

The fish catching devices used by the Kaivartta fishermen of Majuli Island

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ABSTRACT

Present study is undertaken on Kaivartta community of the largest riverian island Majuli to know about various fishing technique. Various types of participatory research tools such as group discussion, key informant survey and participant observation were taken to understand fish catching gears followed by them. Primary data are collection through participant observation, group discussion and structured interview schedule. Secondary data are collected from available material. It is observed that there is no particular way of fishing among them. They use a considerable variety of traditional bamboo cane gear such as Chepa, Dingara, Palo, Jakoi, Dalonga, Khoka and modern equipment like different type of nets (cast net, gill net and deep net) for fishing. No mechanization boat is found within the Island Rivers used for fishing purpose

Keywords

Assam, Fishing gear, Kaivarttas, Majuli Island

Article Received: 10 August 2020, Revised: 25 October 2020, Accepted: 18 November 2020

Introduction

From prehistoric epoch livelihood of human being depends on hunting and gathering food on different forests, rivers and seas. Geographer such as Sauer has argued that before the advent of agriculture, the seas provided man with a “continuous” and “inexhaustible” supply of food (Acheson, 1981a). In the passes of time, hunting and fishing is still surviving as a primary occupation among different group of people. Such occupational group like fishing community can be seen all over the world. Traditional fisher folk are those men, women and children who earn a livelihood by involving in harvesting, handling, processing and marketing of fish and fish products (Kocherry, 1998). Fishermen do fishing in seas, rivers, streams, ponds, wetland, beels, swamps and paddy fields. The condition of the weather and location of fish cannot be controlled by the fishermen. So, Fishing in a considerable extent, is determined by the heterogeneous and uncertain environment. This uncertainty streams not only from the physical environment, but also from the social environment, in which fishing takes place (Acheson, 1981b). Fishermen operating on a flat, undifferentiated surface are exploiting animals that are difficult to see which leads to uncertainty. One’s catches can fluctuate depending on the activities of fellow fishermen, and even fishermen working with relatively primitive technology can affect the stock of aquatic animals.

The activities associated with fishing have been discussed widely as a cultural types as that of the pastoralists, horticulture and so on. Such discussion on fishing have been taken into consideration the varieties of the fishes techniques and technologies raring from simple traps, spears, arrows etc., among indigenous peoples, to different kind of size of boats and nets employed in the small-scale or industrial fishing, general fishing or maritime cultures (Sarma- Ali, 2005). Adoption of equipments and methods depends on a numbers of factors, including nature of the coast, climatic variations, kinds of fish available, capital at command of the fishermen, and their local traditions (Firth, 1944). Numbers of anthropological studies have been made on fishing communities and their methods, rituals related to

fishing practice and techniques of fishing in all over the world. Malinowski (1922) first suggested that human beings cope with irreducible risk through ritual and magic. He noted that in Trobriand Islanders no magic exists in lagoon fishing, where reliable catch can be obtain without physical danger, while in open sea fishing, full of danger and uncertainty, there is extensive magical ritual to secure safety and good result (Malinowski 1948).

Objectives

The main objectives of the study are-

- i. to explore the fishing device use by the Kaivartta fishermen
- ii. to understand the cost and benifite of equipments used by the Kaivarttas

Methodology

Majuli Island is selected purposively as most of the Kaivartta people (traditional fishing community) lives on that Island and also takes fishing as one of the major sources of income. Besides Majuli has full of beels, pond, wetlands which is favorable for fish marketing and production. The primary data has been collected from Kaivartta fishermen through participant and non-participant observation with group discussion, key informant survey. They were asking question holding personal experience, different types of equipments, methods of fish harvesting with a semi-structured interview schedule. Secondary data has been collected from published and unpublished research works, websites, and journals etc.

Results

Selection of fishing methods and gear are influenced by various factors such as physiographic of the water body, nature of fish stock, characteristics of the raw material from which gear are fabricated and standard of living (Sugunan, 1998). Therefore, variation in application of gear can be observed in rivers, ponds, and wetlands. The frequency in

the operation of gears and fishing methods varies in different season in relation with level of water, movement of fish and their migration. Practically for all fishing, a fisherman depends upon the use of boats. So that the aim of every fisherman is to possess at least one, and lack of the boat is a fair indication that a man stands rather low in the economic scale. It is rarely found that in the island villages the fisherman have their own boat. They were used their native villagers boats for fishing by giving some fishes for consumption. The night time fishers sometime booked a boat for a fishing season from a villager, if he has no boat. The design of the boats and the technique of handling of the boats are very simple.

Berjal (Drag net)

It is a very long net and it is used for encircling a wide area for catching small fishes. Generally this net prepared by *Malhadar* and used for collective or group fishing *Tuni* river and *beel* (Fig.1). In shallow running water this net cannot apply for fishing. Minimum eight men need for handle this net. This net is rarely found among them.

