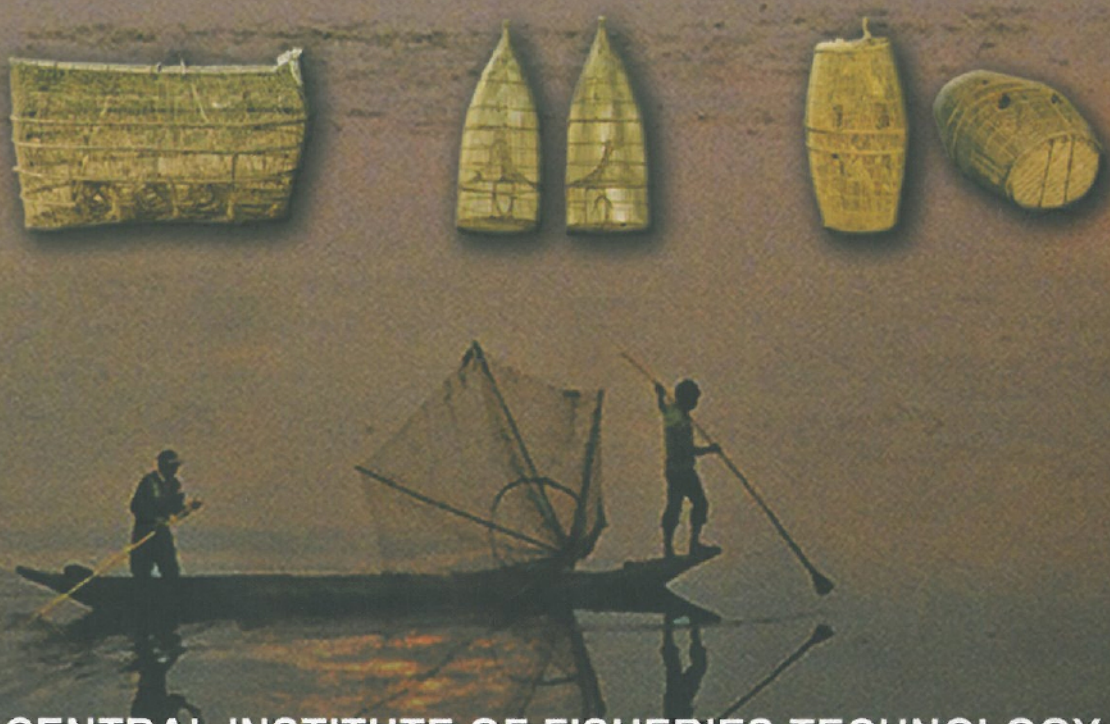
FISHING TRAPS OF ASSAM

P. Pravin and B. Meenakumari



CENTRAL INSTITUTE OF FISHERIES TECHNOLOGY
(*Indian Council of Agricultural Research*)
Matsyapuri, P. O., Cochin - 682 029

2008

CIFT Special Bulletin Number: 14

FISHING TRAPS OF ASSAM

P. Pravin & B. Meenakumari

CENTRAL INSTITUTE OF FISHERIES TECHNOLOGY
(Indian Council of Agricultural Research)
P.O.Matsyapuri., Cochin - 682 029

Fishing Traps of Assam

P. Pravin.and B. Meenakumari

Central Institute of Fisheries Technology
P.O. Matsyapuri, Cochin – 682 029, India

Phone: 91 (0)484-2666845
Fax : 91 (0)484-2668212

E-mail: cift@ciftmail.org
enk_ciftaris@sancharnet.in

Published by	: Dr. K. Devadasan, Director, Central Institute of Fisheries Technology, Cochin
Citation	: **P. Pravin. and B. Meenakumari. (2008): *Fishing Traps of Assam.*** CIFT *Spl. Bull. No.,* **14**: 173 pp.
Cover page photo & illustrations	: P. Pravin
Printers	: Niseema Printers and Publishers, Cochin - 682 018

FISHING TRAPS OF ASSAM

Survey cum investigating team

Dr. B. Meenakumari	Principal Scientist
Dr. P. Pravin	Sr. Scientist
Dr. Saly N. Thomas	Sr. Scientist
Shri. J. Barman	Sr. Research Fellow
Shri. D. Baruah	Sr. Research Fellow
Dr. M. Baiju	Technical Officer
Shri. B. K. Pradhan	Technical Officer
Shri. P. S. Nobi	Technical Assistant

Contents

Foreword

From time immemorial, fish has been a favourite food for man and for the same reason fishing has been one of his main occupations through ages. Food habits vary from place to place depending on various factors like geographical location, climate, landscape etc. In the North Eastern Hilly Regions of India, fish has always been an important item in the daily menu, irrespective of the strata of the society from which consumer hails. Fishing methods in use were also indigenous to the region, due to its special geographical, social and climatic peculiarities. Fishing was done by methods ranging from simple hand picking to use of sophisticated fishing craft and gear. But no systematic studies were taken up on this and as usual in India, we have never cared to document all these divergent fishing methods practiced.

