

## **“Growth of Fisheries and Its Significance-A Micro Level Study in Baksa District of Assam State (India).”**

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**Abstract:** *Fishing as an occupation has been in vogue since the time immemorial. Till recently it was reckoned to be a supplementary enterprise practised by fishermen community on subsistence level with little external input (Krishnan et al 2000). But with the changing consumption pattern, emerging market forces and technological developments, fisheries sector in India is undergoing a transformation.*

**Keywords:** *Fisheries in Baksa District, Problems of Fisheries sector, Causes and Remedial Measures of the problems.*

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### **I. Introduction**

The State of Assam has an excellent topical climate for development of fresh water fish culture in variety aquatic bodies. Aquaculture not only plays an important role in nutrition but also in the rural economy of the state. Rice and fish are the two basic diets of the Assamese people. For 95% of the State's population of about 25 million, fish is an important protein rich food. The State currently produces about 1.55 lakh tonnes of fish from all sources annually as against an estimated annual demand of 2.5 lakh tonnes. It is expected that the demand is likely to reach 3.20 lakh tonnes by the 2000 AD. Despite the vast aquatic resources, the State has not been able to produce ample amount of fish to cater to the need of ever increasing fish eating population of the State. As the natural fish production is slowly declining, aquaculture has been now recognized as one of the alternatives to produce adequate amount of fish in the State. The fish seed being the major input for fish farming, there is always a growing demand for quality fish. The department of fisheries, Govt. of Assam, in their recent report stated that the State produced 2245.57 million fry during the year 1997-98. Currently, more than 120 hatcheries are in operation. However, one of the major constraints experienced in expanding aquaculture industry in the State is the non-availability of quality fish seeds. As a result in recent past although a spectacular growth of carp seed industry has been taken place in the private sector; the State's market fish production has not increased significantly. This is an important issue which needs to be addressed by the fisheries scientists, policy makers & fish seed producers. There could be a large-scale mortality during the early stage of fish. The mortality may be due to unhealthy fish seeds or lack of proper care. In nursing the fish seeds to advanced fingerling size. In many parts especially in the Nagaon district alone about 40 Chinese eco-hatcheries have been constructed each costing a few lakh of rupees. It is also high time that one needs to look into different types of low-cost hatchery designs suitable for different categories of farmers. A workshop was proposed for evaluating the prospects and problems of fish seed productions through these hatcheries and to allow the concerned authorities prepare proper policy instruments for sustainable development.

Fish is water born resources. A considerable people in Baksa District, belonging to landless and economically backward section particularly are meeting their own requirements of fish by own catch or through inland fisheries. Moreover, a small section of population has accepted fishery activities on commercial basis also earn a good amount of income from fishery. But the fishery resources in Baksa District remains neglected in spite of huge potential for its development.

Fish being one of the main items of food for most of the people in Baksa District of Assam, the demand for fish is very high or increasing considerably. About 90% of the people in the district are fish eaters. The demand of fish was 9443 million tonnes in 2012-13 but supply was only 5396 million tonnes. And again in 2013-14 the demand was 9547 million tonnes but supply was only 7846 million tonnes.

### **II. Area of the Study**

Baksa district was carved out of a part of Nalbari, Barpeta, Kamrup and small portion of Darrang district. As a result of historic BTC (Bodoland Territorial Council) accord signed on February 10, 2003, formed BTAD (Bodoland Territorial Autonomous District) with four districts namely Kokrajhar, Chirang, Baksa and Udalguri. Though the original word 'Baksa' is not above controversy, good chunks of population prefer to use 'Baksa' in lieu of 'Baksa'. The popular assumption that 'Baksa' is the misspelt form of 'Bangsa'--a 'Dzonkha' word meaning a farm house and a corridor as it is known that Bhutanese king and subjects used this area for trade and passage to the plains. 'Bangsa' (Baksa or Baksa) was in fact one of the most important 'Dooars' of Bhutan. Another source says that the name "Baksa" is originated from Bhutanese language. According to Bhutanese

origin they denoted the area as "Baksa Duar". "Baksa" meaning one kind of rice and "Duar" meaning entrance point. As Bhutanese king ruled these areas for a long time in an around first half of the nineteenth century so it might be possible that the name "Baksa" or "Baksa" had a Bhutanese origin.

According to Bodo source the name originated from a kind of rice grain which is known as "Baksa". The said rice grain is one kind of broken and uncleaned product which is gained after milling the rice.

