

CHAPTER-3

THE PRESENT STATUS OF FISHERY

SECTOR IN ASSAM

3. Introduction:

The fishery of Assam plays an imperative role in the socio-economic development of the backward people of the rural area. In an economically backward society of the rural area, fisheries are providing a source of income to the people. The state has an enormous potential to become a top fish producing and exporting state in the country and also the South East Asian market. The Government of India has opened a window to interlink the fish producers of the country with the South Asian markets as per the objective of Act East Policy (**13-Aug-2018, Press Trust of India**). In the recent years, the government took some positive steps for developing the rural economy of the state by improving the allied agriculture sector. As an allied sector the fishery sector must vigorously engage the rural people for deriving maximum benefits. On the other hand the state has the capacity to become biggest producer and exporter of fish in the country. The present status of fishery sector in the state is systematically examined in the study.

3.1. Fisheries Potentialities:

Assam has availability of natural water bodies. Most of the water bodies in the state are conserved for fishery resources. These fisheries resources are run by the fishery department of Government of Assam. The fisheries comprise river fisheries, beel fisheries, reservoirs, ponds and tanks and forest fisheries and derelict water bodies or swamps. These natural fisheries of the state have greater potentialities for fish production. According to the report of Directorate of Fisheries Government of

Assam 2016-17, the fishery resources are distributed (in hectare) as given in the following table No.3.1

Table No-3.1: Fishery Resources in the State of Assam(hectare)		
Sl. No	Fishery resources	Area (hectare)
1	River fisheries	205,000
2	Beel fisheries	100,815
3	Reservoirs	1713
4	Ponds and tanks	41,949
5	Forest fisheries and derelict water bodies or swamps	5,017

Source: Directorate of Fisheries Govt. of Assam report 2016-17

The river in India mainly constitute five river systems, namely the Brahmaputra, Ganges, the Indus, the peninsular East coast (comprising the Mahanandi, the Godavari, the Krishna and the Cauvery) and the West Coast (including west of western ghat, basins of Narmada and Tapti. (*Saritha Pujari, Riverine Fisheries in India*). The Brahmaputra River in Assam has several tributaries in the North and South bank which have been considered as a vital part in the fishery of the state. A major portion of the people in the fishing communities of the state have been living in the bank of these tributaries or rivers. The mighty river Brahmaputra, Barak and its tributaries are blessing for the fishermen community in the state. These are call river fisheries. These are mentioned in the following table No-3.2

Table No-3.2: Numbers of Tributaries in the Brahmaputra River		
Sl.No	North Bank	South Bank
1	Sankosh	Jinjam
2	Gadadhar	Krishnai
3	SaralBhanga	Dudhnai
4	Champamati	Singra
5	Aie	Kulsi
6	Manas	Digaru
7	Beki	Kolong
8	Pahumara	Dhansiri
9	Pagaldia	Kakadanga
10	Puthimari	Bhogdoi
11	Baralia	Jhanjai
12	Bornoi	Dikhow
13	Nonadi	Disang
14	JiaDhansiri	Dibru
15	Panchnoi	Lohit
16	Belsiri	
17	Gabharu	
18	Buri Ganga	
19	JiaBhorelli	
20	Dibang	

21	Dihang	
22	Dikrang	
23	Jia Dhal	
24	Ranganoi	
25	Subansiri	
26	Borgong	
27	Burai	

Source: Directorate of Fisheries, Govt. of Assam

These natural water bodies of the state have better utility for the development of state economy. These river and beels are using for fishing purpose where a significant proportion of the people get their source of income. The fishery department of the state government has 607 numbers of registered river and beel fisheries. The district-wise government registered river and beel fisheries are:

Table No-3.3: District wise number of registered Beel Fisheries and River Fisheries in Assam				
SL. No	District	Registered Beel Fisheries	Registered River fisheries	Total
1	Dhuburi	75	13	88
2	Kokrajhar	02	03	05
3	Bongaigaon	06	0	06
4	Goalpara	17	03	20
5	Barpeta	23	15	38
6	Nalbari	18	0	18
7	Kamrup (R+M)	20	05	25
8	Darrang	16	02	18
9	Sonitpur	20	05	25