The state of Assam is rich in riverine fishery resources. Various interesting traditional fishing methods are in use also. Central Institute of Fisheries Technology has been conducting an extensive survey to document the fishing gears in use in that part of the country. This book is the first of a series of such publications from CIFT. It gives an exhaustive account of the fishing traps used by the traditional fishermen of Assam. People of Assam use various types of fish traps which have stood the test of time and have proved useful through generations. In this compilation, at attempt is made to document all the traditional designs of fishing traps in use in Assam behind which there is great fishing tradition and sound practical knowledge acquired through generations. For the same reason, we are sure it will be useful to al interested or engaged in fishing as a pastime, or as a livelihood option. Detailed drawings, specifications etc. of all types of traps are given which will be useful to scientists and fishermen alike. In India, documentation of information available is always neglected which has led to loss of valuable knowledge acquired through the experience and expertise of generations. This is a humble step to avoid such a loss in knowledge of traditional fishing methods. We hope fishermen of Assam and all interested in fishing elsewhere will find it useful.

Dr. Pravin and his group of dedicated colleagues have done a tremendous job collecting and documenting all these information with authentic and scientific drawings and photographs. It is the product of real hard work, meticulous planning and skilled documentation. They deserve full credit and appreciation for this valuable work.

Cochin - 682 029
30, April 2008

Dr. K. Devadasan
Director

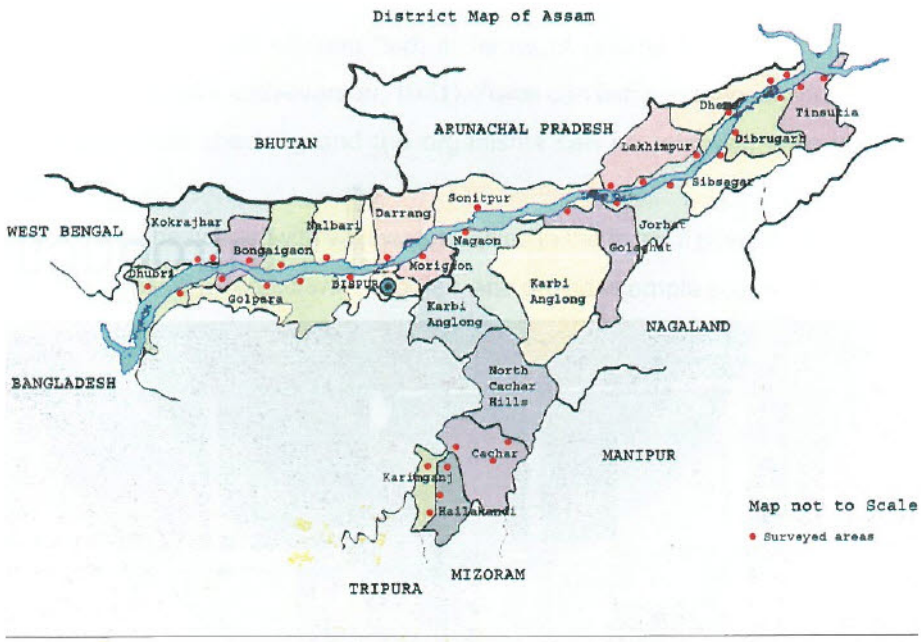
Acknowledgments

The work was undertaken under the ICAR Ad hoc Project '*Improved Fishing Craft and Gears of North East Hill Regions.*" The authors are thankful to the Indian Council of Agricultural Research, New Delhi for funding the project and to Dr. S. Ayyappan, Deputy Director General (Fisheries) ICAR and Dr. K. Devadasan, Director, Central Institute of Fisheries Technology, Cochin for the constant encouragement and guidance. We thank Shri. D. Baruah and Shri. J. Barman, SRFs for assisting in collection of data from the fishers. Thanks are also due to Dr. M. Baiju, and Shri. B. K. Pradhan, Technical Officers, CIFT Headquarters and Burla Research Centre of CIFT, respectively for assisting in collecting field data from different parts of the state of Assam and for the valuable technical inputs provided during the survey work. We thank Shri. P. S. Nobi. T-4, CIFT, Cochin for the technical assistance rendered during the survey work. We also thank Late Dr. M. Mahadeva Chaudhury, Officer-in-charge, Research Centre of the Central Inland Fisheries Research Institute, Guwahati, for all help and cooperation given to the CIFT team.