The Growth of Fisheries in Baksa District is providing self-employment opportunities and income source to the poor people in the area or in the district. The unemployed youths are also accepting this fishery sector as the source of income and their livelihood. The potentiality of development of fishery sector in the district is very wide. This sector will enable the poor people to increase their living standard and will help to eradicate the unemployment and rural poverty from the area.

### III. Research methodology

The subject is too vast for a single student take Assam as a whole, so a micro-level study of Baksa district was taken.

- A. Primary sources: Baksa district fishery office (Headed by Fishery Development officer) has been surveyed for the primary data and interview has also been taken to the owner of the fishery farming in Baksa district.
- B. Secondary sources: Books, magazines, journals, newspapers, and internet are the secondary sources taken for the collection of data.

#### Fisheries in Baksa District:

Fishery is considered as the rapid growing micro-level business of the people for their livelihood in Baksa District. Fishery businesses are providing self-employment opportunities and additional income for the local people in the area.

The various fishery resources in Baksa District are shown in the following table-

**Table1. Fishery Resources in the Baksa District.**

Sl. no	Particulars	Nos.	Area in ha
1.	Registered Beels	Nil	Nil
2.	Un-registered Beels	8	79
3.	Ponds and Tanks	24078	2232
4.	Swamps and low-lying area	178	441
5.	Eco-Hatchery	7 nos.	

**Source:** Fishery department, Baksa District.

The above table1 reveals that total number of registered Beels in Baksa District are nil in the year 2013-14. And un-registered Beels are 8 nos. And total area is 79 ha. The Pods and Tanks are huge potential resources in Baksa District. It has total 24078 nos. Ponds and Tanks, which is occupying total 2232 areas ha. Swamps and low-lying area is also considerable in the district as it has total 178 nos. And it is occupying 441 areas ha. And Eco-Hatchery was found 7 nos. according to the 2013-14 survey report of the fishery department.

In spite of having vast scope for development and growth of Fisheries in the District, it is not up to the optimum level, primarily due to the lack of people proper participation and government full co-operation.

Although, the government of B.T.C and the Assam has jointly taking up various considerable measures to attain growth and development of fisheries in Baksa District.

#### Contribution of Baksa District Fisheries to the Assam Economy:

The contribution of fishery sector of Baksa District and BTAD as a whole to the Assam Economy has been increasing considerably. The following table reveals the production of fish in BTAD and in Baksa District.

**Table 2. District wise fish production (in tons) in BTAD, 2010-2011.**

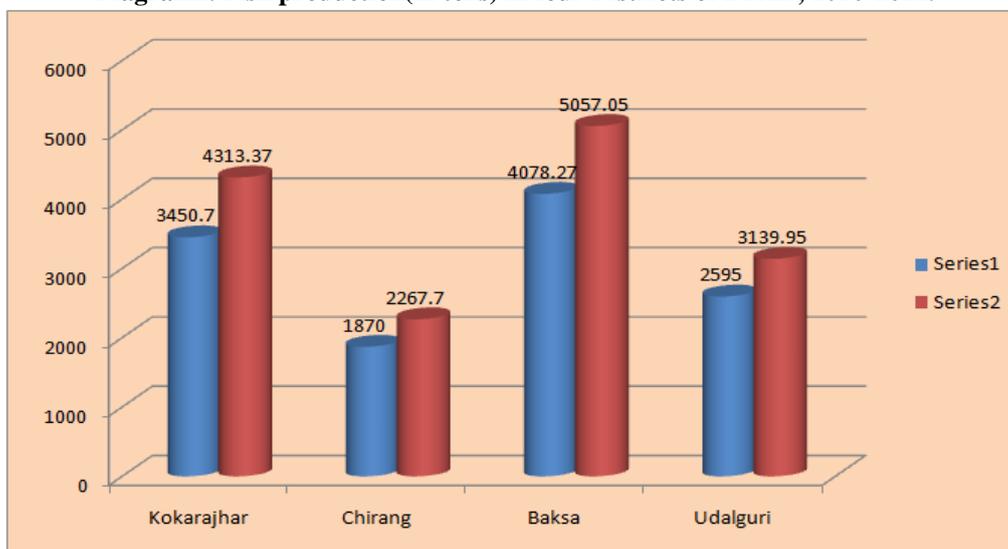
Name of District	2009	2010
Kokrajhar	3450.70	4313.37
Chirang	1870.00	2267.70
Baksa	4078.27	5057.05
Udalguri	2595.00	3139.95
Total BTAD	11993.97	14778.07

