

# Trap Fishing

## — In the Floodplain Wetlands of Assam

Deepjyoti Baruah<sup>1\*</sup>, Amalesh Dutta<sup>2</sup> and Puthra Pravin<sup>3</sup>

<sup>1</sup>Krishi Vigyan Kendra, West Kameng District, Dirang 790 101, Arunachal Pradesh

<sup>2</sup>Department. of Zoology, Gauhati University, Guwahati 781 014, Assam

<sup>3</sup>Fishing Technology Division, Central Institute of Fisheries Technology (ICAR), Kochi 682 029, Kerala

\*Corresponding author: deep\_baruah@rediffmail.com

Traps are artificial devices for capturing fish. Trap capturing of fish is based on the principle of leading the fish to enter into a

trap by enticing or attracting them. After entering into the trap, it will be difficult for the fish to exit through the same and the

only opening, as it is defended with a non-return valve or labyrinth. A wide range of

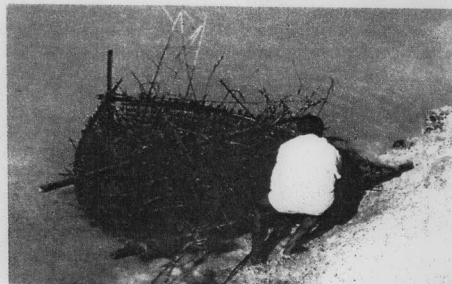


Fig 1: A fish hiding device (*Hukuma*)



Fig 2: A piece of bamboo as a fish hiding device (*Chunga*)



Fig 3: A barrier (front view)

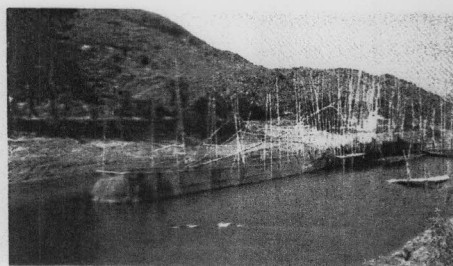


Fig 4: A barrier (rear view)

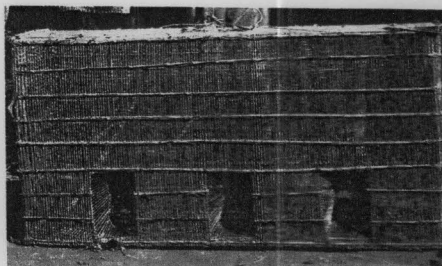


Fig 5: A box shaped trap (*Bosna*)

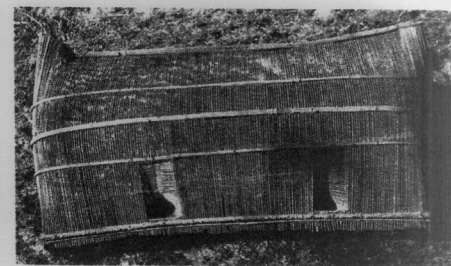


Fig 6: Another box shaped trap (*Seppa, darki*)

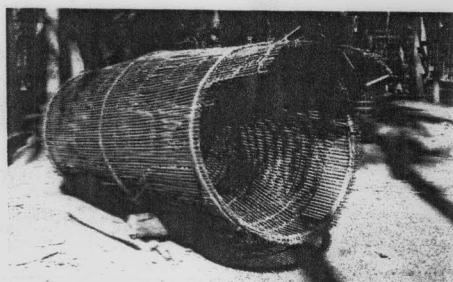


Fig 7: A tubular shaped trap (*Ghoni*)

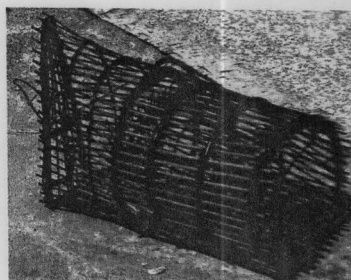


Fig 8: A tubular shaped trap (*Farom*)