We express our sincere thanks to the Director, Department of Fisheries, Assam, Managing Director, officials and field staff of Assam Fisheries Development Corporation, Assam for all the cooperation rendered during the survey work.

We are thankful to the fishers of Assam state for their patience, valuable time and whole hearted cooperation during the collection of data on details of their fishing devices.

List of illustrations


District Map of Assam
BHUTAN
ARUNACHAL PRADESH
WEST BENGAL
BANGLADESH
NAGALAND
MANIPUR
MIZORAM
TRIPURA
Dhemaji
Tinsukia
Lakhimpur
Dibrugarh
Sibsagar
Sonitpur
Darrang
Kokrajhar
Malbari
Bongaigaon
Nagaon
Jorhat
Golaghat
Dhubri
Morigaon
Golpara
Bispur
Karbi Anglong
Karbi Anglong
North Cachar Hills
Cachar
Karimganj
Hailakandi
Map not to Scale
Surveyed areas

1 Introduction

1.0 Introduction

Traps are passive fishing gears into which the fish can enter voluntarily in such a manner that the entrance then becomes a non-return passage of the device. Trap fishing has economic and energy related advantages over active fishing methods. The idea of catching fishes without much effort might have probably resulted in the development of traps. Contrivances for trapping fish maybe presumed to antedate the invention of nets (Hornell, 1938). Traps are devices designed to encourage the entry of animals, which are prevented from escaping either by particular aspects of their behaviour or by the design of the trap itself regardless of the kind of material used in its construction (Kibria, 2005). Trap fishing is highly fuel efficient both in terms of returns biomass per unit of fuel consumed (Wilimovsky and Alverson, 1971). Traps can fish continuously during day and night with periodical checking and the organisms can be retrieved alive without any damage.

Assam is bestowed with vast water bodies in the form of rivers & channels, flood plain wetlands (*Beels*), derelict water bodies, and provides ample scope to the fishermen to operate various types of traps. Fish traps in Assam are mostly made of split bamboo separated by narrow interspaces and bound together by strands of cane, coir or plastic twines and ropes. Majority of the traps have one or two openings, with inwardly projecting bamboo splits that readily allows the entry of any fish that attempts to push its way in; while offering no means of exit.

Job and Pantulu (1953) and George (1971) have reported on the various fish traps in inland waters of India. Prabhu (1954) has detailed about various trap fishing in India. Traps of Hooghly-Matla estuarine system in West Bengal has been reported by Hornell (1924), Day (1873) and Mitra *et al.*, (1987). Traps used in Chilka lake are described by Devasundaram (1951); Mohapatra (1955); Roy and Banerjee (1980) and Nayak *et al* (2001). Saxena (1964) listed fish traps operated in the middle stretch of river Ganga. Sehgal *et al.*, (1971) reported fish traps in Kangra valley and adjacent areas in Punjab. Tandon and Sharma (1984) have reported on the fish traps of Himachal Pradesh. Kulshreshtha (1986) described about traps and barriers of Rajasthan. Details of various traps operated in Malabar coast are given by Hornell (1938). Kurup and Samuel (1985) and Kurup *et al.*, (1993) have described the indigenous fish traps of

Vembanad lake. Fish trapping devices and methods of southern India have been described by Mohanrajan (1993) and Nair (1993) and from North Eastern India by Sharma *et al.*, (1993). Traps from the Khachodhara *Beel* in Assam were reported by Sharma and Ahamed (1998). Some efforts to document the type of traps used in Assam has been carried out by Bhagawati and Kalita (1987), Sharma (2001), Choudhury *et al.* (1996), Singha (2002) and Bhattacharjya (2004).

A survey with reference to various fish trapping devices and methods was conducted at Assam, covering the Brahmaputra river stretch and floodplain wet lands (*Beels*) in the state during 2004-2006. The technical specifications and design details of the various traps and mode of operation were recorded. The details such as general dimensions, material and construction details were collected.

Based on the study, the different trapping devices and methods were grouped taking into consideration of the size, shape and method of operation. There are various trap designs for the capture of fish, eels and prawns.