10	Lakhimpur	11	08	19
11	Dhemaji	08	08	16
12	Morigaon	35	05	40
13	Nagaon	40	12	52
14	Golaghat	15	01	16
15	Jorhat	17	08	25
16	Sivasagar	23	09	32
17	Dibrugarh	08	09	17
18	Tinsukia	05	10	15
19	Karbi-Anglong	0	0	0
20	Dima Hasao	0	0	0
21	Karimganj	27	09	36
22	Hailakandi	06	09	15
23	Cachar	38	43	81
24	Chirang	0	0	0
25	Baksa	0	0	0
26	Udalguri	0	0	0
27	Charaideo	----	---	---
28	West karbianglong	----	----	----
29	South Salmora, Mancachar	----	----	----
30	Biswanath Chariali	----	----	----
31	Hojai	----	----	----
	Total	430	177	607

Source: Directorate of Fisheries, Govt. of Assam 2016-17

According to the report of Directorate of Fisheries 2016-17, the district wise registered river and beel fisheries are mentioned in the above table, the present districts of the state has increased to 33. Besides the unregistered natural fisheries are 767 nos. However, due to availability of these fisheries resource, the state fishery sector has great potential in inland fish production.

3.2. Production of Fish in the State:

The fishery sector of the state is recognized as an important economic activity in the socio-economic context. The natural fisheries like river and beel fisheries of the state play a major role in fish production. The state's fishery sector has also made a consistent growth during the 11th plan period registering an average growth of 6.4 percent. During the 12th plan period growth anticipated in the fishery sector is 7.14 percent in 2012-13 as compared to 6.78 percent estimated in 2011-12. Fish production in the state has reached a level of 243 thousand tones during 2011-12 which is 28 percent more over the year of 2007-2008. (*Economic Survey 2012-2013*)

The sector contributes more than 2% of Gross State Domestic Product to the state economy and it provides livelihood to a significant population of the state (*Budhin Gogoi et.al. 2015*). According to the annual report of the Department of Animal Husbandry, Dairying and Fisheries 2016-17, fish production has increased to 3.06 lakh tones in 2016-17 from 1.90 lakh tones in 2007-08. The state of Assam is predominantly a fish consuming state with 90 percent of its population eating fish. (*Teligraph, Dec 26,2017*).

The comparison of fish production between the country and state is also shown in the figure no-1.

The following table no-5 shows that the fish production of the state and the country where the fish production (in lakh tones) is gradually increasing from 2005-2006 to 2016-2017.

Table No 3.4: Fish Production of India and Assam (Production Lakh tones)		
Year	India	Assam
2005-2006	65.72	1.87
2006-2007	68.69	1.81
2007-2008	71.27	1.90
2008-2009	76.16	2.06
2009-2010	79.98	2.18

2010-2011	82.31	2.32
2011-2012	86.66	2.43
2012-2013	90.40	2.54
2013-2014	95.79	2.66
2014-2015	100.69	2.82
2015-2016	107.90	2.94
2016-2017	114.10	3.06

