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Traditional fishing techniques of tribes in *Bastar* region of Chhattisgarh

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Tribal habitant and rich primitive culture covers many tradition and fish is an integral part of tribes' food habit since time immemorial for the region. The lives of tribes mainly depend on naturally` available foods which can rarely be reaped in other places. Participatory research tools such as group discussion, semi-structured interviews, key informant survey and on-site observation were taken to acquire the fish harvesting practices followed by tribes. During rainy season, many types of fishing net, fishing gears, bamboo frame, etc. are commonly used in running as well as stagged water. These are locally known as *Jali, Gari, Pelna*, *Thapa, Bisar, Dandar, Sodiya,* etc. with widely adopted in small to large flow of water for individual to collective form of fishes.

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The extreme southern parts of Chhattisgarh is Bastar, which mostly known for tribal habitant and rich primitive culture covering many traditions. Fish is an integral part of tribes' food habit since time immemorial for the tribes. The life of tribes mainly depends on natural available food which can rarely be reaped. The fishes are available during rainy season in plenty rather than other seasons except perennial rivers and ponds. Art and science of fish harvesting have been evolved by the fishmen communities and passed on from generation to generation. Traditional knowledge and practices can play a great role in enhancing our understanding for devising fishing techniques. Study and documentation of traditional knowledge of techniques to local conditions is needed to keep live for next generation. The studies analyze the traditional knowledges associated with fish harvesting practices of tribes with existing and modification. During rainy season, many types of fishing net, fishing gears, bamboo frames are commonly used in running as well as staged water, which are locally known as *Jali, Pelna, Gari, Thapa, Bisar, Dandar, Sodia,* etc. It is popularly used in small to large flow of water for individual to collective form of fishes.

Methodology

Various types of participatory research tools such as group discussion, semi-structured interviews, key informant survey and on-site observation were taken to acquire insight into the fish harvesting practices followed by tribes. Attendance of the fishing sites allowed us to observe directly the construction of devices and procedures followed in harvesting of the fishes, whereas, in rainy season, fishing was observed by going to farm lands, seasonal ponds, dug wells, small streams where people were being done fishing. Those were subjected to interview thoroughly while fishing.

Results and discussion

Tribes of Bastar possesses a wealth of knowledge related to traditional fishing techniques. Their techniques are specialized according to structure, size of stream, season and species of fishes intented to be harvested. The materials and methods used in some important fish harvesting practices observed during study were as follows:

Bisar: Bisar is made out the bamboo splints as mat which is weaven with nylone threads across the bamboo splints with gradually converging the length towards down. The *Bisar* is attached with *Sodiya* for collecting fishes in flowing water comimg from up stream. Upper part is opened whereas lower part is having half opening and lower cover is opened when to take out fishes from *Sodiya.* It is effective to trap fishes fiting into wide cut of farm bund. Small to medium sized fishes are mostly trapped.

Sodiya:It is similar to *Dandar*, but longer in size with more number of valves used for filtering thrice

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or more time to avoid the fishes out. Generally, *Sodiya* is kept below the *Bisar* from where water converges in small stream to enter into *Sodiya* during mid to late monsoon periods and it can be separately used. It is very effective in flow of high volume water with large quantity of fishes which sustains longer than other farm fishing structures, water flow drains from perforated bamboo mat and *Sodiya*.

Dandar:The improved form of *Bisar* is *Dandar*, where it is modified the inlet water to catch maximum flow inside the bamboo cylender. For this, they make wide water way on bunds and fit it covering mud over the *Dandar*. Sometimes, *Dandar* is dangerous when snakes come inside for fedding fishes.

Pelna: Tribal ladies are accostomed to do *Dosa* in rivers and ponds where they use *Pelna* with other men and women. *Pelna* is triangular bamboo frame and weaven nylon net is tied with the triangular frame, one arm of triangular frame is having long handle of bamboo for holding the *Pelna* upright. Under waist height deep water, they move forward keeping Pelna upright from the bottom of ponds or rivers.

***Dhanu-kand and Dhokana*:**Bow and arrow are used to kill the fishes moving into running or stagged water, bowman is stood on the bank area of ponds/rivers for hunting the swimming fishes as when the fishes appear on the surface of water, immediately they leave the thead of arrow by pulling back. The arrow inserted fish surfaces on the water and it is collected removing arrow from the fish body. *Dhokana* is similar to *Dhanu-kand* but pebbles are used in place of arrow for which it is modified accordingly with widenig the thread of bow where hunter can place the pebble comfortably. It is used for big fishes and time taking process also, not so sure that the man will come back to home with good quantity of fishes.

Thapa:*Thapa* is simple bamboo made perforated trap which is used to trap the fishes in knee height water by covering. Its height is nearly one metre and cone in shape with bottom diameter ranges 0.50 to 0.75 m whereas upper mouth diameter is 0.45 m. After covering the fishes, fishermen insert their hand inside thapa and grap the fishes. Similar process repeats on different places of ponds or rivers

Processing and storage of fishes

Drying of fishes

Sun drying : Afterharvesting of fishes, the fishes are dried exposing to sun light. Small fishes are delicated, therefore, it is necssory to dry. This drying takes 3-4 days in summer months but in rainy days, it depends on sun liight.

Jhanji: Year round drying of fishes can be done by this methods. In kitchen, bamboo mat is hanged horizontally keeping 1.5 to 2.0 m above over stove (*Chulah*) and fresh fishes are kept over the mat. It automaticlly dries while cooking of daily meals and very deliciuos in taste than sun drying.

Half burning: Just after harvesting, fishes are laid over paddy straw and also cover with the straw. The covered fishes are burned for 10-15 minute to dehydrate water from the fishes then clean it, again it goes to complete drying either through sun drying or *Jhanji.*

Storage of fishes

Dhuta : It is constructed with bamboo splints weaving it as bottle shape container and hanged on wall in safe place. *Dhuta* is with capacity of 2-5 kg of dry fishes and 1-3 kg of fresh fishes. For hanging or carrying, it has thread .

Chipta : Moisture resistent type of container made out from *Mahal* (*Bauhunia spp.*) leaf locally known as *Siyadi pan* sewing with its petiole in 2-3 layers. It has also 5-6 kg capacity of storage, the *chipta* is closed with leaf made lid.

Under both the staorage techniques, materials are kept safe for 2-4 years into container as when need to cook to be taken out. Even in the modern times, this techniques are being widely used in daily life of tribes of the region and it has been sustained from long time back.

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