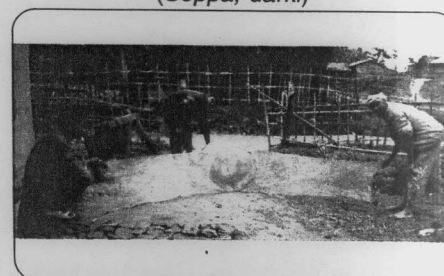


Fig 9 : A trap net (*Ghukuta dingora*)

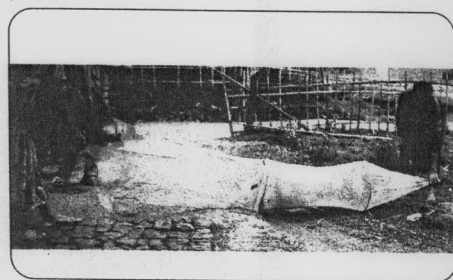


Fig. 10: A trap net (*Ghukuta dingora*)

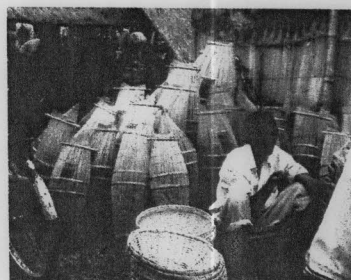


Fig 11: A local traps market



Fig 12: A man with traps for their operation



fish traps to collect fish and other aquatic animals has been evolved by the fishers of Assam who contribute to the fish production of Assam and the economy of the local community. An attempt has been made in this communication to classify and describe the different fish trapping implements and their mode of operation in the floodplains of Assam. The identified fish traps can be classified into 28 different types of five major categories, based on the principle of capture, design, and operational methods. These traps vary widely with shapes ranging from conical, cylindrical, pyramidal to rectangular, mostly of fine screen-work, made of slender splices of bamboo.

**Hiding places:** Artificial implements or devices stuffed with bunches of twigs, bushes, and weeds are placed in the water body for luring fish. The fish so lured are captured. The major fish catches that result from this system are *Mastacembelus armatus*, *Mystus* spp., *Puntius* spp., *Clarias batrachus*, *Channa gachua* and small prawns. The various devices used to serve as hiding places for the fish are explained hereunder.

(a) **Dolonga/ Derjakori/ Tak:** This is a bowl shaped bamboo woven trap usually filled with weeds, tree branches and twigs to provide shelter to the fish. The anterior open end of the trap is supported with bamboo hoops to provide rigidity. The trap is placed and lifted from water with the help of two whole bamboo poles along the diameter (2.5 m) of the trap. The trap is mostly used to catch fish in *beels* and slow flowing water bodies throughout the year. A bamboo pole or a banana trunk is used to mark the location of the trap in water. The approximate cost of this gear is Rs.500.00. These have a life span of 2-3 years.

(b) **Hukuma:** This is a funnel shaped bamboo-made trap stitched intermittently with bamboo splits to provide rigidity. Fish enticed from its open end (0.9-1.3m dia) cannot retreat back. The 2.25 m long trap is mostly operated in *beels* and mild flowing rivers.

(c) **Khoka:** This trap resembles *hukuma* in its shape, except in respect of its mode of construction. This trap is constructed of a single piece of a bamboo of 1 m length where one end is closed, while the opposite end is split so as to enable them to have space between one another (0.6 m). The trap is operated in weed infested water bodies at lesser

depths. The trap is lifted periodically to remove the fish. The price of this trap ranges from Rs.30.00-100.00 in the market.

(d) **Chunga/ Dhun:** This is a simple piece of bamboo or betel nut trunk of 0.5-1.0 m length. It is closed at one end by a node. The trap is placed at the bottom of a water body at a reachable depth and is marked with a float to locate its position. Fishes that get enticed to enter inside it are caught.

