An indigenous community fishing practice of Tirap district, Arunachal Pradesh

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An indigenous community fishing practiced by the Wancho tribe of Tirap district, Arunachal Pradesh in Tissa river is described. In this practice, fishing was facilitated in the pool zones of the hill stream by making the stream water muddy. Fishes gasping for air in muddy waters is then caught using cast nets operated from indigenous bamboo rafts (4.6-6.1 m long and 1.1-1.4 m wide). The study revealed that community fishing is a part of the cultural heritage of the Wancho tribe of Tirap district. The principle behind the fishing method was found to be deoxygenation of water caused by churning of bottom sediments.

Keywords: Indigenous Technical Knowledge, Traditional fishing practice, Community fishing, Bamboo raft, Arunachal Pradesh, Wancho tribe, Ethnobiology, Fish harvesting

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Tirap district of Arunachal Pradesh covering an area of 2,362 sq km is situated in a unique geographical setting bounded by Burma in the South, Assam in the North, Nagaland in the West and Changlang district of Arunachal Pradesh in the East. Tirap and other small rivers passing through the district are quite rich in fish fauna and the local tribal people employ a number of unique fishing methods based on indigenous knowledge system passed on by their ancestors to catch these fishes for food. Indigenous Technical Knowledge related to fish harvesting of Northeastern region of India particularly that of Assam has been documented1-5. However, information on indigenous fishing methods of Arunachal Pradesh is scanty owing to difficult terrain and remoteness of the predominantly hilly state. Community fishing is a part of the cultural heritage of the tribal communities, which are yet to be documented except for that of Assam5. The indigenous knowledge system of the villagers of Tirap district of the state related to fishing methods is yet to be recorded systematically. In view of the above, an attempt has been made to describe an indigenous community fishing practice of Tirap district, Arunachal Pradesh.

Methodology

The study was conducted in Otangkhowa village of Deomali subdivision under Tirap district, Arunachal Pradesh during 2005. The village has a population of about 800 persons, mostly belongs to Wancho tribe, who are fond of eating fish. Tissa is flowing by the side of the village. Random field surveys were conducted in Tissa river at Otangkhowa village for studying operation of the indigenous fishing employed for catching fishes from this hill stream and their catch composition. Secondary data on the traditional fishing practice and the knowledge system associated with it were also collected from fishers as well as other villagers through focused group discussions6,7.

Results

The villagers of Otangkhowa village normally use cast nets and hook and lines to catch fish for their own consumption. However, during festival times, they practice community fishing. Usually all male members of the village participate in the indigenous fishing practice, which commence early morning (Fig. 1). The villagers use an indigenous raft (Fig. 3) made by tying 15-20 whole bamboo pieces with coir ropes. The rafts are in the range of 4.6-6.1m in length and 1.1-1.4m in width and between 25 and 30 such
rafts with 3 villagers in each, participate in the group fishing. The community use cast nets, made up of nylon (polyamide) twines for catching fish. They select a suitable pool zone of the hill stream and approach the steeper bank adjoining hills. After reaching the spot, they start scrapping top soil from the steep bank using spades and dumping them onto the river. Soon, the water of the selected river stretch becomes muddy (Fig. 2). The villagers then start catching the fishes using cast nets (Fig. 4). After some time, (usually 30-45 minutes), when the muddy water move down streams with water current and the water of the stream start becoming clear once again, the villagers make the water turbid again by making domestic elephants wad through shallow waters at convenient locations. Fish catch from the method comprised of mixed species of mahseers (\textit{Tor} spp.), catfishes (\textit{Mystus} sp.) and barils (\textit{Barilius} sp.).

**Discussion**

In Northeastern India, community fishing is a significant event especially during social/religious festivals\(^5\). In this practice, almost the entire village community takes part in fishing in a water body (river, floodplain lakes, etc.) with assorted indigenous gear. The age old belief of the villagers (as stated by the village elders in the course of discussions) is that the fishes living the selected river stretch become blind and/or loses balance because of the sudden muddiness of water. However, perusal of scientific studies revealed that underlying principle of community fishing is deoxygenation, which facilitates catching of fishes in shallow waters\(^5,8\). As the top soil/ sediments is mixed with water, the dissolved and suspended organic matters use up the available dissolved oxygen. Fishes start gasping for air and come to surface as a result of which, they are easily caught\(^5\). Thus the method, employed by the \textit{Wancho} tribe of the district based on the indigenous knowledge systems passed on from generations was found to be very efficient in catching fishes from the hill stream, where individual fishing is less effective.
References