Source: Directorate of fisheries Govt.of Assam2016-17

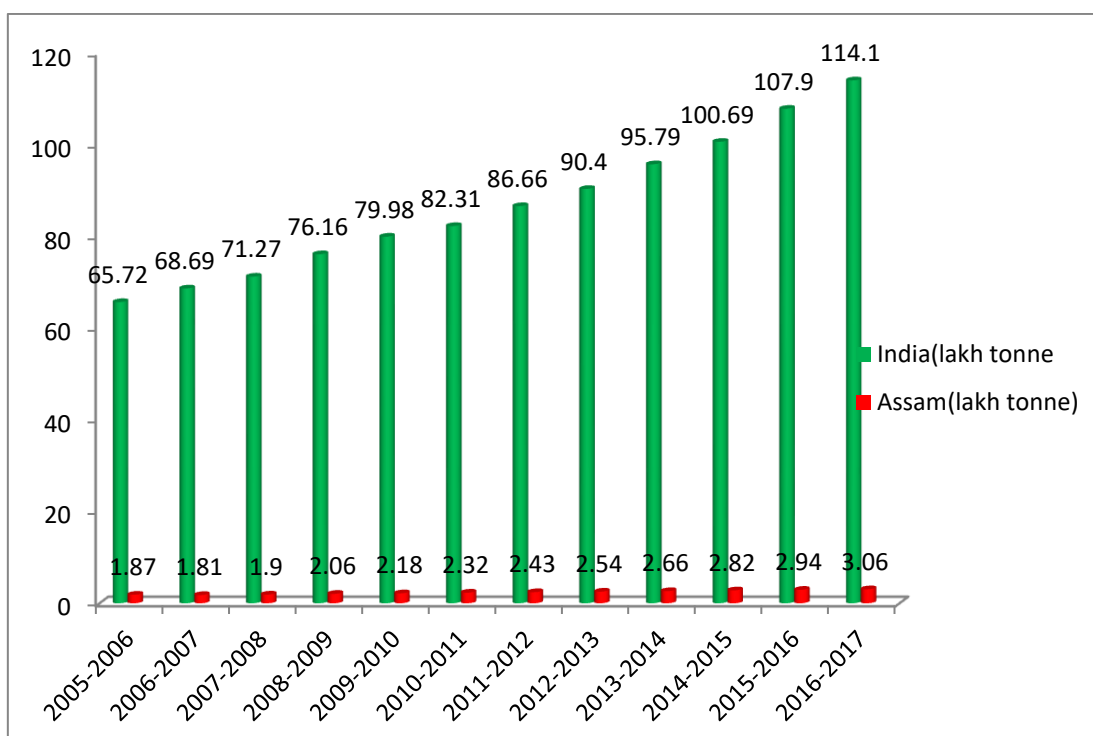


Fig.1. Fish production of India and Assam

The Brahmaputra and Barak rivers are the main source of natural fish production in the state. Traditionally the significant proportion of the rural people in the scheduled caste community of the both valley are involved in fishing profession. Fish is naturally produced in the river and beel fisheries where no investment is required for the

process of natural fish production. Fish usually need free flow movement of water for breeding. Assam is a flood prone state, which is a blessing in disguise for the fishery sector. During the flood, the water level of all water bodies rise, leading to new lease of life for the fish by giving a new stimulus to fertility and increasing the fish production. In the state the 217 species of fish are identified in the beel and river fisheries which have great market value. (*Bist. V.K.2013*)

In the state river and beel fisheries, various kinds of indigenous fish are found. These are very popular and most demandable. The indigenous fish in the state has particular significance. These are known as:

Table No-3.5: Different kinds of Indigenous fish in the State			
Sl.No	Assamese Name	English Name	Scientific Name
1	Chital	Humped feather back	Notopterus chitala
2	Ilish	Indian shad	Hilsa ilisha
3	Karoti	Ganges river gizzard shad	Gonialosa manmina
4	Karoti	Indian river shed	Gudusia chapra
5	Salo/Chalo	Gangetic hair fin anchovy	Setipinna phasa
6	Kandhuli	Feather back	Notopterus notopterus
7	Laupatia	Indian hatchet fish	Chela laubuca
8	Selkona	Chela	Chela atpar
9	Laupati	Silver hatchet chela	Chela cachius
10	Selkona	Larger razorbelley minnow	Salmostomar bacalia
11	Selkona	Gora chela	Oxygaster gora
12	Korang	Barred baril	Barilius barila
13	Darikona	Flying barb	Esomus ddanricus
14	Eleng	Bengla barb	Rasbora elanga

