions including application of conservation technique and licensing regulation. In the study he suggests that the government should take wise policy for management the beel fisheries in the state.

Gopal, (2001) considers marketing as an important area of fisheries management and analyze the landing centre, wholesale and retail markets in Cochin and Veradale for important varieties of fish. He mentions in his study that due to intervention of middlemen in the fish market the price has increased in the fish and they get more commission and on the other hand the fishermen and consumer do not avail the reasonable price.

Government of India (2001) clears that the Ministry of Agriculture launched three centrally sponsored National Welfare Schemes for Fishermen in 1992-93. The schemes are Development of Model Fishermen Villages (MVS), Group Accident Insurance Scheme (GAIS) and Savings-cum-Relief (SCR) programme. The main purpose of GAIS is to provide insurance cover to fishermen actively involved in fishing. Dynamic fishermen in the age group of 18-65 only are covered under the programme. The scheme has been revised and the fishermen are now insured for Rs.50,000 against death or permanent disability and Rs.25,000 against partial disability. The premium amount of Rs.14 per beneficiary per annum is shared equally between the central and state governments. This amount is given to fishermen under this scheme may vary from state to state.

Barbosa (2002) in his study “Fishing for a High Living” explain that the mechanized fishing in Goa is done without any proper rule and regulations. There is no license system for trawlers in the state of Goa. Once a trawler owner registers his trawler, the author need not approach any government department again. The state of Goa has 1128 registered trawlers and this is far above the saturation point. He suggests that there is a need to regulate the number of trawlers that go in the sea and their expedition schedule. The author strongly feels that there is a need to redraft the laws and to control the mesh size.

Bhattacharyya (2002) based on the case studies in two open and closed beels of the Central Brahmaputra Valley Zone of Assam, shows that the tropic structure and fishery potential varied significantly between these two types of beel.

Srivastava and Bhattacharyya (2003) mention that there are total 1392 nos. of listed beels in the state, out of which 423 are registered beels and the remaining 969 are unregistered. Out of the total unregistered beels, 505 nos. are under the control of both government and 464 nos. are under semi-government or government bodies like Gram Panchayats and Mahakuma Parishads. The Barak Valley has 322 numbers of listed beels. The Brahmaputra Valley has 1,070 nos. of Beels. The central hilly region does not have any listed beel.

Kumar Anjan (2003)) in his study “A Profile of People, Technologies and policies in Fishery Sector in India” mentions about the status of fishery sector in India. According to him, the fishery sector is a source of livelihood for the significant portion of the people in the country. The sector is gaining popularity among the people in the country and it gives immense opportunities of employment generation, income augmentation, earnings of foreign exchanges and provides food and nutrition. The fishery sector also contributes to G.D.P. to the country. He mentions that the fishery sector in India is a traditional sector and the last two decades its growth rate is satisfactory and the sector has emerged as an important sector in the country.

Venugopal S (2005) in his book “Aquaculture” explains that basic information and consumer education programmes can play a vital role in expanding the demand for aqua cultural products. He suggests that economists should try to do their study more innovative, informative and some approaches have to frame on consumer demand for fish and sea food and also give stress on the resource allocation and public policy affecting aquaculture.

Gupta (2006) in his study “Challenges in sustaining and increasing fish production to combat Hunger and poverty in Asia” reveals that there are ample opportunities for fish and fisheries to make a major contribution to food and nutritional security. The study highlights on eradication of the poverty and the number of challenges. The main challenges of the study are lack of huge requirements of government fund, political will, policy change and effective and efficient implementation. The study mainly focuses on fight against hunger is a long process.

Kalita, B (2006) in his study focuses on the expansion of the aquaculture. He found that the aquaculture has met the demand of fish in the country because there is an excellent sub-tropical climate and varied type of water bodies for development of aquaculture. He also states that the fishery sector is able to mitigate the protein deficiency in developing country like India. But reality is that fish is not contributing to the nutrition of our protein starved millions to the extent mainly due to the gap between the demand and supply.

Chandra, G (2007) “Entrepreneurship in Beel fisheries of Assam: A Case Study of Haribhanga” states that the Haribhanga is a natural closed beel fishery located in Nagaon district in Assam. This beel fishery is under the management of Assam fisheries development Corporation. The beel fishery has been providing a good amount of revenue to the state government. As per the AFDC report the lease amount Rs.5,75,000/(Five lakhs Seventy five thousand only) per year from 2002 to 2008. The author observes the production status of fish from the year wise (2002-2008).According to him this beel fishery should not the value of this higher amount. Due to several bidders of the beel the revenue amount has been increased. The lease party cannot run the fishery at the heavy amount .Therefore the lessee take financial support from the Gramin Vikash Bank under the scheme of entrepreneurial development. This case study focuses on the capital investment and scientific management of natural resources.

