

FISHING METHODS COMMONLY EMPLOYED IN BULDHANA DISTRICT AND NEIGHBORHOOD, MAHARASHTRA STATE, INDIA

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ABSTRACT

The Buldhana district is traversed by the river Purna and its principal tributaries, viz., the Nalganga, the Vishwaganga and the Gyanganga from the south and the Banganga from the north, and by the river Penganga, constituting together a length of 390 km of fluvial waters. Impounded water resources comprise 34 tanks having a total water-spread area of 2,150 hectares, including the Nalganga reservoir admeasuring nearly 1,100 hectares. These ample water sources accommodate and healthy environment accommodate diverse fish fauna which supports the livelihood of several economic classes of Buldhana District (Joshi et al. 2012). Fishing methods commonly employed in Buldhana District and neighborhood, Maharashtra state, India fall into five categories viz. Disabling types, Trap and barriers types, Filtering types, Entangling types and Miscellaneous types and have been discussed.

Key words: Buldhana District, PurnaRiver, Fishing Gears

INTRODUCTION

The most wonderful mystery of the life may well be the means by which it created so much diversity from so little physical matter (Wilson, 1992). Around the world approximately 22,000 species of fishes have been recorded out of which nearly 2,420 are found in India, of which, 930 live in freshwater and 1,570 are marine (Kar 2003, Ubarhande 2011). From 18 century till to date various pioneers have studied about Ichthyofaunal diversity (Hamilton 1822, Day 1878, Menon 1999) from Himalayan rivers (Jayram 1982) and studies of fishes of Purna, Painganga and their tributary rivers of Buldhana district, Maharashtra (Joshi *et al.*, 2012). These fishes support the livelihood of several economic classes of Buldhana District (M.S.). Now, an attempt has been made in this paper to give an account of different fishing gears used in lotic and lentic water of Buldhana District of Maharashtra state, India.

MATERIALS AND METHODS

Buldhana district is a district in the Amravati division of Maharashtra state in western India. Buldhana district is situated at westernmost

border of Vidarbha which lies between latitude parallel 19° 51' to 21° 17' N and longitude parallel 75° 57' to 76° 49' E. District covers 9,640 sq.km. area. It is bounded by Madhya Pradesh on the north, Akola, Washim and Amravati districts on the east, Jalna district on the south, and Jalgaon and Aurangabad districts on the west. Healthy environment and climatic condition of district accommodate a rich biodiversity. The Buldhana district is traversed by the river Purna and its principal tributaries, viz., the Nalganga, the Vishwaganga and the Gyanganga from the south and the Banganga from the north, and by the river Penganga, constituting together a length of 390 km of fluvial waters. Impounded water resources comprise 34 tanks having a total water-spread area of 2,150 hectares, including the Nalganga reservoir admeasuring nearly 1,100 hectares. These lentic and lotic water bodies supports a diversified fish fauna and various fishing methods were employed for fish collection.

Fishing Methods

In Buldhana District and neighborhood, Maharashtra state (India) different methods of fishing are used.

These methods are commonly fall into five categories (Dutta *et al.* 2001) were as follows-

1. Disabling types.
2. Trap and barriers types.
3. Filtering types.
4. Entangling types.
5. Miscellaneous types.

1. Disabling types: The following types of fishing methods were known from Buldhana District and neighborhood, Maharashtra state:

Rod and wire:

This method of fishing was used in all types of water and was locally known as “*Kaata*”. It consists of a rod, nylon twine and hook. The nylon wire was tied to a rod on one side and to the baited hook on the other side. The nylon wire was also provided with a wooden float. In certain cases, the hook was kept in position by attaching a stone to the nylon twine. The baits used were wheat flour paste, goat liver, chicken entrails and earthworms.

Drift long line:

Two or three baited hooks were attached to main nylon thread by small lines or snoods. A weight was attached to the main line and is allowed to drift down stream in pool or moderately flowing lotic water. The fish lured by the bait bites the hook and in the process get entrapped.

Fixed long line:

This was also known as cross lines. Baited hooks, at a distance 2' to 2.5' are tied to mainline by small nylon line measuring about 30 to 60 cm. A sinker (stone) at a distance about 1 to 2 meters was attached to the mainline to keep it stretched in water. The mainline was tied to the stone or wooden peg at the bank of river. The hooks were baited with earthworms, goat liver, chicken entrails, small fishes or wheat flour pills. The fish lured by the bait bites the hook and in the process get entrapped. The line was fixed in the evening and in the morning it is removed to collect the fishes.

2. Traps and barriers: These methods were employed for fish collection in Buldhana District and neighborhood, Maharashtra state:

Pot traps:

It consists of an earthen or metallic pot with wide mouth. The mouth of the pot was covered with piece of cloth in which a whole was made.

Sometimes pebbles were placed inside the pot to make it heavy. The pot was placed in the flowing water at a convenient place with bait inside which is generally earthworms, goat liver, chicken entrails, small fishes or wheat flour paste. Fishes tempted by the bait, enter through the hole and thus trapped. Periodically the pot was checked and trapped fishes were removed.