2 Habitat traps

2.0 Habitat traps

The principle behind these traps is to provide shelter to the fish by keeping tree branches, shrubs, and twigs in the trap. These are also known as bush basket. The trap is pulled out of the water after 3 to 5 days and the fishes are taken out after removing the materials provided for shelter. Several shapes and sizes of such traps are being used in rivers and *beels* and other weed free derelict water bodies. The catch mainly comprise of *Mastacembalus armatus, Mystus* spp, *Puntius* spp, *Clarias batrachus, Channa* spp, *Notopterus notopterus,* small prawns and miscellaneous fishes. These traps are made using split bamboo strips closely woven without any inter space between them. These traps come in different shapes and sizes. The most common ones are *Dolonga,* (Quadrangular); *Hukuma* (Conical); *Chunga/Dhun* (Cylindrical); *Tack* (Circular). The traps are tied to a fixed bamboo pole with a strong rope to prevent displacement in the water.

2.1 Dolonga

Dolonga is quadrangular or triangular in shape interwoven with split bamboos and the frame of the mouth is made of bamboo poles which gives the shape and rigidity to the trap. These are also known as *Dorjkori* in some parts of Assam. The depth of the body ranges from 100 to 150 cm. These are mainly operated in *Beels* and in rivers with mild flow usually during the post flood season. The *Dolonga* is filled with weeds, tree branches / twigs to provide shelter to the fish and is kept inside the water. A bamboo pole is used as a marker by fixing it near to the trap. The catch consists of miscellaneous fishes. The trap is lifted after a week and the weeds are removed to harvest the fish and then placed back into the water.

2.2 Tack

Tack is cylindrical in shape and is made of bamboo. The opening is about 200 cm in diameter and has a depth of about 75 cm. At the upper portion of the *tack* two whole bamboo pieces are tied for lifting the trap out of the water. The method of operation is similar to *Dolonga*. It is operated in *Beels* and derelict water bodies where there is considerable depth to immerse the whole trap.

2.3 Hukuma

Hukuma is conical in shape and is made of interwoven thin bamboo splits. The

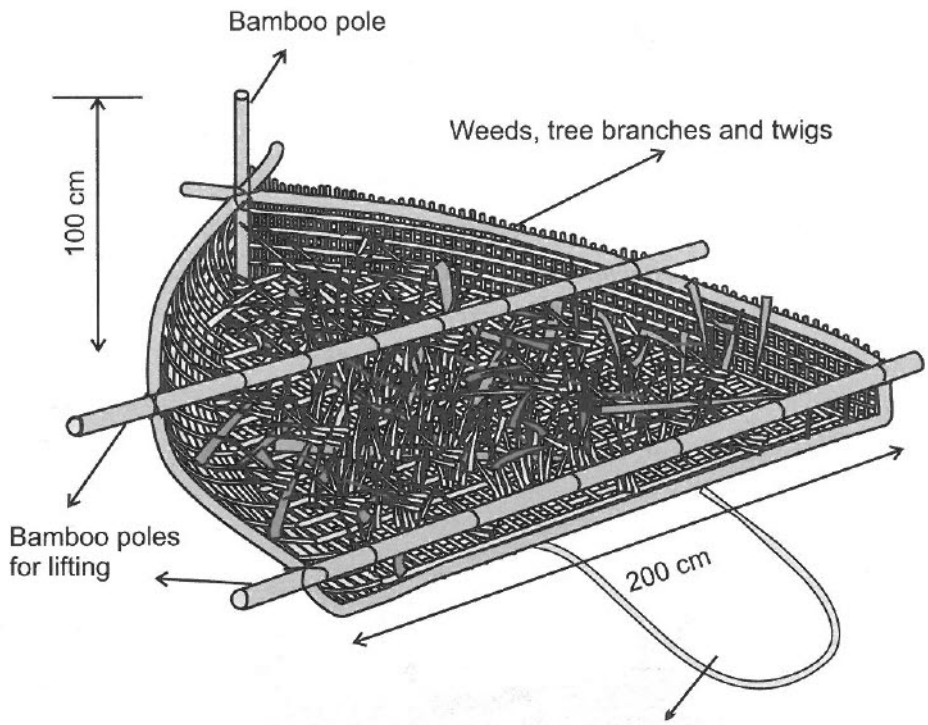
strips are either tied by plastic or coir ropes. Opening of the mouth ranges from 90 to 150 cm and the approximate length is around 225 cm. Twigs are put inside the trap to aggregate the fish. It is mostly operated in *Beels* and rivers mild flow. Canoes are used for operation of *Hukuma* in deeper areas.

