



Fish Production and Artificial Floods in Assam with Special reference to Nagaon District.

Md. Shahidul Islam

Assistant Professor

Department of Political Science

Katahguri College, Nagaon, under

Gauhati University, Assam, India.

Abstract: The Nagaon district's economy is primarily agrarian, with agriculture, especially paddy cultivation, forming the backbone, providing livelihood to a majority of the population. Fisheries are another significant component, making Nagaon a top fish-producing district in Assam. Forestry products along with small-scale industries like tea and jute, also contribute to the district's economic activities. Nagaon is the top fish-producing district in Assam, known for its high production and self-sufficiency in both fish and fish seed. The district produces more than its demand and exports fish and seed to neighbouring North-Eastern states like Arunachal Pradesh, Nagaland, Manipur, Mizoram, and Meghalaya. Fishery farmers are not able to supply their fish and seeds for lack of sufficient markets due to negligence of government efforts.

Keywords: Production of fish and seeds, Market, Artificial floods, Government initiative.

Introduction: Agriculture is the backbone of the Nagaon district and Assam also. Rice is the principal crop and is the staple food. Fisheries are another major economy of Nagaon. Nagaon is a leading fish producer in Assam, with high output from both its natural beels and numerous artificial ponds, making the district largely self-sufficient in fish. However, artificial floods can have mixed effects, potentially damaging spawning grounds and juvenile populations, but also contributing to auto-stocking and dispersal. While flood control measures like embankments can disrupt fish migration, the natural inundation of beels is crucial for a thriving ecosystem. Flooding is a major impediment to the growth of the agricultural sector in Nagaon.

Research Methodology: The present paper is descriptive and logical in nature. The data for present study is from primary sources like experiment, journals, records, books and some are observable data, the data is taken as per the need of study.

Objectives: The major objectives of this study are as –

- To explain the fish and fishery of Nagaon district is major component of economy in Assam.
- To point out on the condition of fish market system.
- To explain the challenges and artificial floods.
- To analyse briefly the governmental schemes which are meant for the welfare of farmers.

Fish and Fishery:

India is the third largest fish producing country and the second largest aquaculture fish producer in the world. India contributes about 7% to the global fish production. The country is also home to more than 10% of the global fish biodiversity and is one of the 17-mega biodiversity rich countries. Around 14 million people are engaged in fisheries and its allied activities. Andhra Pradesh is the largest fish producer in the country followed by West Bengal and Gujarat. Assam has vast fishery resources, with more than 90% of its population consuming fish, making the fishery sector a crucial economic activity. While the state has significant potential,

it faces challenges like insufficient quality fish seed and feed, with the fishery Department working to increase production and improve infrastructure through various government schemes. The Brahmaputra and Barak River systems, along with numerous beels (wetland lakes) and ponds, form the backbone of Assam's inland fisheries, with notable efforts made for their sustainable management and development.

Nagaon is a leading fish-producing and self-sufficient district in Assam, known for its high fish and fish seed production and export to neighbouring states like Arunachal Pradesh, Nagaland, Manipur, Mizoram, and Meghalaya. Most of the villages under Dhing Revenue Circle in Nagaon district i. e. Rowmari, Katahguri, Tuktuki, Salana Bori, Bherberi, Bechamari, Lalipather, Ahomgaon, Gerekoni, Amlokhi, Chamaka, Dhaniabeti etc. are effected by fish and seed production. In this area maximum number of people are depend on fishery because land is suitable for such manner. They produced different types of fishes in local name i.e. Row, Mirika, Banghun, Catla, Puthi, Grass carp, Comon Crap, Bricate, Silver etc. These fishes are supplied at different markets in North Eastern region in India. The district's fishery sector creates jobs and income through fish farming, fish seed manufacturing, and a robust network of wholesalers and markets, though some reports indicate challenges with corruption affecting government-sponsored schemes.