**Source:** Joint Director of Fishery, BTC.

The above table2 indicate that the production of Fish in kokrajhar district was 3450.70 tons in 2009 and it was increased to 4313.37 tons in 2010. In chirang District it was 1870 tons in 2009 and it jumped to 2267.70 tons in 2010. In Baksa District it was 4078.27 tons in 2009 and it rose to 5057.05 tons and Baksa District contributed

highest rate of production in 2009-10 among the four Districts of BTAD. Again, Udalguri District production was 2595 tons and it rose to 3139.95 tons in 2010. The total production was 11993.97 tons in 2009 and it increased to 14778.07 in 2010. And this can also be understood clearly with the help of the following diagram.

**Diagram1. Fish production(in tons) in four Districts of BTAD, 2010-2011.**



The above diagram1 indicates the rise in production of fish in four Districts of BTAD. And series1 represents the year 2009 and the series2 represents the year 2010 respectively.

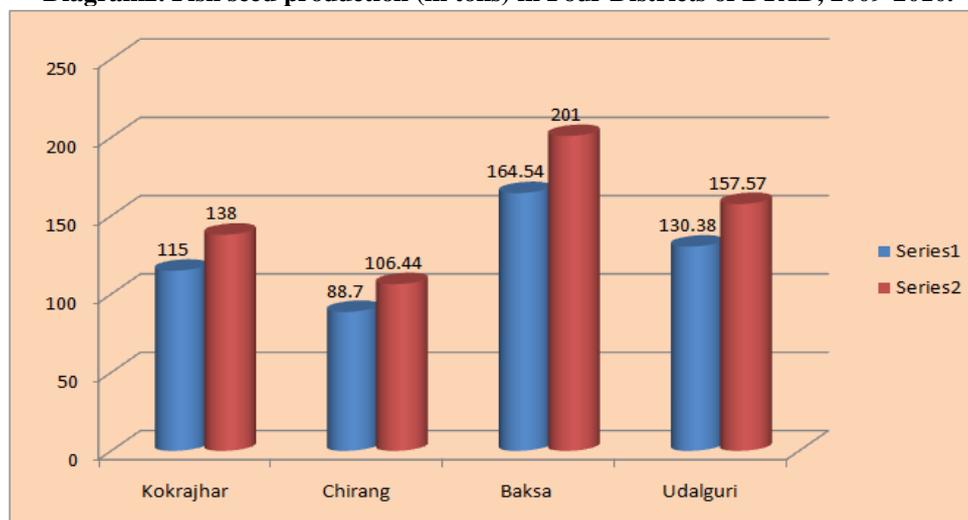
**Table 3. District wise Production of Fish Seed (in tons) in BTAD, 2009-2010.**

Name of District	2009	2010
Kokrajhar	115.00	138.00
Chirang	88.70	106.44
Baksa	164.54	201.00
Udalguri	130.38	157.75
Total BTAD	498.62	603.19

**Source:** Joint Director of Fishery, BTC.

The above table3 reveals that the total production of fish seed in BTAD was 498.62 tons in 2009 and it increased to 603.19 tons in 2010. In Kokrajhar District it was 115.00 tons in 2009 and it rose to 138.00 tons in 2010. In Chirang District it was 88.70 tons only in 2009 and it increased to 106.44 tons. Baksa District fish seed production was 164.54 tons in 2009 and in 2010 it was 201 tons which recorded highest fish seed production in BTAD. And in Udalguri District it was 130.38 tons in 2009 and in 2010 it was 157.75 tons which shows second highest contribution in fish seed production in BTAD.

**Diagram2. Fish seed production (in tons) in Four Districts of BTAD, 2009-2010.**



The above diagram2 indicates the fish seed production in four districts of BTAD of the year 2009 and 2010. The Series1 indicates the year 2009 and the Series2 indicates the year 2010. Thus, from the above it can be observed that how changes took place in fish seed production in the year 2009 and 2010.