2.4 Chunga

Chunga or *Dhun* is made of a whole bamboo piece or trunk of a betel-nut tree. One end of the bamboo remains closed due to the bamboo node and the other end is kept open. The length of the *Chunga* varies from 50 to 100 cm. The trap is placed at the bottom of the water body. Weed or floats are used as marker to identify the position of the traps. Fishermen dive down and slowly take out the *Chunga* after closing the open side of the trap with hand. Fishes taking shelter inside the bamboo are trapped. Small sized bamboo traps are known as *Thula* and large ones are known as *Huka* in Sibsagar districts. The catch comprises of *Mastacembalus armatus, Mystus* spp., *Puntius* spp., *Clarias batrachus, Channa gachua, Botia* spp., *Nemacheilus* spp. and small prawns.

TRAP
Habitat trap (Bush basket)
Dolonga, Dorjkori
Miscellaneous fish

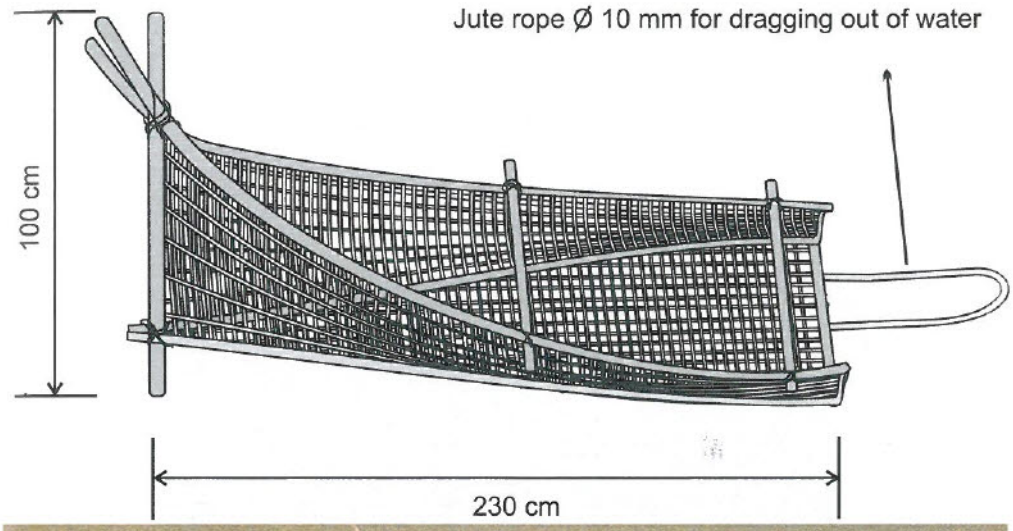
LOCATION
Koilaghat, Golaghat, Majuli - Beel
Post monsoon



Jute rope Ø 10 mm for dragging out of water

TRAP
Habitat trap (Bush basket)
Dolonga, Dorjkori
Miscellaneous fish

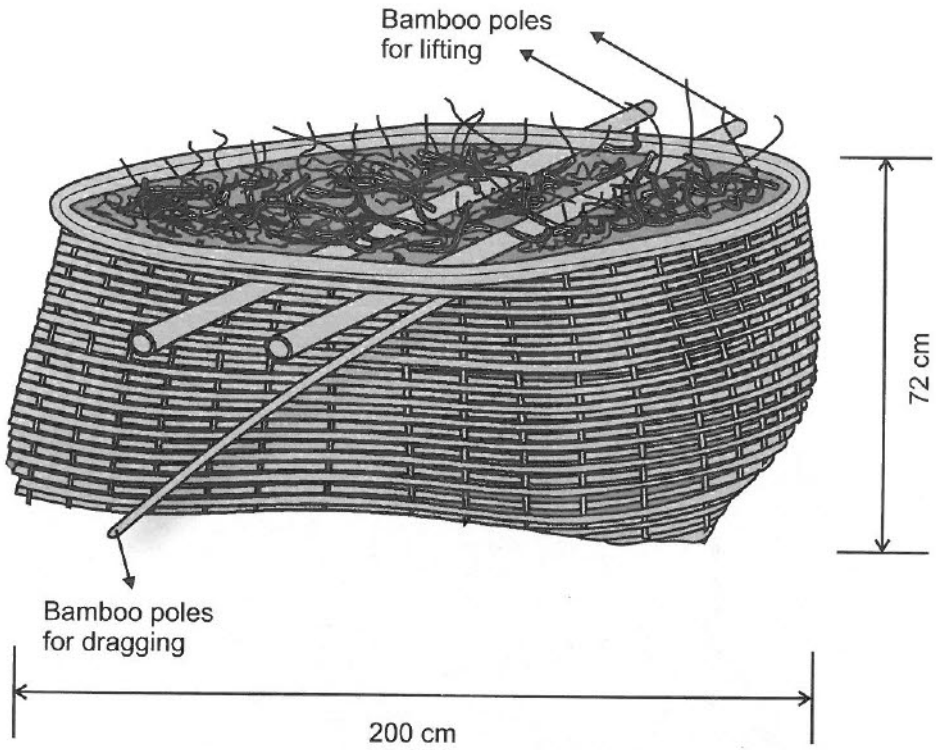
LOCATION
Koilaghat, Golaghat, Majuli - Beel
Post monsoon



