Changing Scenario in Inland Fresh Water Fisheries and Fishing in Purba Medinipur: A Study

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Abstract:
One of the major resources of economy of Purba Medinipur district of West Bengal in India is its Fisheries. Since ancient time Purba Medinipur was identified as a great producer of fish when it was identified in history in the name of Tamralipta. Due to geographic location and diversified water resources it plays a vital role in the production and export of fish. A large number of people have been employed here in the different section of its production and marketing. But the overall scenario of inland freshwater fisheries and fishing of this district are not same as before. To show such changes with the help of historical sources are the object of this paper.
Keywords: Fisheries, Fishing, Resources, Changes, Scenario.

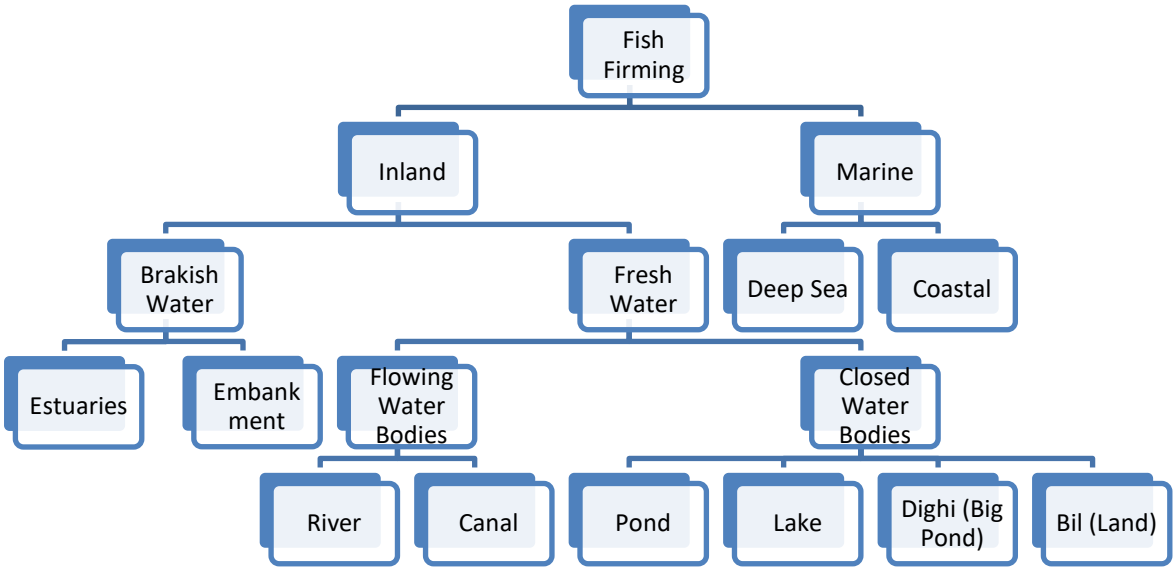
Introduction:
The scientific process through which the aquatic animal such as fish, prawn, crab, and snail etc., that economically important and used as food are reared and preserved is called fish farming.[1]Generally there are two types of fish firming i.e. inland fish firming and marine fish firming. Fresh water fisheries are one of the vital parts of inland fisheries. In Purba Medinipur District of West Bengal fresh water fisheries are seen in the inland water bodies such as rivers, ponds, tanks, wet lands etc. Besides with the help of Government and some cases of private initiatives a vast area of the different blocks of Purba Medinipur are engaged in fish firming.

On 1st January, 2002, Purba Medinipore emerged as a separate district after bifurcation from undivided Midnapur. It is located between 22°057'10" N and 21°36'35" N latitude and 88°12'40" E and 86 ° 33’50’’ E longitudes. It is bounded by West Midnapur on the west and north, Howrah on the east and South 24 Parganas on the south east. The district enjoys a coastal area of 65.5 km along its southern and southeastern borders. The district has a triangular shaped contour with the headquarters at Tamluk.[2]The total area of this district is 4713 sq.km.It has 4 subdivision namely Tamluk, Haldia, contai and Egra. It has 25 community development Blocks. The area of this district is bounded by water bodies in two sides. The rivers of this district are usually originated from the Chhota Nagpur Plateau at the west and drain to the channels of river Hooghly or Bay of Bengal to the East or South East. Some of the important rivers of this district are Rupnarayan, Haldi, Kangsabati, Keleghai, Rasulpur and Hugli. This district has no lake but there are some important Canals or Khals are seen here. Some of them are Midnapore High Level Canal, Hijli Tidal Canal, Orissa Coast Canal, Masuria Canal and Kanthi Canal. This district has 26,962.52 hectares of water area in the form of small medium and large tanks, canals and others. For this, there are huge sources of fish production in fresh water fisheries with other sources of fisheries.[3] People of many blocks of the district are engaged themselves in fish production and fishing in such a way that it has become a major source of income of the said people which has contributed a lot in the districts economy as well as state economy.