#### Barricades/ Barriers

These are complete barriers, principally made of various non-textile materials which prevent the escape of fish from a certain natural area in which they have voluntarily entered after having been intercepted in their course of migration or movement in their search of food and breeding grounds.

(a) **Barriers:** Locally known as *banas* these are often installed across rivers and channels connecting to *beels* in the configuration of alphabet "V". These are made of closely woven bamboo splits fastened together with coir and plastic ropes permitting interspace as low as 0.5-1.0 cm between them. The inner wall of the submerged portion of *banas* is further lined with mosquito netting serving as a guide wall to lead the fish into a lever operated dip net installed at the end of the passage. This set is generally installed during the winter season from September to April when water flows at a lesser speed. Priced fishes such as *Chitala chitala*, *Wallago attu*, *Labeo* spp., etc. are its major catch.

#### Tubular traps

These are the set traps or enticing devices, exclusively of those made of textile, which prevent the escape of fish by means of trap doors provided with non-return valves. The traps vary in shapes. The catch comprises fishes such as *Mastacembelus aculeatus*, *Mastacembelus armatus*, *Mystus* spp., *Mystus tengra*, *Monopterus cuchia*, *Channa punctatus*, *Channa gachua*, *Channa marulius*, *Clarias batrachus*, *Aorichthys aor*, *Chitala chitala*, *Puntius* spp., small prawns etc.

(a) **Seppa/ Tepa:** It is a spindle shaped trap with the maximum girth at the middle and tapering at the ends. This bamboo woven trap varies from 0.2-0.9 m in length

and is provided with 1-4 numbers of trap doors along the mid alignment of the base. The trapped fish are removed from an opening at the posterior extremity. These traps are operated in inundated paddy fields and shallow water bodies during monsoon season. The trap costs Rs.50.00-100.00 each.

(b) **Bhari/ Seppa:** This is a spindle shaped trap made of a single piece of thick bamboo. The piece is split up at one end while the other end remains complete and whole. The trap attains a maximum girth at the mid region and is provided with a trap door located near to the anterior end guarded with non-return valves.

(c) **Koita/ Kotia/ Seppa:** It is an elliptical shaped trap (32-87cm length) with maximum girth (0.6-1.5 m) at its middle. This trap has two trap doors, one at the anterior extremity and the other at the mid girth. The trap is operated during rainy season in all types of shallow water bodies. Dry fish, large ants and earthworms are used as baits. The cost of each of the traps varies from Rs.10.00-25.00 and the life span ranges from 1-6 years.

(d) **Ubhoti/ Queen/ Faron/ Kuni/ Tuni:** This tubular trap is longer (0.4-0.9 m) than its breadth (0.2-0.7 m) and has a uniform circumference from the base to a certain height. The split spieces of the trap converge into an apex as a bunch, bound round by a chord or rope. The trap is guarded with two trap doors having non-return valves of which; one rectangular shaped value arising from the base to its height and the other, circular in form, fastened to its inner circumference. Trapped fishes are taken out by untying the bunch at the apex. The trap is operated in flooded paddy fields, catchment areas of river, derelict water bodies and muddy areas during flood season (Aug-Sep). Molluscs, earthworms and mussels are used as baits. Cost of each of the traps varies from Rs.15.00-100.00 and a trap may last for 3 months to 3 years depending on its usage.

(e) **Paori/ Doo/ Juti/ Sasha:** This is one of the biggest traps used in Assam. The length varies from 1.2-2.5 m with a diameter of 0.5-0.9 m. Like *ubhoti*, this trap is made of bamboo splits (0.3-0.8 cm thickness) and has a uniform circumference from the base upto a certain height from where the strips converge into a tapering point as a bunch, bound round with a chord. The trap is supported with bamboo hoops along its inner and outer

circumferences at regular intervals to provide rigidity. The base is concave shaped with a trap door for the entrance of fish. Based on harvesting method and mouth opening, three varieties have been observed. The trap is operated during monsoon months in rivers and *beels*. The cost of each ranges from Rs.100.00-1500.00 and the life span is 1-3 years.