15	Moa	Indian carplet	Amblypharyngodon mola
16	Bariala	Aspodiparia	Aspodiparia morar
17	Pithia	Golden Mahseer	Tor putitora
18	Sol	Striped snakehead,	Channa striata
19	Sal	Great snakehead,	Channa marulius
20	Goroi	Spotted snakehead,	Channa punctata
21	Kaoi	Climbing perch	Anabas testudineus
22	Singi	Stinging catfish	Heteropneustes fossilis
23	Gathu	Bengal loach	Botia dario
24	Botia	Guntea Loach	Lepidocephalus guntea
25	Pavo	Pabdah catfish,	Ompok pabda
26	Mirika	Mrigal/Mrigel	Cirrhinus cirrhosus
27	Paniputa	Tank goby	Glossogobius giuris
28	Row	Rohu	Labeo rohita
29	Bami	Indian mottled eel	Anguilla bengalensis bengalensis
30	Singora	Striped Dwarf Catfish	Mystus vittatus
31	Gorua	Goonch	Bagarius bagarius
32	Tura	Lesser Spiny eel	Macrogathus aculeatus
33	Chanda	Elongate glass-perchlet	Chandanama
34	Borali	Boal	Wallago attu
35	Puthi	Ticto barb	Puntius ticto
36	Kuhi	Kurialabeo	Labeo gonius
37	Neria	GaruaBachcha,	Clupisoma garua
38	Bahu	Catla	Catla catla

39	Magur	Walking catfish,	Clarias batrachus
40	Gangatup	Puffer Fishes	Tetraodon cutcutia
41	Ari	Giant river catfish	Sperata seenghala
42	Bocha	Batchwavacha,	Eutropiichthys vacha
43	Cuchia	Cuchia,	Monopterus cuchia

Source:<https://www.thethirdpole.net/en/2018/05/25/inassam-a-wetland-too-popular-for-its-own-good/>

The state of Assam stands 12th in the overall fish production and 6th in inland fisheries production in the country. On the other hand it is found that the fish seed production is also increasing in the state. Although, the state is self-sufficient in fish seed production and the state government is first in the country to introduce the Assam Fish Seed Act, 2005 but the overall production however is not commensurate with the increasing demand for fish and fishery products. The state experiences more supply gap in fish production. Therefore the state has been importing fish from other fish producing states such as Andhra Pradesh, Uttar Pradesh, Bihar and West Bengal etc. In this regard Kalita, (2006) mentioned because of production shortfall in fish, on an average Rs.100 cores draining out from the state per year for importing fish.

Dry fish is also one of the most favorite fish item for the people of North East Region. It is made from different species of indigenous fish in the river and beel fisheries. The people of North East, basically the tribal people, consume dry fish as the favorable fish item. The lease party of the fisheries makes dry fish item from some small and big species of fish during the time of available fish production. During that time the price of fish goes down. So the fishermen of the fisheries take this way for meeting up the deficit of the price of fish. The price of dry fish remains quite high throughout the year.

The dry fish marketing also plays an important role in the state economy. The dry fish producer sells their dry fish to some traders and markets. In the study area the dry fish producer sells the fish in the local market and outside market from the district. In the local market some of the dry fish traders take the dry fish from the dry fish producer or maker in different time and some dry fish producers also sell the fish directly to the different market. Even the dry fish traders provide financial support to the dry fish maker in the time of making dry fish. In the study it is found that most of the dry fish traders sell the fish at the Jagiroad dry fish market because this is the big dry fish market in the country and many customers come from different states and neighboring countries also.

The ornamental fish is also the part of the indigenous fish which found in the state natural fisheries. About 85% of native species of ornamental fish are found in North eastern region (*Ornamental fish farming in India-vikaspedia assessed date 26th August 2019*). The state of Assam has 217 species of fish which 150 numbers have ornamental value. In the international market too, 50 numbers of species have ornamental value. In Assam also various types of ornamental fish are found in the main river Brahmaputra, Barak and their tributaries (rivers) and beels. These kinds of fish were not gaining popularity earlier but in present context they have greater demand in the North Eastern Region and the country. The ornamental fish are:

Table No-3.6: Various Species of Ornamental Fish in the State			
Sl. No	Name of the ornamental fish	English Name	Scientific Name
1	Tura	Lesser Spiny eel	Macrognaathus aculeatus
2	Chanda	Elongate glass-perch let	Chanda Nama
3	Gathu	Bengal loach	Botia Dario
4	Botia	Guntea Loach	Lepidocephalus guntea
5	Paniputa	Tank goby	Glossogobius giuris
6	Bami	Indian mottled eel	Anguilla bengalensis bengalensis
7	Singora	Striped Dwarf Catfish	Mystus vittatus