Objectives:
The objectives of this research paper are
1. To highlight the basics of the fisheries.
2. To know the inland water fisheries and the materials used in fishing in the Purba Midnapur District.
3. To investigate the changing Scenario of inland fresh water fisheries and the materials used in fishing in the Purba Midnapur District.

Discussion and Analysis:
Different types of fishes are found almost in all types of water in the world. After worms the second largest animal of the world is fish. It has been known from the sources that nearly 25000 species of fish are found in the world in which 2546 species are seen in India and 574 in West Bengal. Though the exact time of starting fish farming is unknown, the precedence of taking fish as food is seen since the prehistoric period. The great epics of India, i.e. the Ramayana and the Mahabharata there are the references of fish and the people of Dhibar class (Fishermen class). In world history it has been seen that during the period of 10,000 B.C to 600 B.C the people of the different civilization of the world were aware of the process of catching fish. The evidence of farming fish in the pond was prevalent among the people of ancient Greece and Rome. The evidence of taking fish as food is seen during the time of Indus Valley Civilization. In 460 B.C fish was seen in the menu of the people of Greece. In China fishes used to farming in the pond

during 11000 B.C. In 2,000 B.C a description on *Telapiya* fish farming has been found on an Egyptian coffin. There is a reference of necessary things used in fish farming and fish used as food found in the Arthashastra of Kautilya. Even some provisions of fish firming are also found in the speeches of Khona. The scientific process through which the aquatic animal such as fish, prawn, crab, and snail etc., that economically important and used as food are reared and preserved is called fish farming. According to habitation fish farming can be classified according to the following table.[4]



Major Inland fisheries resources of country comprise (1) Capture Fisheries of Rivers, Lakes and Estuaries, (2) Culture Fisheries of the Ponds and Tanks and, (3) Capture- Cum – Culture Fisheries of reserviours and oxbow lakes. According to various reports, 80-85 per cent of our total inland production comes from capture fisheries resources. [5]In Culture Fisheries seeds of fish are released into the numerous ponds, *bill* and *dobas* (a small seized pond generally filled with weeds) etc. in India and in expectation of increasing their production required manure, foods, ways for controlling diseases and other related nourishment are applied through a systematic way. But in case of Capture Fisheries as the production of fish is nature oriented, the collection of fish depends on skill of the fishermen.[6]