Ghatjal or Tonijal (Dip net)

The dip net is some of the nets that are commonly used in inland fisheries. The dip nets are locally know as *Ghatjal* or *Tonijal* which is operated by keeping the nets submerged in the water and traveling or feeding fishes are lifted out from rapid operation of the act. This is an individual harvesting method. But only one fisherman cannot arrange the dip net stand. So, one helps another for settled the stand. (Fig.2)

Langijal (Gill net)

Gill nets has different local name, such as– *batalangi*, *kuhilangi*, *puthilangi*, *garoilangi* and *kawailangi*. The negated pieces of the net are supplied from Barman and the fisherman people were bought it from Jorhat town. It is rectangular in shape and it has various maze sizes to catch specific fish. Two strong nylon strings are parallel joined together. At two sides of the net, small and medium sized sinkers made out of bamboo are tied with the net. The fisherman fixes the net at one end of the pond with the help of the four ropes or threads at the two ends of the net. Fishes get trapped in the net and are thereafter taken out of the water along with the net.(Fig.3)

Khewali jaal (Cast net)

This is a mobile net, made up cotton and nylon thread. Gill is attached in the bottom side maintaining a specific difference by the nylon thread and made pockets joining gill attached line to upper body of the net. This net is encircling in nature and gradually wider from top. At the top of the net a tail is attached maximum 4-6 miters long with a nylon thread for pulling purpose. Fishermen through the net on water bodies and fishes are get trap. (Fig.4)

Ghokota jal (Lift net)

This net is like a square, where four corners of the sheet are tied to the trips of crossed flexible bamboo. A bamboo is attached to point of the crossing of the flexible bamboo. A rope is tied for drag up at the top of the bamboo, where crossing point is attached. This same net have two types, when there is a rope to function then it is called hand lift net and other hand without rope it is call Chinese deep net. The device is mainly used in slow flowing rivers. I have observed this particular net in Salmara Kaivartta villagers, which is situated in the bank of river Brahmaputra.

Dhanu-kand or Posa (bow and arrow)

The *Kaivarttas* of the island used bow and arrow for fishing moving into running or stayed water. Fishermen are stood on the bank or a tree of the rivers or ponds for killing the swimming fishes as when the fishes appear on the surface of the water. The bowman pushes the arrow immediately when the fishes appear on the surface water and the arrow inserted into the fish body. This device is used only for big fish hunting. It is a time taking process and it is not sure that fisherman will come back with a good quantity of fishes.

Chepa (valve trap)

It is made by binding thin strips of bamboo, held together by strings of cane and is shaped like a curved drum. The valve is made in such a way that fishes enter the trap but are unable to come out again. One end of the trap is closed while the other end is kept open. The fisherman first prepares an artificial small dam in shallow running water leaving a small passage. He then blocks the open mouth of the trap and then places the trap at the passage where the fishes exist, placing the valve down against the current of water. The fishers are lured into the trap with the water and are trapped.

Ubhati

This fishing equipment, also made by binding thin strips of bamboo, held together by strings of cane and is shaped like a curved drum. This instrument applies for night time fishing in the paddy field or wetland. The people, in the evening time, bring earthworm to the operation location and bring out the *ubhati* from hidden place. Earthworms are swing with a silky bamboo small strike and hang it bottom part of it and placed it in a proper place.

Pauri

A fishing device made by bamboo thin stick and cane used for catching big fishes. (Fig.7) This trap is use for paddy field fishing. This method does not take much time less maintenance is required and no physical attendant is needed. Just it is kept in the attractive place where the big fishes may come for searching food and operate after three four days.

Polo (cage trap)

It is the simplest type of trap made of bamboo strips. Thin bamboo strips are attached to a circular bamboo ring to form

the mouth or opening. The bamboo strips are gradually widened towards the base and secured in place by a strong bamboo rim. The bamboo rim and the bamboo strips are attached together by some strings. It is generally used in knee deep still water usually in the *beels*. Fishes hidden in the mud are usually caught by this trap. The manipulator holds the cage trap by the upper rim and plunges it into the water, whereby fishes enter the trap through the broader rim and get entangled in the cage trap. When the manipulator pulls the cage trap up from the water, fishes which are inside are taken out by hand through upper rim.

Ghuni

It is a drum-shaped bamboo trap whose anterior space is packed with dry grass and shrub and kept dipped in a beel or a stream. The fishes use the anterior space as a sort of nest.

Jakoi (basket trap)

It is triangular in shape and is made by weaving together very thin bamboo strips which extend from the handle. At the base of the mouth a cane is fastened to serve as a measure for carrying the basket on the shoulder by clinging the rope over the shoulder.

Dolonga

This fishing equipment also made by using bamboo and cane. This device, *dolonga* is look like as *jakaoui*, but it is big in size (Fig.8). This method of fishing is practices in river, *beels* and ponds in winter season. Fishermen keep some tree branches inside the device for sheltering the fishes in it and push it to the water.

Banas-Veta (Arial trap)

The *banas* is made up bamboo strike parallel knitted with jute thread. This method is used for catch migratory fishes on their way. Most of the *Kaivarttas* of the island apply this method on the month October to December in the paddy field nearby *beel*. They simply prepare different sized *banas* from bamboo and late night blocked the early notified area. Some portion of the *banas* is deeply put into the ground, for jumping the fishes, and hang up a mosquito net making a pocket. (Fig. 5) When the fishes face the obstacle (*banas*), they jump out of the water an fall in the net.