Market:

In Nagaon district popular fish market are available as retailer and wholesaler. The Nagaon District, popular fish markets include the Gatanga Super Dry Fish Market in Samaguri, known for its dry fish, and general markets like Sollow Fish Market, Kampur Fish Market and Madhupur Bazar for fresh fish and various other products. The various retailers and smaller local markets across the district, such as those in Murazar, Haiborgaon, Shanti Bazar, Dhing, Juria, Rangaloo, Doboka and Kachua Tiniali.

Major Markets:

- Gatanga Super Dry Fish Market: (Samaguri, Nagaon): A well-known market specializing in dried fish.
- Sollow Fish Market: (Dolapani): A popular spot for retail fish purchases.
- Kampur Fish Market: (Burhapatia): Another significant market for fresh fish.
- Madhupur Bazar: (Madhupur, Nagaon): A traditional local market where you can find fish.
- Fish Market Kachua Tiniali: (Kachua): A local market located in the Kandura area.

Other Options:

- Sayed Aaban Fish Traders: (Sabji Mandi, Nagaon): A fish trader located within the local market.
- Adil Merchant Fish Market: (Alitangoni, Nagaon): An independent fish market situated in the Simalu Ati area.
- Wholesale Fish Market, Haibarigaon: A wholesale market in the Haibarigaon area.

Fish farmers in Nagaon, Assam face several significant challenges, including a lack of quality fish seed, issues with poor pre-stocking management and disease control, and insufficient access to processing and storage facilities. Furthermore, ethnic and social tensions within the community have recently led to fish supply blockades, impacting the local economy and livelihoods.

Key Challenges for Fish Farmers in Nagaon:

- **Lack of Quality Fish Seed:** A significant constraint is the unavailability of quality and appropriately sized fish seed at the time of stocking, which directly affects production.
- **Inadequate Infrastructure:** Farmers often lack access to proper storage and processing facilities, leading to potential post-harvest losses and reduced market competitiveness.
- **Disease and Poor Management:** Poor pre-stocking management practices contribute to higher disease prevalence in fish farms, which can cause substantial economic losses.

- **Market Access:** Inefficient marketing channels and poor road connectivity to markets pose challenges for farmers in selling their produce effectively.
- **Social and Ethnic Tensions:** Recent incidents have resulted in fish supply blockades by traders from Nagaon and other districts to Upper Assam, disrupting the local economy and farmer livelihoods.
- **Adoption of Scientific Practices:** While the district produces a high volume of fish, there is still room for improvement in adopting more scientific and diversified aquaculture practices, which could enhance overall productivity and sustainability, according to the Directorate of Fisheries.

Impact of Challenges:

These challenges hinder the growth of the fish farming sector in Nagaon, which has the potential to significantly contribute to rural livelihoods, nutritional security, and economic prosperity. Addressing these issues through better infrastructure, training, and harmonious community relations is crucial for sustainable development in the region.

Artificial Floods:

The paddy fields are used by farmers as fishery in all villages. In the Month of March to June in every year rain is no available in sufficient. So, farmers are used alternative means for water-by-water motor or pumps as become excess water is not loading during the heavy rainfall. In this way, such water creates to artificial floods during August to November month in every year in such villages.

There are several reasons for such artificial floods in most of the villages under Dhing Revenue Circle:

1. Bridge and Culverts: Most of the bridge and culverts are stopped in roads as because the farmer uses their fishery in front of the bridge and culverts.
2. Lack of training of farmer: There is no training system for farmers. Therefore, they use their land in unscientifically manner. Farmers unscientific methods are uses their fisheries as becomes lead to artificial floods in such villages.
3. Encroachment of Beels: Some people are encroaching in public beels and also uses their capabilities.
4. No drainage system: There is no sufficient drainage system for flooding the water from one beels to another beels or rivers.

Impact of Flooding:

- **Disruption:** Floods cause significant disruption to daily life, with roads becoming rivers and schools remaining closed.
- **Displacement:** Many people are forced to leave their homes and take shelter on roads and higher ground.
- **Damage to Property and Crops:** Flooding leads to waterlogging of homes, destruction of crops, and damage to infrastructure like roads and buildings.