8	Magur	Walking catfish	Clarias batrachus
9	Singi	Stinging catfish	Heteropneustes fossilis
10	Sol	Striped snakehead	Channa striata
11	Sal	Great snakehead	Channa marulius
12	Goroi	Spotted snakehead,	Channa punctata
13	Moa	Indian carplet	Amblypharyngodon mola
14	Cheng	Barca snake head	
16	Kholihona	Indian Paradise	

Source: Primary Survey

3.3. Consumption of Fish:

Assam is predominantly fish consuming state with about 95 percent people consume fish, which acts as substitute for vitamin and calorie deficiency of people in the society. The per capita consumption of fish in the state is 6.70 kg per year against a desirable rate of 11kg. (**Economic Survey, 2010-11**). According to the Economic Survey of Assam 2015-16, the fish consumption of the state (per capita per year) is 9 kg. The several factors are influenced in fish consumption patterns. Trondsen et al. (30 1-14) consumption of fish is subject to many influences such as socio-economic background of consumers, their basic food consumption patterns, their individual health status, and attitude and behavioral dimensions. Many studies have stated that the consumption of fish differ from rural to urban areas. Per capita consumption of fish is considerably higher in rural areas than in urban areas of Asian countries and freshwater fish types represent a major share (15% to 53%) in total per capita fish consumption (Dey et al. 2005). According to the Union ministry of agriculture and farmers' welfare report fish production in the state has increased by 54 per cent in the past nine years. The annual report of 2016-17, published by the department of animal husbandry, dairying and fisheries of the ministry, says fish production has increased to 2.94 lakh tones in 2016-17 from 1.90 lakh tones in 2007-08. From 430 nos. of registered and 767 nos. of unregistered fisheries (**Directorate of Fishery Report,**

2016-17) most of the rural people have been getting nutrition as they use fish as staple food. Whereas majority of people of the state is non vegetarian, they get supplement the protein and vitamin deficiency from fish. Therefore, it is observed in the study that due to higher demand of fish, the fish culture has big opportunities for expansion in the fishery sector.

3.4. Fishing Techniques:

The status of fishing technique in the state is still traditional. Most of the fisheries co-operative societies, self-help groups, NGOs use traditional method of fishing in the natural river and beel fisheries. Obstruction in the flow of river water by construction of *bheta* by piling woods and using bamboo fence is a common fishing method in the various parts of the state. In the state the fishermen adopts the various traditional fishing technique which are pulling of water hyacinth (Metekatana), Kuchiahana known as hunting spear made of a smooth iron rod, lighting fish, fishing through trappings by using (locally known as) Dolonga, Derjakori, Hukuma, Seppa, Polo. Moreover, the various types of netting viz Thelajal, Ghoka, Pahjal, Double stick seine nets, Mosori jal, Net jal, Fesi jal, Chatty jal, Ghonjal, Dhekijal, khorajal Ghatjal, khewali jal Langijal, Current jal, Borjal etc. are used by the fishermen. The fishermen of the state use in the traditional boat not in machine boat for fishing. Therefore the fishermen cannot catch the huge numbers of fish from the river and beel fisheries. Although the entire fishing technique has been used traditionally by the fishermen but there are many scope and opportunities for using the modern fishing technology where large number of fishermen can be involved and they will get employment opportunities.

3.5. Management of River and Beel Fisheries of Assam:

The registered river and beel fisheries are under administrative control of state government. On the basis of management regimes the registered river and beel fisheries of the state is categorized into various types such as co-operative society's

management, private management (individual and group), self-help group and non-government organization management and community based fisheries management. The ownership of these fisheries comes under different government departments like department of fisheries, Department of Revenue, Forest Department, Assam Fisheries Development Corporation, Block level, Zila Parisad and Panchayats. The management right of the registered fisheries is given on lease base to the highest bidder of the scheduled caste community and maimol community (Bangali Muslim Community in Cachar district). According to Assam Co-operative Societies Act.1949 a co-operative society formed by communities other than members of actual fisherman belong to scheduled castes or members of Maimol Community .For the lease period of the river and beel fisheries in the state the government fixed earlier one to five years which has been amended to seven years.