(f) **Dumukhi paori** : This trap resembles the earlier trap (item e) in all details except for having a uniform circumference (85 cm dia) all along its height (1.75 m). Both the ends are provided with an oblique trap door tilted inwardly for a length of 28 cm from the base. Both the ends have a diameter of 25cm. The trap is operated in *beels* and rivers with mild flow. The trap is fixed with bamboo poles for holding it in position, when operated in deeper areas. Approximate cost of the gear is Rs. 350.00 and its life span is 4 years.

(g) **Dingora/ Bundh dingora/ Runga/ Farom**: This is a drum shaped trap with 1-2 numbers of non-retractable trap doors, one followed by the other. The anterior end is circular in configuration and possesses a door, while the posterior end is closed and varies from triangular to trapezoid shape. A small outlet at the posterior end is used for removing the enticed fish. This trap varies in design and rigging from one place to another and hence the cost and life span also vary.

(h) **Ghumai khowa**: The trap is drum-shaped with a circular base of 0.7 m diameter fixed with a trap door. Usually a bamboo screen is erected towards the trap door to lure fish into the trap. The trap is closed at the opposite end. Fish is harvested from a small window measuring 19 x 14 cm constructed at the mid part. This bamboo woven trap measures 1.6 m in length and is operated in *beels*, rivers and lotic water bodies. The cost of the gear is Rs.600.00 with a life span of 5-6 years.

(i) **Ghoni**: The trap is cylindrical in shape with a uniform circumference of 1.3-1.9 m diameter and 0.8-1.5 m in overall length. The anterior end has a non-return trap door while the posterior end is closed. The webbing over the trap door is further extended as a hood for a length, which is half of its circumference. During operation, two traps are placed facing each other with a *bana* fixed to the mid of the doors luring fish to enter from both the directions. The trap is operated in *beels* and rivers during monsoon with a peak season from May to

August. The trap costs Rs.250.00-500.00 each and has a life span of 3 years.

(j) **Khoka**: This is a bottle shaped trap measuring 0.5 m in length. The narrower end (9 cm dia) is plugged with weeds at the time of operation, while the broader end (16 cm dia) is provided with a non-retractable trap door. The non-retractable door is inwardly projected (23 cm) with an inner diameter of 14 cm. The trap has a life span of one year and priced at Rs.25.00-30.00 each. The trap is operated in low-lying areas and in pond channels with mild current.

(k) **Hufa/ Hufi/ Sohora**: This is a funnel shaped trap made of a cut-off piece of a whole bamboo (0.8 m long). One end of the trap is spliced in a manner letting the splits to diverge from one another. The trap is without a trap door and the anterior end forms the mouth (15 cm dia) for letting the fish in. The mouth part is stitched with thin strips in circular fashion. The price of the gear is Rs.10.00 and has a life span of 4-6 months. The trap is operated during rainy season in paddy fields and in low-lying water bodies with swift current.

#### Box traps

These are made of bamboo splits, finely knitted with cane and bamboo strings. Big sized box traps are provided with a bamboo screen at the mouth to guide the fish into the trap door. The prized catches are *W. attu*, *C. gariepinus*, *C. batrachus*, big sized murels, *L. goni*, *Mystus* spp., *M. amatus*, *Colisa fasciatus*, *Puntius* spp., *Anabas testudineus*, *H. fossilis*, *Botia* spp. and prawns. The variations seen among the box traps are as follows.