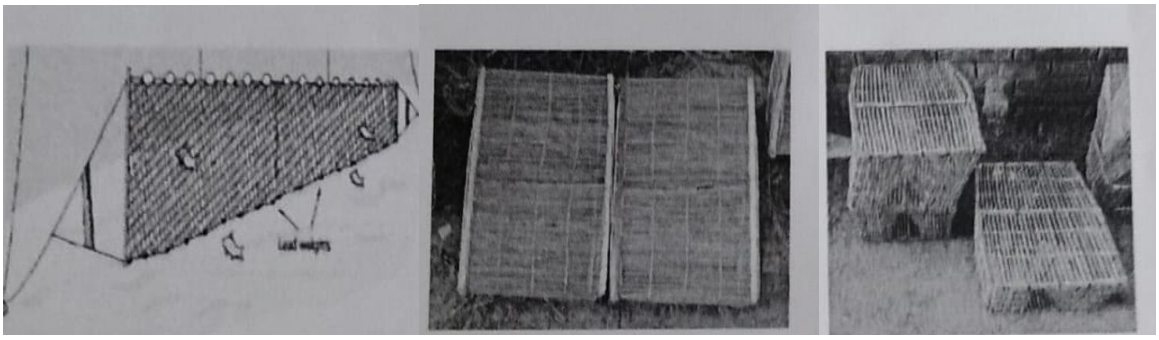
The Fisheries, Aquaculture, Aquatic Resources and Fish Ports Department of the then Bengal Government was first established in 1911. Then, on the recommendation of the Bengal Retrenchment Committee, the department was abolished in 1923. The department was revived in 1942 due to the love for fish in the diet of every Bengali family and the increase in population. Since the beginning of the First Five Year Plan, an increasing number of plans were being taken up for the development of fish farming in West Bengal, the aim of which was not only to achieve self-sufficiency in fish production in the state, but also to explore the potential of demand for fish and fish products in the country and abroad. Due to its involvement in multifaceted fisheries activities, it was renamed as Fisheries, Aquaculture, Aquatic Resources and Fish Ports (hereinafter referred to as the Department) in May 2001. The Department, through its branches, namely, Directorate of Fisheries, Aquaculture, Aquatic Resources and Fish Ports, State Fisheries, Aquaculture, Aquatic Resources and Fish Ports Development Corporation, West Bengal Fisheries, Aquaculture, Aquatic Resources and Fish Ports Corporation Limited and Ben Fish, is continuously making efforts to ensure nutritional security as well as increase fish production, ensure welfare of the fishing community, create infrastructural facilities in the villages of fishermen as well as develop marketing linkages and value addition. All these integrated efforts aim to increase employment opportunities and livelihoods in rural Bengal.[7]

Fishes are produced almost in every Block of the study area. In Sutahata and Haldia Block fish culture has been seen in the paddy field. In both the blocks numerous fresh water fishes are found in their local market. Different types of fishes such as *bakichela* (laubucalaubuca), *punti* (puntiusticto), *mourola* (amblypharyngodonmola), *darkina* (Esomus Danricus), *chang* (Channagachua), *Lata* (ChannaPunctatus),*shol* (Channastraiatus), *Kholse*(Colisa Lailus), *koi* (Anabustestudineus), *bele* (Glossogobiusgiuris), *chanda* (Chandaranga), *baim* (Mastacembelus armatus), *tengra* (Mystuscavasius), *singhi* (heteropneustes fossilis), and *kakia* (xenentodon cancila) are found in the market of the said blocks.[8] In Contai market 46 species of fresh water fishes are seen. Such fishes come from its nearby areas such as Sabajput, Soula, Mukundpur, Alderput, different ponds from the local people and Moyna. Fishes found in the said market are *bamas* (Anguilla bengalensis), *kuc*he (monopteruscuchia), *pankal* (macrognathuspancalus), *ban* (mastacembelusarmatus), *mola* (amblypharyngodonmola), *chela* (salmostomaphulo), *kalbush* (labeocalbasu), *rui* (labeorohita), *bata* (labeobata), *katal* (catlacatla), *silver carp* (hypophthalmicthysmolitrix), *brigade* (hypophthal micthysnobilis), *titapunti* (puntiusticto), *ghesorui* (Ctenopharyngodonidella), *mrigyala* (cirrhinusmrigala), *daria* (rasboradaniconius), *Jatpunti* (puntiussophore), *bata* (cirrhinusreba), *ruti* (lepidocephalusguntea), *bele*, *bheda* (nandusnandus), kala koi (badisbadis), shoal,lata, cheng, Khalisa,koi,Telapia (oreochromismossambicus), nilontica (oreochromisniloticus), *golchanda* (parambassisranga), *magur* (clariasbatrachus), *thai mangur* (clariasgariepinus), *shingi, pungas* (pangasiuspangasius), *tengra, arrtengra* (hemibagrusmenoda), *rani tengra* (mystusvittatus), *boal*

(wallagoattu), *pabda* (ompokbimaculatus), *chital* (notopteruschitala), *folui* (notopterusnotopterus), and *gangtara* (xenentodoncancila).[9] 61 fresh water fish species are found during the market study of Kolaghat, Panskura-I and Sahid Matangini Block of the study area.[10]Moyna Block of Purba Medinipur is one of the is one of the major fish producing block in West Bengal.[11]