Datta and Kundu (2007) they analyze the role of fisher folk in the inland fishery development. They give stress for perceptible improvement in their socio-economic condition. The workers attributed the pathetic plight of the fisher folk to low income, illiteracy, poverty, family size, poor toilet facility, lack of knowledge about fishing methods, caste, gender, etc. The government has made enactment of legislation and implementation of several schemes for the empowerment and socio-economic development of fisherman community.

Barman (2008) focuses that there are evidences of reduction of installation cost of pens, procurement of fish inputs zmd rising of Beel users' empowerment in

construction and management of pens as a result of community-based management at Deep Beel in Kamrup district of Assam.

Biswas and Sugunan (2008) observe that the total of 151 species of fish is found from the Brahmaputra River and its tributaries of which 73 are consumed as food fish as well as ornamentals. The food fish are gaining more popularity and it has greater demand among the people of the state. Another rest of ornamental fish is also gaining popularity in the state and it is able to capture the foreign market also.

Ravindranath, K (2008) in his paper on “*Development of Strategies for Domestic Marketing of fish and fishery products*” explains about the domestic fish marketing system in India. According to him, the fishermen share in consumer’s rupee has been reducing due to increasing private traders with large number of intermediaries.

Bhattacharyya (2008, 2009) highlights that for effective management of Beel fisheries in the state, adoption of community-based fisheries management approach is imperative.

Sawant (2009) states detail on socio economic status of the fishermen of the Makni reservoir of Maharashtra and indicates that size of the fishermen family ranged 5-8 individual, 63 percent fishermen have pucca houses, 31 percent have kutchha houses and 6 percent live in huts. The education level is also poor. The 43 percent having high school level education, 19 percent up to middle level, 16 percent up to pre degree level, 13 percent primary and 8 percent up to graduate level. They are engaged in agriculture (80%) followed by fisheries (10%) and followed by business and other services (5% each). They basically belong to below poverty line (BPL) category with average monthly income level from Rs. 6000.00 to Rs. 8000.00

Barman (2009) mentions that the interest of the poor fishers and in the interest of effective utilization, conservation of water resources of the entire North East region of India, a people led , people centered community-based fisheries management strategy is highly required to meet the twin objectives of enhanced fish production as well as upliftment of socio economic status of the poor fishermen for better quality of life

with proper maintenance of socio-environmental aspect for the Beel fisheries in the State.

Bhuyan et. al (2009) “Fish and Fisheries in North east India” reveals that fishery sector is not only the culture of fish for food purpose it should maintain the ecological balance which the fishery sector has been faced by the various problems of destruction of the natural ecosystem. The author has focused that the north eastern states of India have available aquatic resources like many species of indigenous and ornamental fish which have great marketable value. The study highlights on the conservation and sustainable use of resources which can carry out for the development and food security of the north eastern region. Besides, the study states the expansion of fisheries entrepreneurs and educates rural fish farmers.

Bhagwati (2009) in his study on “*Fishery in Assam*” examines about the scope and status of fishery sector in Assam. According to the author the state would be self-sufficient in fish production when these water resources would be used with accurate scientific fish farming.

Gurumayum and Choudhury (2009) state the fishing methods in the rivers of North East India. They observe the uses of modern scientific fishing technique. Some methods and equipment’s are very complex, expensive and polluted. The fishermen of the North East Region could not use that type of fishing equipment’s and sometimes some fishing techniques like noise fishing, group fishing and poisoning effect on environment of the fisheries therefore the fishermen of North East Region cannot catch fish highly.

Lalthanzara and Lalthanpuii (2009) explain on the use of indigenous technical knowledge for fishing in the fishermen of Mizoram where rivers create deep gorges between the hills. These include community herbal fishing using leaf, bark, roots or fruits of locally available plants as baits, bamboo aerial trap, bamboo barricade of different designs, hammering, stone piling, water diversion, temporary water blockage etc.

Baruah (2010) explains his studies on conical shaped bag net, popularly called —horhorijal is also seen in use in both the districts of Goalpara and Dhubri, being operated by towing from two boats with the involvement of 2-4 persons.