(a) **Ghoni/ Gui/ Kholoha/ Sepeti**: These are box shaped traps with minor variations among them. All these traps are taller than the width and are provided with a trap door from the base to the apex along the height. The fish is removed from an opening at the top. The trap ranges from 50-78 cm in height, 37-66 cm in length and 37-67 cm in width. Mouth width varies from 4-23 cm. The traps are operated in slow flowing rivers, *beels*, and paddy fields. These are generally set against the current and are provided with baits, usually earthworm. The cost of the gear is Rs.60.00-500.00 each with a life span of 1-2 years.

(b) **Dingori/ ghoni**: This trap resembles the trap mentioned under (a) in

most of the details. Here, both the anterior and posterior sides are curved outwardly. The trap is 0.7-0.8 m in height, 0.3-0.5 m in length and 0.3-0.4 m in width. The width of the mouth varies from 7-10 cm. This trap is operated in shallow portions of *beels*, rivers, and stagnant water bodies, mainly during flood season. A bamboo screen is erected at times across a water body between two traps to guide the fish through the trap doors.

(c) **Dori/ Seppa**: This is a box trap with a 'U' shaped cross section. It is higher than its width. The trap door extends from the base to the apex at one end. The top of the gear is usually kept open, while the bottom remains closed. The trap is operated during rainy season in shallow depth water. The trap measures 0.5-1.1 m in height and 0.3-0.4 m in width. The width of the trap door varies from 18-24cm. The cost of the gear varies from Rs.60.00-1200.00 depending on the size. The life span of the gear is 2 years.

(d) **Farom**: This trap is similar to the earlier ones listed, except that it is having two numbers of non-retractable trap doors on either side of the shorter axis. The trap doors are constructed of separate webbings to the main body. This trap measures 0.9 m in height, 0.6 m and 0.4m at its longer and shorter axis respectively. The trap is operated in the river banks, ditches and small impoundments to catch fishes weighing less than 1kg. The cost of the gear is Rs.80.00. It has a life span of one year.

(e) **Noganda farom**: The trap is shorter than the width, measuring 29 cm in length, 22 cm in width and 18 cm in height. The trap door has a width of 13 cm and height of 18 cm and it projects inwards for a depth upto 14 cm. The apex and the base are closed. The apex has an opening for harvesting the trapped fish. The cost of the trap is Rs.20.00. It has a life span of 2 years.

(f) **Boldha/ Ghoni**: This is a long box trap with its height shorter than its length. This trap is somewhat intermediate in design between the rectangular type boxes and the ones with circular posterior ends. The length of the trap varies from 0.3-0.9 m, width 0.2-0.3 m and height 0.2-0.3m. These traps are operated in shallow region of rivers, *beels* and paddy fields. Small snails or crushed bigger snails are used as baits. Cost of the gear ranges from Rs.40.00-150.00 each, with a life span of 1-2 years.



(g) **Koliha**: This trap is similar to the preceding one (f) with the exception that instead of one, two trap doors run from the base to the apex on either side of the shorter axis. The width of the trap door is 10 cm, projecting inwards for 23 cm. The length of the trap is 0.5 m, width 0.4 m and it has a height of 0.5 m.

(h) **Darki/ Seppa**: This is a long box trap provided with 1-2 trap doors placed just above the base along the longer axis. The length of the trap varies from 0.6-1.5 m, width 0.14-0.43 m and height 0.3-0.7m. The trap door measures 4.5-25 cm in height, 3-18 cm in width and 8.5-17 cm in depth. The trapped fishes are harvested from an opening at any of the rear ends of the apex. The opening measures 8-16cm in length and 4-16cm in breadth. This trap, provided with bamboo screens, is operated either single or in series,

(i) **Bosna**: It differs from the above one in having three small sized trap doors placed at the periphery along the length of the box on each of the sides. In some varieties, the middle door of the three is replaced by a bigger door running throughout the height on either of the sides. The door measures 16 cm in width, having a depth of 20 cm.