Economic Significance & Fish Consumption:

- **Food Security:** The fishery sector contributes significantly to the state's food and nutritional security, with fish being a staple in over 90% of the diet.
- **Employment:** It provides substantial opportunities for rural employment through fish production and related activities.
- **Economic Contribution:** The fishery sector makes a significant contribution to Assam's Gross State Domestic Product (SGDP).

Current Production & Challenges:

- **Production vs. Demand:** The state's fish production has increased over the years but still faces a deficit to meet the growing demand.
- **Seed & Feed Shortage:** A primary challenge is the shortage of quality fish seed and feed, which are critical for sustainable aquaculture.
- **Infrastructure Gaps:** Inadequate fish seed production and rearing infrastructure, along with poor post-harvest facilities, hinder growth.
- **Market Issues:** An unorganized market for fish seed and table fish also presents a challenge.

Government Initiatives & Outlook:

- **"Grow More Fish" Slogan:** The Department of Fisheries aims to increase fish and fish seed production through various initiatives.
- **SDGs:** Bold initiatives are planned under the three-year and seven-year action plans to align with the Sustainable Development Goals (SDGs).
- **Extension Services:** The department provides extension services and support to fish farmers, entrepreneurs, and fishermen to promote best practices.
- **Community Fish Farming:** Fish farming is increasingly adopted by rural youth and entrepreneurs as a commercial activity.

Government initiatives for fisheries in Nagaon, Assam, include the national-level Pradhan Mantri Matsya Sampada Yojana (PMMSY) for overall fisheries development, and state schemes like the Chief Minister Samagrya Grammya Unnayan Yojana (CMSGUY) and Ghare Ghare Pukhuri Ghare Ghare Maach (GGPGGM) for pond expansion and community-based farming. The district also benefits from the World Bank-assisted APART Project for integrated fisheries development, new technologies such as Bio floc and RAS, capacity-building for fish farmers, and the promotion of a Fish Seed Bank Project.

National-Level Initiatives:

Pradhan Mantri Matsya Sampada Yojana (PMMSY): This national scheme was launched to boost fish production and improve the economic condition of fish farmers by providing fish feed and fingerlings to beneficiaries, as demonstrated by recent distribution programs in Nagaon.

State-Level and Regional Initiatives:***Chief Minister Samagrya Grammya Unnayan Yojana (CMSGUY):***

A state scheme under which fish seed and feed are supplied to farmers for newly constructed ponds and tanks.

Ghare Ghare Pukhuri Ghare Ghare Maach (GGPGGM):

Aims to increase fish production and provide nutritional security by encouraging backyard fish farming and community-based fish farming. A mobile app, Matsya Baibhav, was also developed for asset management under this scheme.

APART Project:

A World Bank-assisted project focused on community and culture-based fisheries development, aiming to increase the annual yield from ponds and beels in the district.

Fish Seed Bank Project:

This project seeks to improve access to quality fish seed for farmers by developing seed-rearing areas and establishing cluster-based systems.

Departmental and Technological Support:

- **Technology Adoption:** The Fisheries Department in Nagaon is promoting advanced technologies like Bio floc and Recirculating Aquaculture Systems (RAS).
- **Infrastructure Development:** The department is working on the construction of new ponds, expansion of water spread areas, and the registration of previously unregistered hatcheries.
- **Capacity Building:** Farmers receive training on new techniques, and resources like fish seed and feed are distributed to enhance fish production.
- **E- Governance Project:** The Department of Fisheries has implemented an E-Governance project to improve service delivery to farmers, with a pilot site established at the District Fishery Development Office in Nagaon.

Suggestion:

For successful fish farming in Nagaon, Assam, focus on popular and locally suitable species like Indian carp, Row, bhangun, catfish, and tilapia etc. Conduct thorough market research to identify high-demand fish, secure a location with access to clean water and appropriate soil, and ensure quality fish seed from reputable sources. Implement strong water quality management, use nutritious feed, and develop effective marketing strategies to sell your produce locally and beyond, as Nagaon is a major fish-producing district in Assam.

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