Bundh method:

A dam or bundh of stone was put on the channel or rivulet to constrict channel width and increase the water flow. At the outlet of channel, a conical shape basket bamboo or cloth bag tied to stick was placed. Water is distributed in the upstream region and fishes are forced to move to the constricted channel. All the fishes running down stream were directed into the basket or clothes. Depth of the trap or cloth bag and the force of water prevent the fish to escape from trap. By this method not only the adult, but even the fry and fingerlings of various fish species were also captured.

Cover basket method:

It was conical basket, open at both ends, made up of bamboo strip laced together by coir rope all around intervals. The ends of the strip at the wide opening may be sharpened for temporary fixing basket in mud. The sides of narrow opening were bound by few layers of rope to form a thick ring to prevent hand from being hurt. One man carries the basket in hand and plunges it into the water, where the fishes were suspected to be present and firmly presses the basket in the mud imprisoning them. By putting one hand through the top hole, the fishes inside were stretched for and taken out. This method of fishing was practiced in ponds and shallow pools of streams and is employed by tribal of area.

3. Filtering type: It includes following methods employed for fish collection in Buldhana District and neighborhood, Maharashtra state:

Drag net:

Drag net was a wall like structure and was mostly used for fishing in ponds. To keep the net in vertical position, head rope was provided with plastic floats and the foot rope with iron sinkers. Floats were attached to the head rope at distance of about 5-6 feet. In the foot rope, iron sinkers were placed at approximate distance of 7 to 8 cm. Mesh size of the net was nearly 1 sq. cm.

The length and height of the drag net varies according to the size and depth of the pond. The netting operation was carried by keeping the net vertically across the width of the pond. The fisherman holds the foot rope in right foot and raises the head rope above the water with his hands. The net was dragged from one end of the pool to the other end. One net man was required at a distance of 5-6 feet. The stretched net restricts the migration of the fish to the other end of the pond. On reaching the corner, ends of the net were brought on the shore and it was dragged from both the sides and the fishes are collected. In deeper ponds, rubber floats are used by net man to keep the nets in vertical position.

Gunny bags:

Gunny bags were use for fish collection from the river during monsoon. Mouth of a gunny bag was widely opened by fixing two wooden poles. Sometimes two gunny bags were joined to form a large structure. Two persons were required for fishing by this method. One pole was in the hands of one person and the other was in the hands of other person. Both the persons move in shallow water by keeping the mouth of gunny bag widely opened, under water. After hauling for some distance the gunny bag was brought on the surface and the fishes are removed.

4. Entangling type: These methods were employed for fish collection in Buldhana District and neighborhood, Maharashtra state:

Gill nets:

It was wall like net made of nylon threads woven together. In order to keep it vertically in water, polythene floats were attached to the head rope and sinkers were fixed to the foot rope. Each net is about 10-20 meters long, and its height varies from 2 to 5 meters, depending upon the depth of water. Sometimes two or more nets were connected together to form a bigger net. Mesh size ranges from 2 to 5 cm. The net was fixed vertically across the width of the river. One end of the head and foot rope of the net was tied to a fixed support on one shore and the other on the other shore. This was to avoid shifting from one place to another by the force of water. It was applied in the evening and removed the following morning. When the fish strikes against the net, it tries to pass through it. As the abdomen of the fish has more girth than the head, it cannot pass through the

mesh and tries to push itself back. In doing so, the twine slips under the gill covers, thereby, making the escape of the fish impossible.

Cast net:

It was conical or bell shaped, forming a circle when spread out. The foot rope along the circumference of the net has small iron of lead weights attached all around about 10-15 cm. intervals. Each weight is cylindrical, 4cm long and 2 cm in diameter. A string or line passes from the center and is held in the hand for operating the net. The central line (rope) branches out into several lines and also into sub-branches, finally connected to the free edge of the net. The edges of the net in some cases were folded inwardly and fixed by twines to form pockets. The size of the mesh is 1-4 sq. cm and diameter is 5' to 10' or more. The fisherman operates the net while in water. The net were thrown in the air skillfully. It encloses the fish as it falls and sinks in water. To prevent the escape of fish, when the net was raised, the circumference was reduced inwards to form a pouch around the edge of the net.

5. Miscellaneous type: It includes the following methods which employed for fish collection in Buldhana District and neighborhood, Maharashtra state:

Fishing with mosquito net / muslin cloth:

This method of fishing was employed in shallow water pools, ditches, canal, ponds, etc. Four corner of square or rectangular mosquito or muslin cloth net was held in such a way as to form a bag like structure. The cloth was drag from one corner to the other side. It was taken out of the water and small fishes were removed.

Hand net / dip method:

This method was used to collect fishes from ponds, small streams, etc. Net consist of two parts, a bag like portion and a handle. A bag like portion was attached to an iron ring on all sides so that a sort of conical pouch was formed. To that iron ring, wooden or iron handled was attached. The radius of iron ring, conical pouch and a handled varies.

Sticks and iron rod:

Most of the time, this method was used by tribal boys as game of fishing. For fishing in shallow water, sticks or metallic rods were used. As soon as a fish is seen, it was struck by the stick or metallic rod and is collected.

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