### **Problem of Fisheries in Assam:**

The Fisheries in Assam facing various problems in terms of marketing and running the business. Some of the major problems are discussed below-

1. **Problem of low level of Production:** The Production level of Fish in Assam is very low in comparison with the other states like West Bengal, Andhra Pradesh, Gujarat, etc. The Fishery sector has failed to produce the output up to the demand level. There is huge gape arises between the demand and supply of fish in the state due to the low level of fish production.
2. **Problems of Finance:** The majority of the Fisherman or owner of the fishery business is very poor in the state, they need financial assistance to run their business smoothly but government has failed to provide this financial assistance to all needy business owners at desired level. These affecting the production level also.
3. **Low Level of Public Participation:** The problem of public consciousness regarding the participation in the Fishery sector is quite low in comparison with the other states. This affecting the supply of Fish in the State as well as production level.
4. **Increase in Fishery Diseases:** The rate of fishery diseases is high in the state due to the lack of proper management. The government has failed to take necessary measures to control those problems. This problem affecting the output of the fishery sector and fishery producers are incurring huge losses due to that reason.
5. **Problem of Immigration:** The increase in the immigration from other neighbouring countries has affecting the culture of fishing and ultimately the productive capacity of the people. It also minimises the area of fishery sector because of their illegal land holdings.
6. **Natural Calamities:** Natural Calamities like flood, drought, earthquake etc. affects the fishery sectors. In Assam, flood is quite high; it's a seasonal problem in our state. This affecting highly in rural areas. Due to the flood the fishery business incurring huge losses. This problem obstacles the Fish Seed production at large.
7. **Distress sale:** Most of the Indian Fish producers are very poor and thus have no capacity to wait for better price of his produce in absence of proper credit facilities. Producers often have to go for even distress sale of their output to the village moneylenders-cum-traders at a very poor price.
8. **Unfavourable Conditions:** Poor Fish producers are marketing their product under adverse circumstances. A huge number of small and marginal farmers are forced by the rich men, traders and moneylenders to fall into their trap to go for distress sale of their produce by involving them into a vicious circle of indebtedness. All these worsen the income distribution pattern of the village economy of the country.

### **Problems of fisheries in Baksa District**

In spite of having huge scope for the growth of fisheries in Baksa District. The fishery sector in the District is suffering from various serious problems. And those problems are same. But some problems are repeatedly occurs in the District, these problems are pointed out below-

1. **Problem of marketing facilities:** In Baksa district, there is no availability of market facilities. This forced the fishermen or owner of fishery owner to come in the city or in the big market for the better marketing of their business.
2. **Problems of transportation facilities:** The transportation facilities in the District are quite worse of in comparison with the other districts of the other states.
3. **Problem of storage Facilities:** There is lack of cold storage facilities of the fishermen or owner of the fishery businessmen. They fail to keep their fish for long time. This forces them to sell their production within the short period of time even at low price.
4. **Problem of Proper Management:** In Baksa district management tradition of Fishery sector is outdated. The management experts they still follow the old traditions methods.
5. **Problems of Quality Seeds:** The supply of low quality seeds in the district is affecting the probability of high production from the fishery sector.
6. **Unfavourable Mandis:** The conditions of the mandis are also not at all favourable to the fishermen or fishery owners. In the mandis, the fish producers have to wait for disposing their produce for which there is no storage facilities. Thus, the poor producers will have to take help of the middlemen or dalal who take away a major share of the profit, and finalises the deal either in his favour or in favour of arhitiya or wholesalers.

7. **Intermediaries:** A large number of intermediaries exist between the fish producers and the consumer. These middlemen and dalals claim a good amount of margin and thus reduce the returns of the poor fish producers.
8. **Unregulated Markets:** There are huge numbers of unregulated markets which adopt various malpractices. Prevalence of false weights and measures and lack of grading and standardization of products in village markets in India are always going against the interest of ignorant, small and poor fish producers.
9. **Lack of Grading:** Indian fish producers do not give importance to grading of their products. They hesitate to separate the qualitatively good production from bad production. Therefore, they fail to fetch a good price of their quality products.
10. **Lack of Organisation:** There is lack of collective organisation on the part of Indian fish producers. A very small amount of marketable surplus is being brought to the markets by a huge number of small producers leading to a high transportation cost.
11. **Lack of Market Intelligence:** There is absence of market intelligence or information system in the district as a whole in India. Producers are not aware of the ruling prices of their produce prevailing in big markets. Thus, they have to accept any unremunerative price for their produce as afford by traders or middlemen.