Operation of *Dolonga* at Majuli

TRAP
Habitat trap (Bush basket)
Tack
Miscellaneous fish

LOCATION
Morigaon - Beel
Post monsoon



TRAP
Habitat trap (Bush basket)
Tack
Miscellaneous fish

LOCATION
Morigaon - Beel
Post monsoon

Operation of *Tack* at Morigaon

TRAP

Habitat traps (Bamboo)

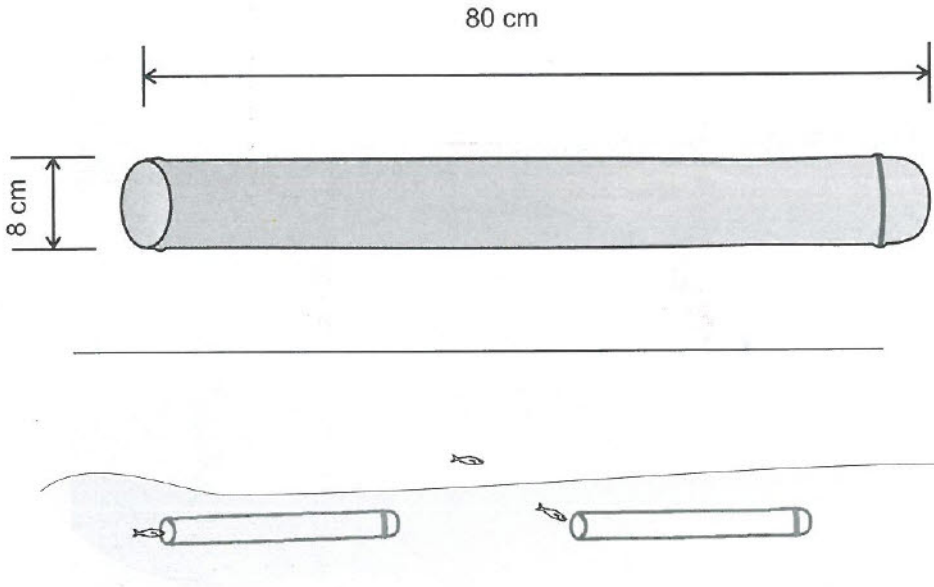
Dhun

Channa spp, *Mystus* spp, small prawns

LOCATION

Dhubri - Rivers and beels

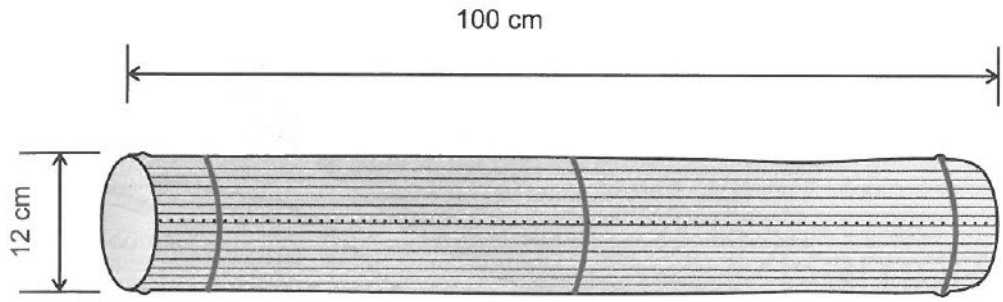
Pre and post monsoon



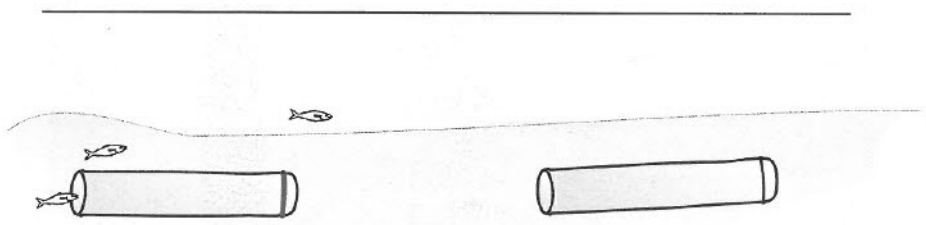
Operation of *Dhun* at Dhubri

TRAP
Habitat trap (Arecanut)
Chunga
Channa spp, *Mystus* spp, small prawns

LOCATION
Majuli - Rivers and beels
Pre and post monsoon



Arecanut tree trunk



TRAP

Habitat trap (Bush basket)