Above information led us to think that huge numbers of fish species are found in this district. But a number of fishes are not found in the market now a day. 'Some species of *Puntisus, Macrognathuspancalus, Mastacembelusarmatus, Mystustengara, Channapunctata, Anabas testudineus, Nandusnandus, Channagachua, Chanaorientalis* were seen and collected by fishermen before a few years but rarely/do not appear now a day.'[12] In earlier days when chemicals and fertilizers rarely used in the paddy cultivation farmers could get a huge number of fish in their paddy field within the paddy trees. Sometimes to catch fish regularly they used to encircle 5/5 – 5/8sq. meter area of any corner of their field and dig the area more or less 1 foot deep and fell there a few sticks or leafs where the fishes could get their easy shelter. It was called *khati* (in the regional language of Paniparul Grampanchayet of Egra Subdivision).There was an entrance of it measuring 1-1/2 feet long. In the day of fishing a certain amount of cow dung mixing with rice bran is spread in the khati. Thereafter the farmer go to the khati after 3-4 hours and covers the mouth of the khati with soil and drain the water of khati outside of it with the help of dish or medium seize bowl etc. and collect the fish trapped in the khati. In such areas there are some *khana*, *chowka* etc., which are comparatively bigger than *khati* and smaller than pond. There they could able to get some fish which were sufficient for their family's need.[13]Besides, in rainy season they used to catch different types of fishes in the running water with the help of different types of fishing traps. But today due to indiscriminate use of fertilizers and pesticides in the paddy field the natural production and breeding of the said fishes are not found like before.[14]The availability of fresh water fishes found in the rivers, canals and other natural reservoirs are not same as before due to water pollution. Therefore to face the need of the people numerous fisheries started fish production in scientific way. In many Blocks of the district such processes have been started. In Moyna Block fish culture was professionally started in 1995. It increased the income of the people of the said block such a way that it becomes a leading fish producing block in the state. They are earning huge profit in *venami* prawn cultivation and firming.[15]A large area of Ramnagar block I and Egra block I & II which were familiar with as the cashew nut producing area has been turned into fisheries in many cases as the owner of the garden sold its sand nearly 6-10 feet deep to the purchasers. For which he has lost the cashew trees and the area has become nearly pond. In such fisheries fresh water fishes are producing in a systematic way.[16]

Since time immemorial fishermen of the research area have been using different types of fishing nets and traps to catch fishes. These are made of different types of materials such as bamboo, rope, thread (cotton and nylon) etc. Regionally fishing traps are known in many names such as Charua, Mugri, Dhouri, Ghuni, Phasi and fishing gears are familiar with gil net (bindhajal),Caste Net (FelaJal) and Scoop Net (ChhakniJal) etc. [16] Some pictures of fishing nets and traps are given hereunder.



(Bindha Jal) **(Mugri)** **(Charua)**

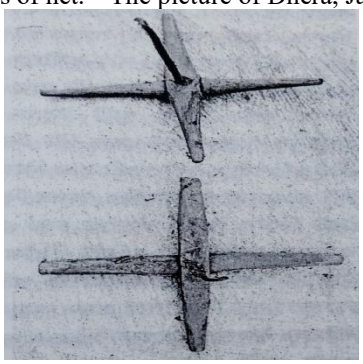
(ChhakniJal) **(FelaJal)** **(Dhauri)**

In inland fisheries people of different ages use fishing rod to catch fish from different water sources. Some people use it as their time pass or spending their leisure or passion. Generally fishing rods are of two types such as *kanchi chip*

(fishing rod made of Bamboo Skewer) and wheel chhip or *whole khara* (metal fishing rod controlled by wheel). Single item of fish is captured through this method.[17]

Conclusion:

Earlier a class of people solely engage themselves in the said trap and net making. When people specially the farmers used to depend on the one time harvest in a year, spend their time by net making in many cases. In those Days they used to keep thread or rope for making net with the help of *dhera*, prepare *jalkathi* like instruments of bamboo or wood to make different types of net.[18] The picture of Dhera, Jalathi and Surungi are given hereunder.



(Dhera)

(Jalkathi and Surungi)

But with the coming of machine made net the income of the net and trap maker has been reduced. In this way the scenario of inland fresh water fish production and fishing activities of the people of Purba Medinipur District has been taken notable instance in the State through some change maintaining the need of the time.

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