#### **Causes of the problems:**

There are many factors which are responsible for the increasing problems in the fishery sector. Some of the important factors are highlighted below-

1. **Excessive Dependence on Fishing:** The excessive dependence on fishing harming the income and fishing business and it eliminates the generation of fish seeds.
2. **Traditional Methods of Fishing:** The methods of fishing are still based on traditional and old outdated methods. It is affecting the fishing and its productivity.
3. **Illiteracy among the People:** Most of the poor fishermen or owners of the fishery business are not well educated, they are illiterate. Therefore, they do not become capable to handle and manage their business properly.
4. **Lack of Transportation Facilities:** The transportation facilities in rural areas are not good. This is hampering the good marketing of fishery sector and indirectly affects the price level.
5. **Lack of Consciousness of the People:** In remote areas, the people are not economically conscious. And hence, they are not aware about the contribution and scope of fisheries.
6. **Low Standard of Living:** low standard of living obstacles their thinking to a limited line. They do not think about doing business. They only look for daily wages.
7. **Improper Management:** Improper management of social resources like fields, fisheries, bridges, etc., affecting indirectly the fisheries growth.
8. **Lack of High Yielding Fish Seeds:** lack of high yielding seeds in the area affecting the high growth of fisheries and also affect the price level.
9. **Lack of Training facilities:** Lack of training facilities in the state affecting proper management of the Fishery sector. Poor fishermen or owners of the fishery business do not get any training facilities regarding management of their business.
10. **Lack of Marketing facilities:** The marketing facilities is not good compared with the urban areas of the country. Lack of marketing facilities in the area increasing the problem of middlemen and hawkers in rural areas.
11. **Updated Culture:** Updated modern culture also affect the fish farming and fish culture in the state. Modernization makes them lazy and idle. They do not think about doing small scale business.
12. **Lack of Government Assistance:** The government of Assam has failed to provide all kinds of necessary support or assistance in the state mainly in remote areas. This is hampering the growth of fishery business in the state.

#### **Remedial Measures To Solve The Existing Problems:**

For the development of the traditional Assamese fisherman in the study area some points are included here which will help not only the fisherman but also helps in the economic development of the area. The measures are:

- i) It is very essential to develop the fishing methods and techniques for the economic development of the study area.
- ii) Side by side it is essential to develop agriculture methods and techniques.
- iii) There is urgent need for the development of transport and communication network to develop the area.

- iv) To remove illiteracy, the education level must be higher. In elementary stage there should be provision of compulsory and free education facilities in the study area.
- v) Health is the primary and chief resource of human being. For the development purpose it is necessary to become a good health of locality. That is why the facilities of medicine, doctor and proper health care centres must be set up in the study area.
- vi) There is a need to change the social attitude and attributes for the development of fisherman in the area. The social system, social restrictions should be removed for better development of the fisherman in the area.
- vii) There are many other factors which help in improving the socio-economic condition of the fisherman like financial assistance by the government for proper development of the area and also arrangement of training programmes to increase fish production etc.

#### **IV. Conclusions**

Assam should take adequate steps to modernise the fishery sector by adopting scientific practices through its viable schemes. Some of the districts of Assam which are having huge potential for the development of fishery resources include Dhubri, Barpeta, Kamrup, Nogaon, Morigaon, Sonitpur, Sibsagar, Karimganj, Cachar and Baksa. Thus the government should take adequate steps to develop fishery resources in these districts and local educated youths should come forward to develop these fishery resources of the state on a commercial basis.

In Baksa District, the demand for fish has been continuously increasing in recent years. Due to the deficiency in production, the prices of fish have recorded a rapid increase. In order to meet such short fall in domestic supply, the state is importing a huge quantity of fish from other states like Andhra Pradesh, West-Bengal, Orissa, Uttar Pradesh, etc. therefore, the government of Assam has wide scope to earn income from the fishery sector by supplying demanded fish within the state.

#### **V. Suggestions**

India as well Assam state has huge potential for fishery development. If proper steps are taken by the government then we will be able to achieve our development in the fishery sectors within the short period of time, for that some necessary steps have to be taken properly. These important suggestions are given below-

1. Establishment of Regulated Markets.
2. Establishment of Co-Operative marketing Societies.
3. Timely supply of marketing informations to the poor Fish farmers.
4. Provision should be made for extending adequate amount of credit facilities to the fish producers.
5. Provision for standardisation and grading of the produce for ensuring good quality to the consumers and better prices for the poor producers.
6. Improvement and extension of road and transportation facilities for connecting the villages with mandis.

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