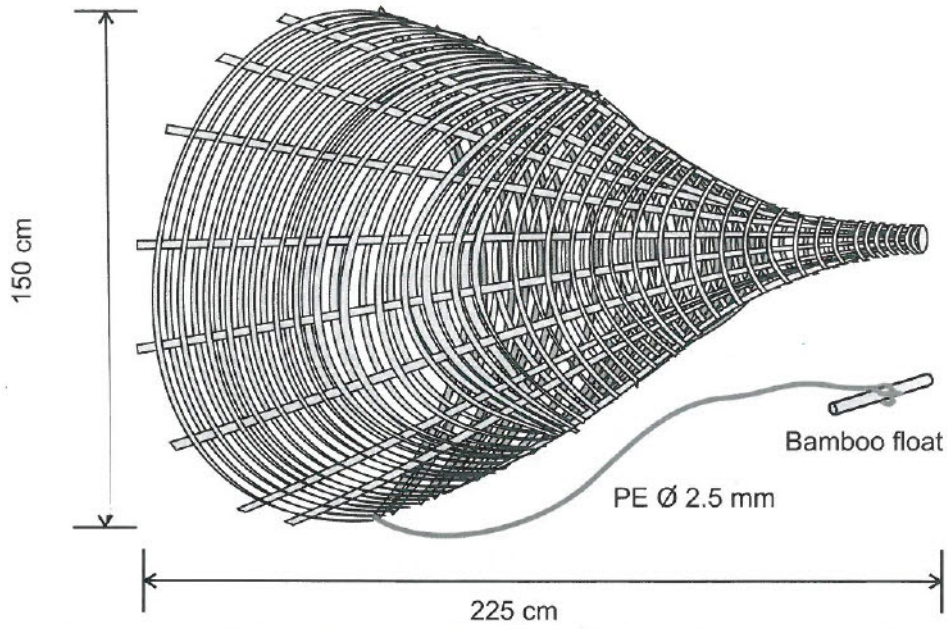
Hukuma

Channa spp, *Mystus* spp, small prawns

LOCATION

Dhubri - Rivers and beels

Pre and post monsoon



Operation of *Humkuma* at Dhubri

3 Barriers

3.0 Barriers

Barriers are long leaders of converging screens erected in shallow waters to lead the fishes into the chambers fixed in the end. Barriers have been described by Jhingran and Natarajan, 1969; Roy and Banerjee, 1980 and Hickling (1961). *Banas* are set barriers erected bank to bank in the channel connecting the *Beel* to its riverine source (Yadava *et.al.*, 1981; Yadava and Choudhury, 1986; Choudhury, 1992). Net barriers are slowly replacing the bamboo barriers as these are cost affective and saves labour and lasts longer than the bamboo screens. The gear consists of leaders, gathering ground, channels and filter platforms. The leaders guide the fish into the trap. The length varies from 10 to 50 m depending on the width of the river stream or canal. Water seep through the platform, leaving the fish. These gears are very effective in capturing nearly all fish moving downstream.

3.1 Bana mara - Split-bamboo screen barrier

Bamboo screen barrier comprises erection of split-bamboo screens (*Bana mara*) across a waterway with the help of bamboo poles. The inter space of the bamboo screen is small (4 - 6 mm). The *Bana* is usually lined with small meshed nets from inside to prevent small fishes escaping. In the middle of the channel, a Chinese dip net or a tapering net known as *Binjal* is installed to catch the fishes passing through the gap. Another semi-circular enclosure is constructed behind the dip net so as to entrap the fishes those escape the dip net. These are later caught by cast nets. Those fishes that attempt to jump over the *Bana* are caught in the pockets of the loosely hanging net placed behind the *Bana*. *Bana* fishing is usually done during pre and post monsoon period.

3.2 Net barrier (Bheta mara)

This is similar to *Bana mara* but use netting material instead of split bamboo screens in most parts of the barrier. These are used to block a river or connecting channel of the open *Beel*. These nets are locally known as *Bheta mara*. It is usually larger than the *Bana* barrier. Thick parachute chord locally known as *Bhetajaal* is used for barricading the waterway. The fishes are caught using Chinese dip net (*Dhekijaal / Ghatjaal*).