Dutta et al (2010) in their study on “A perspective on fisheries sector interventions for livelihood promotion” opine that the fishery promote livelihood of usually poor, backward and unorganized fishermen communities. The paper focuses the major ingredients for sustainable livelihood development and it covers the analysis of the theorem and the Japanese model of keiretsu to empower the producers and supply of fish.

NIAM (2010) indicate for effective utilization of vast Beel fishery resources in the state through community participation due to implementation of community-based development approach at Ganjakhuri Beel in Hailakandi district of Assam, fish production was raised to 903 kg/ ha/ year and Beel users' were involved in Beel supervision, fishing activities, duck farming and have equal distribution of income among the members leading to sustainable development of the Beel.

Anon (2011) give detailed modality for management oi beel fisheries through community participation for sustainable development of beel fisheries in the state.

Vankade P. G. (2011) “Critical Assessment of Devgad fisherman Co-operative Society” identify the programmers of Devgad fishermen Co-operative society .He describes at his study that the government provide subsidy or loan to the co-operative societies for developing the standard of living of the fishermen. The study has been focused the socio-economic development is as the main issue and the entire study is done by basically primary source.

Basava kumar *et al.* (2011) “A study undertaken in Mugad village of Dharwad district, Karnataka” focuses that the study cover 57 families and it has revealed that the type and number of gears owned by the families has direct impact on the income by individual and that adoption of improved fishing practices will elevate socio-economic status of fisher folk. The study further analyzes the socio-economic profile of the fishermen and noted the percentage of literate population at 13.84, percentage

of land –owners at 29.3, family heads with drinking habits at 84.21 percent, family size of 5-7 members at 45.61 percent, 56.39 percent of fishermen never reading newspapers, smoking and betel-nut chewing being common, 80.69 percent of the fishermen attending fishing for more than 15 days in a month but most of the families having moderately good houses. .

Goswami *et al.* (2012) mention 422 fish species from North-East India and total of 311 fish from Assam that include 131 food fish and 180 ornamental fish. Due to the effect of climate change to the biodiversity of fish in Assam, these workers observe that such changes could trigger a sequence of events threatening the biodiversity of fish.

Bordoloi *et al.* (2012) observe that 38.1 percent of the fishermen are illiterate, 90 percent of the villagers live in kaccha houses, none of the fishermen have insurance policy and most of them are backward in other development spheres.

Baishya (2012) mentions his study that the socio-economic profile of Niz-Saldah village under Sarthebari revenue circle, Barpeta district, Assam, most of the respondents 52.43 percent of the population of the village being traditional Assamese fishermen. He observes poor toilet condition, poor transport communication, poor medical facilities, large-scale betel-nut chewing habit, traditional method of fishing, improper management of social resources and low standard of living affecting the development of the community.

Chakravarty and Sharma (2013), in their study of Nalbari district in Assam recorded 36 types of fishing gears in use. The two workers have also noticed increasing use of nets of small mesh size, like moshari jal, langi jal and phansi jal among the fishermen.

Dutta and Dutta (2013) explain the fishing technique in the river and beel fisheries. Obstruction in the flow of river water by construction of *bheta* by piling boulder, tree trunks, leaves and using bamboo fence is a common fishing method in many parts of N.E. India. *Bheta* fishing practiced by *Nocte* tribe of Tirap district (Arunachal Pradesh) for catching hill stream fishes during winter is known to be eco-friendly.

Sheikh and Goswami (2013) explains their study that they investigated various aspects of socio-economic condition of fishing community of two villages comprising 40 scheduled caste families living around Chandak hola wetland in Dhubri district of Assam. As a result they have found that 90 percent of the fishermen covered under the survey did not have own fishing boat , 85 percent belong kaccha houses, 77.5 had family size of 5 to 9 members, 63 percent were illiterate, 15 percent of the fishermen have no monthly saving and cent percent of the community living below poverty line.

Baroet *al.* (2014) states that after long investigation on Sonkosh River bordering Dhubri district recorded 49 ornamental fish species, of which 4 are assessed as near threatened.

Mickiewicz and Wolos (2014) explain their studies on the role of administrative, legal, natural and socio-economic factors to find out the impediments in the functioning and development of inland fisheries in Poland. The workers while analyzing all the factors recommended for adequate state funding for implementation of several proactive measures.