(j) **Boldha**: This is similar to the two traps described above. This trap has a trap door that runs from the base to the apex along one of the shorter axis. The small sized trap doors are absent. The trap is provided with a bamboo-made device for keeping earthworms as bait to lure the fishes to enter. The trap measures 0.28 m in length, 0.09 m in width and 0.3 m in height. The cost of the gear is Rs.30.00 with a life span of 2 years.

(k) **Diar/ Bosna**: This is a basket shaped trap with bulging sides from base to the apex. The trap has a broader base and narrow apex. The trap is longer than its height and is provided with 2-4 trap doors at the periphery of the base. The fish is harvested from an opening at the apex. The trap is 0.41-0.81 m in height, 0.7-2.1m in length and 0.10-0.47 m in width. These traps are operated in series fixed to the ground with mud or by anchoring with stout bamboo sticks, usually in rivers and paddy fields, during the onset of monsoon. The cost of the gear is Rs.300.00. It has a life span of 2 years.

(v) **Trap nets**: Trap nets are devices made of knitted fabrics, consisting of wings and a series of funnel shaped entrances,

which lead into a closed sac, which functions as a trap from which exit is difficult.

Trap nets or fyke nets are 3-4 m in length fixed to the ground with sticks. These traps are made of small mesh size nets. The rigidity of the trap is provided by 2-3 bamboo or iron made rings of 0.4-0.5m dia stitched to the inner circumference of the body with an inter space of 0.7-0.8 m. The fish is harvested from the cod end. The mouth part is provided with two rings of 1.5m length and 0.5-0.6 m width, projected from either side of the first ring to lure the fish into the trap. The net is operated in shallow regions of rivers during the rainy season mainly during April to September. Cost of the gear is Rs.300.00 with a life span of one year. *Macrobrachium* spp., and small sized fishes are the major catch.

A large number of traditional fishing gears and methods used for harvesting of the fishery resources have been developed by the fishers of State of Assam. Of these, traps are unique. These are indigenously designed and fabricated by the traditional fishermen themselves, taking into consideration, the area, location and behaviour of the fishes. Majority of the traps are made up of bamboo strips and are widely used throughout the State in the rivers, beels and other wetland areas. They are fabricated in different shapes and sizes and are comparatively cheaper and efficient than other traditional fishing gears. However, factors such as thinning out of fish population and reduction in natural shallow water areas, poor returns, and attitudinal changes of the fishermen can lead to reduction in the use of fishing traps. Traps can be made selective fishing gear, if proper escape devices are provided in the traps to facilitate the escapement of juveniles.

#### Acknowledgement

The authors are thankful to Dr. K. Devadasan, Director, CIFT, Cochin and Late Dr. M. Mahadev Choudhury, Officer-in-charge, CIFRI North Eastern Regional Centre, Guwahati for the constant encouragement, guidance and cooperation in carrying out the research work. Thanks are also due to the CIFT team for the technical assistance rendered during the survey work done in Assam by the CIFT team author.

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### Coast Guard nabs 4 Lanka fishing boats

The Indian Coast Guard personnel apprehended four Sri Lankan fishing boats while those were engaged in fishing near Nagayalanka island off Krishna District coast of A.P. The boats were sighted by Indian Coast Guard's Dornier aircraft which was on aerial surveillance as part of the coastal security exercise. The Dornier personnel informed about it to the Coast Guard headquarters in Visakhapatnam. The Coast Guard Ship Gangadevi, that was on patrol in the area was directed to apprehend the boats. As Gangadevi approached, the Lankan boats tried to escape. The Coast Guard ship chased and apprehended all the four boats and their 20-member crew were taken into custody. The Gangadevi ship handed over the four boats along with the crew to another Coast Guard ship Sagar to take them to Visakhapatnam. Later the apprehended four boats and the Lankans were handed over to Visakhapatnam police. In this year, the Coast Guard has apprehended 17 Sri Lankan fishing Boats off Andhra Pradesh coast and 10 of them have been repatriated.