Dingara

A fishing device made by bamboo thin stick and cane used for catching medium sized fish. This device is look like a dram. (Fig. 6) In the front side of device commonly leaves a hole for entering the migrating fishes and back side is fixed. In the middle point of it hang a sewing earthworm by bamboo thin trickle for attracting the fishes. This method of catching fish is generally practice in small stream and paddy field. In the evening time the fisherman apply this device in the selected position and early in the morning take it to home.



Fig.1 Drag Net Fishing



Fig.2 Deep Net Practicing



Fig.3 Grill Net



Fig. 4 Cast Net throwing



Fig.5 Arial Trap



Fig. 6 Dingara (Bamboo Trap)



Fig. 7 Polo (cage trap)



Fig.8 Dolong Fishing



Fig.9 Hand Fishing

Khoka

A fishing device made by bamboo thin stick and cane used for catching big fishes. This device is keeps under deep water for sheltering the fish in it. This device is rarely checked out by the fisherman. Fried and pasted mustard oil seeds is keeping for attracting the fishes to sheltering in it.

Khaloi (fishing basket)

The basket resembles a pot where one puts his fishes after trapping with basket trap. It is made by weaving cane and the mouth is open. The fishermen hold the handle of the trap with the left hand and the rope by the right hand and a plunge it into water. Then it is drown towards the body after which it is lifted from water and trapped fishes are taken out and kept in fishing basket.

Borhi (hook and line)

This method is very common for the villagers. In this method, a rod is tied with indigenous fiber or cotton thread or nylon twine and the end is fixed a hook. The bait used to attract the fish may be earthworm, nymph of beetle, smaller fish, of small frogs, boiled rice or wheat

flour. The line may be made up of indigenous fiber or cotton thread or nylon thread. His line may be attached to a pole which is generally bamboo or other locally available twinge. If there is no pole then it is called hand line. A sinker or float may not be there. There are many types of hooks and line like short hand line, long hand line, pole and line, etc. the methods is generally practiced as a leisure time hobby of the villagers.

Light Fishing

Fishes generally come out from shelter to clear water for food and oxygen during night. At that time fishes are injured with the help of spear or knife (*dao*) or *posa*. Light fishing can be practice in two different ways. First one is called *Jora kata*. During the monsoon nights of summer season fisherman makes hurricane lamp made of bamboo locally called *Jora* and searched for fish in shallow water particularly in the paddy field. Second one knows as light *mara* or light *bowa*. In this method boat, *posa* and gass light is needed. Fisherman set out for light fishing in the monsoon nights in to the deep water surface. In one end of the boat stand the light and the *posa* takers and the *Guriwala* seat in another end of the boat. The light taker gives hints to the *guriwala* to change the direction of the boat when he sees fishes in water surface and attract.

Pukhuri-Xisa (Impoundment)

This is an important fishing method of the villagers. The *Kaivartta* peoples those who have land near the *beels*, they usually dig small pond in this land. The pound is demarcated with tree branch with leaves, when the water level is equal to the *beel*. When the water level is decreased the pound side is separated from *beel*, then the pond water bailed out and fishes are catch easily (fig. 9).

Besides the above discussed methods and techniques of fishing, there have some other miscellaneous fishing techniques. In small pools or ponds and during the time of *Sali* paddy, in plough field, they catch fishes simply by hand. The hand fishing is commonly practiced by women and children. It requires deftness of hand and a considerable amount of practice. In the knee level water surface the fisherman people commonly use a small mosquito net for catch small fishes. The rice saw is commonly use as a bait to attract fishes into the trap. Rice saw is throw on the water surface and gathering fishes are catches by the mosquito net.

Conclusion

It is observes from above discussion that among the island fishermen, there is no particular way of fishing. They use a considerable variety of traditional as well as modern equipment for fishing in the river, ponds and wetland in different season. In both fishing craft and gears, traditional materials were still prevalent among them. No mechanization boat is found within the Island Rivers used for fishing purpose. A few of them have modern net like, cast net, gill net and deep net. Drag net is very rarely found among them, because it is very costly one and it requires large manpower.

It is found that a small section of *Kaivartta* people is engaged in their traditional occupation as primary income source and they were used very common traditional types of equipment for fishing harvesting. They have not sufficient capital for invest for more modern equipment. Whatever, they used the bamboo cane device for fishing they can make themselves also. The method of making bamboo equipments is unique, if once fish is get trap it cannot be escape. From this point of view it can be said that traditional indigenous knowledge (TIK) is playing a vital role for survival of the poor fishermen. But, it is remarkable that, fishing as a profession has taken a new turn in the last few decades. Many of the *beels* and early used for fishing are now dead and have converted into shallow water pond, or agricultural fields; and almost all the rest have been brought under the revenue system. Consequently, poor fishermen have to depend on the Mohalder (lessee) who have taken if from the Government against payment of revenue. Fishermen of the island getting numerous problems, either they have modern fishing application or they can fish freely.

Acknowledgement

The author sincerely acknowledges the fishermen of *Kaivartta* community of the Majuli Island who share me their valuable knowledge.

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