Ragavan, N. et al (2014) in their study “Socio-economic status of fishers in Allaipiddy Village, Jaffna” analyze the socio-economic condition of the fishermen among the 53 fishermen in the

Allaipiddy Village. The 53 fishermen are randomly selected and data are collected through questionnaire. The descriptive analysis has been used in this study and fully used the SPSS. The result of the study

- i. The all 53 fishermen are Srilankan Tamils
- ii. All fishermen having primary education
- iii. 95 percent families are nuclear families
- iv. .90 percent fishermen are earning Rs. 20000 to 40000 per month and
- v. The fishing is the main livelihood of Allaipiddy Village.

Barik, Kumar Nagesh (2016) “Potential in improving Nutritional Security through Aquaculture Development in India: A Regional Level Analysis” states that the large number of Indian population is dependent upon fish as a source of protein. There are

300 million people consuming fish in the country and it provides around 44 percent of non-vegetarian protein. The author gives stress about the regional based production i.e. north eastern, eastern, western, northern, central and southern regions. The study focuses the immense scope and double potentiality fish production in the north eastern regions due to availability of water bodies.

Chandra Ganesh, Bhattacharyya, Udaybhanu (2016) Institutions and Governance in fisheries of Indian Brahmaputra River basin stated that Brahmaputra is one of the largest rivers of the world having a drainage area of 580000 square kilometers. The river fishery provides food and nutrition to the people of the state of Assam. He describes about the institutional arrangements between two river stretches and wetland under different management regimes, namely i. open access (North Lakhimpur district) ii. Fisherman co-operative (kamrup district) and 15 flood plain wetlands under individual, co-operative and open access. As an authority of institutional management the state Government fishery department was leased out the river and wetlands for 7 years where the matter of government revenue is included.

Rajbangshi, kumar Manoj et al (2016) “Current Status of fish Diversity of Kamandanga Beel of Kokrajhar District, Assam India, with a brief note on its threat and Conservation” opines that the Kamandanga Beel of kokrajhar is located in the lower reach area of Brahmaputra River. He observes that there are 53 species of fish have found during the study period. The fish diversity is declining due to overfishing, pollution, conversion of wetland areas into agriculture land, encroachment and natural hazards. The Beel fishery is leasing to the registered cooperative societies, self-help groups and individuals by time to time by the Government strict implementation of fisheries laws and regulation and environment act.

Marimuthu R et al (2017) Constraints Analysis of Inland Fishers in Theni Arrondissement, Tamil Nadu reveals the socio-economic, employment and marketing facilities faced by fishermen in Theni district, Tamil Nadu, from where samples are collected by adopting different sampling method and this results low level of employment, lack of market co-operative and school dropout was the main problem. Moreover attempts were made by fisheries promotional activities to raise the income

of fisheries and employment rate and this help to uphold the economic and social status of inland fishermen.

Karjuni, Dt et.al (2018) of their study Fisherman empowerment and poverty in Pesisir Selatan Regency reveals that the fishermen are group of people who are the very low income group. They have been confronting various problems in their daily lives because due to insufficient fishing asset they cannot go for fishing. Therefore the study highlights on the government welfare schemes and government initiatives for reducing the poverty level of the fishermen in the study area.

2.1. Research Gap and Scope of Research:

Major studies enlisted above reveal the problems and prospects of fishery sector. Very few studies and publications are available in the natural fisheries sector. It is a fact that though several studies are available to enlighten the socio- economic conditions of the fishermen in the fishery sector but very limited measures have been found from the various studies for upliftment the socio-economic status of the fishermen in the state. This study is intended to fill the gap and to reveal the living standards of fishermen.

The review of the related literatures have revealed the huge gap in respect of their practical applicability in the poverty and flood hidden state of Assam whereas the state of Assam is enriched with sufficient river fisheries and beel fisheries. It has the potentiality and possibility to produce surplus fish to be marketed in the neighboring hilly states and abroad.

An intensive research work on the fishery sector of the state could help to prepare practical policy measure in order to increase the fish production and to ameliorate the poverty burden, enhancing the employment opportunity to the asset less section of the society. Here the limited government schemes and programmes are seen on the inland fisheries where most of the government schemes and programmes are available for the cultured fisheries of the country and the state. It has huge gap on the government schemes and programmes between the natural fisheries and cultured fisheries.

A detailed survey in the fishery sector of the state reveals that there is an ample scope and prospective opportunities for co-operative societies, SHG's and NGO's where large number of shareholders are involved. These organizations have been playing an important role for running the registered fisheries and it provides good contribution to the state economy. There is no comprehensive study on these organizations in these literatures.

The above review of literature of the study leads to some important gaps where the study is able to examine the problems of fisheries and the fishermen, prospect of the fishery sector and its role on the state economy.