Under Assam Fisheries rules, the lease of the registered river and beel fisheries on priority has been giving since long year ago to the fishermen co-operative societies where hundred percent actual fishermen are the shareholders or members. In co-operative management of natural registered fisheries, the management of fisheries operation is done by the members of the co-operative society (where there is a managing committee and all executives are selected or elected by the fishermen or shareholders) as per the rules prescribed by the society. Recently the state government gives equal status to the Self Help Groups, None Government Organization for leasing the fisheries in a particular period but the members of the SHG's and NGO's must hundred percent actual fishermen.**(Fishery, Government of Assam)**

In the purpose of revenue against the lease fisheries, the co-operative societies, self-help groups and non-government organizations must pay regularly to the government as per the rule and regulation of Assam fisheries act otherwise the government can withdraw the ownership of the beel and river fisheries from the said co-operative society, SHG's and NGO's.

The study highlights that some water bodies of the state have not been included under the management of state government. These water bodies are used by the local public and some other groups. If the authority of the government do proper census on

the natural water bodies in the state and it's include under government management then the strength of the registered fisheries will be increased and as a result government can be able to collect huge amount of revenue. Moreover the fishery department Government of Assam reserves some river and beel fisheries. In Cachar district 4 No. and 5 No. Barak rivers are reserved for preservation of dolphin (Vide Govt. Letter No.FISH.182/85/137 dtd.25/7/2001).In Sivasagar district some registered and unregistered beels are also reserved by state government. The Panidihing beel in the district is conserved for bird sanctuary. It is famous bird sanctuary in the state and the Na Pukhuri and Purani Pukhuri (big tank in Ahom administration) in the same district are also conserved for same purpose. Due to conservation the water bodies of the state the fishermen cannot catch the fish and therefore the population of fish increases in these river and beels. On the other hand due to conservation of these beel and river the local fishermen have been deprived from fishing.

3.6. Government Supports:

The Union and State Government have been adopting various schemes and programmes for the growth of fishery sector in the country and states since the first planning 1951-56. These schemes play a vital role for improving the socio-economic status of the fishermen. From the observation of the study it is found that the most of the schemes cover on the marine and individual fish farming sector than the natural fisheries. The main aim of the Government is to develop the socio-economic status of fishermen and reducing poverty by providing livelihood. Although some schemes and programmes have been implemented on the natural fisheries but these are not sufficient. The natural fisheries especially in river and beel fisheries have immense opportunities and potentialities for huge fish production in the state. The co-operative societies, self-help group and non-government organizations always try to increase the fish production. In this process the fishermen have greater role. They are very expert in fishing by using traditional method but sometimes they have faced various types of problems. These fisheries have greater scope for fishing by using modern technology which can be done by the Government through provides financial support to the

shareholders of the registered fisheries. Then the fishing sector will take a new movement for much production of fish in the state.

3.7. Conclusion:

Thus during this analysis of the chapter it is found that the present fishery sector has immense scope and opportunities for giving employment and providing livelihood to the significant population of the rural area in the state. Due to availability of beel, river, low lying areas and ponds in the state, the government has ample scope and potentialities for producing fish in higher level. It is expected that from the higher level of fish production in the natural fisheries, the state government can extend some fish market, constitute some fishery related ancillary unit and industries where people of the state are able to get opportunity to do some activities. The State Government has initiated some schemes and programmes for developing the fishery sector. The schemes are like “*Ghore Ghore Pukhuri Ghore Ghore Mas*”, *Individual Fishery Construction Schemes*, under RKVY fishery construction scheme, under NABARD scheme, Union Government hundred percent schemes for developing the fishery sector. These schemes should be properly implemented by the government on the actual fishermen in the fisheries co-operative societies, self-help groups, non - government organization and the fish farmers. In the study it is observed that the fishermen of the natural fisheries are unable to avail the various schemes and benefits than the farming sector. Even the government of the state does not provide sufficient financial support to the fishermen of the government registered river and beel fisheries during the banned period of fishing. Besides, the fishermen of the state have been adopting the traditional fishing technique since long year. Therefore it can be revealed from the study that if the government is able to remove these lacunas of the fishery sector then the sector will be established as commercial and profitable business in the state.