TRAP
Shallow bamboo stake trap
Bana
Miscellaneous fish

LOCATION
Kalain, Cachar - Rivers and beels
Post monsoon

TRAP
Shallow bamboo stake trap
Bana mara
Miscellaneous fish

LOCATION
Chandrapur - Rivers streams
Post monsoon

TRAP
Barriers
Bheta mara
Miscellaneous fish

LOCATION
Bangaigaon - Kumri beel, rivers
Post monsoon

Front

Side

Passage

Side

4 Cylindrical traps

4.0 Cylindrical traps

These are cylindrical in shape, in which the fishes are allowed to enter freely but cannot escape. These traps are also made in various sizes with many variants in its design features.

4.1 Sepa

Sepa is drum shaped and is made by weaving split-bamboo strips (with cane / plastic strips). The trap is set either along or against the current in shallow areas. The length of these traps varies from 30-150 cm and is provided with two or four mouth openings. The length of the mouth ranges from 15 cm and the width 10 cm. Bamboo strips of 2.5 cm thickness are tied together by plastic twines. These traps are operated in paddy fields inundated with water and other shallow water body during pre and post monsoon. Catch includes small size fishes like *Mystus* spp, *Puntius* spp, *Botia* spp, small prawns, *Channa punctatus, Chanda* spp, etc.

4.2 Faron

Faron are cylindrical in shape and used for capturing miscellaneous fish. The length of the trap varies between 40 to 50 cm and the width at the entry of the trap usually 20 cm, with a tapering opposite side of having a width of about 30 cm. There are two internal mouths for entry of fish and a provision is provided on the rear end of the trap to remove the captured fish. They are used in *Beels* and small rivulets during monsoon.

4.3 Kaita

Kaita is a prawn trap and usually has two funnel mouths inside the trap. The trap is roughly oval in mid-section. The length of the traps ranges from 30 to 40 cm and is 25 to 30 cm wide. The trap is operated during rainy season in all types of shallow water bodies. Dry fish, large ants, earthworm are used as baits. Prawn is the major catch along with *Mastacembalus armatus, Puntius* spp, *Channa punctatus, Anabas testudineus* etc.

4.4 Ubhoti

Ubhoti is known by different names (*Queen/Kuni/Tuni*) in different places in Assam with slight variations in their shape, size and design. *Ubhoti* is a bit longer than the other traps. One end is loosened to take out the fish. The mouth in all the cases is towards the base of the body and measures about 7 to12 cm in length and 3 to 7 cm in

breadth. Some traps also have a second spiral mouth just above the base which is non-retractable. The length of the trap varies from 38 to 100 cm and the diameter at the base 20 to 60 cm. These are operated in paddy fields flooded with water, catchment areas of river, derelict water body, etc during peak flood season. Molluscs, earthworm, mussels are used as baits. The traps are fixed with a stick to the ground. The catch mainly comprise of *Mastacembalus aculeatus, Mystus* spp, *Mystus tengra, Mastacembalus armatus, Monopterus cuchia, Channa punctatus, Channa gachua, Clarias batrachus,* and small prawns. There are few similar traps *Paori* and *Juti* which are much bigger than *Ubhoti.*

4.5 Doo

Doo are quite large traps and are made of bamboo strips of 0.3 to 0.75 cm thickness and are tied firmly with plastic twines with 1.5 to 3.0 cm gap in between. The length of the trap varies from 1.2 to 2.5 m and the diameter at the base ranges from 47 to 94 cm. Thick bamboo strips also support the body at certain intervals to provide rigidity. It has a single funnel-shaped tunnel provided at the broader end of the trap. Based on harvesting method and mouth opening three varieties have been observed. The catch is taken from the top by untying the strips which otherwise is kept tied when in operation. A small box made of bamboo is placed inside near to the mouth for keeping baits such as molluscs, rice bran, etc. The harvesting mouth is at the sidewall of the body that looks like a small window of 13 to 21 cm in length and 13 to15 cm in breadth. The base of the inner non-retractable mouth openings starts slightly above the base of the trap approximately at a distance of 18 cm. The diameter of the apex of this mouth is around 10 to14 cm. Here the mouth base starts directly from the base of the trap and the harvesting mouth is at the sidewall.

The trap is operated during monsoon in both river and *beels*. It is usually kept in water for 24 hrs and in some cases even for a week. It is placed both against and along the water current. The gear is fixed with a bamboo pole at its apex so that it does not get drifted along with the current. Large size fishes ranging from 1.5 to 5 kg are caught in the larger version of the traps. The main catch includes *Aorichthys aor, Chitala chitala,* and *Channa marulius*. Occasionally, tortoise is also caught in these traps.

4.6 Dingora

Dingora has one or two inlet funnels and is provided with an opening on top to remove trapped fishes. Larger traps (100 cm long, 20 to 30 cm wide and 50 to 60 cm high) have 3 inlet tunnels. It is set horizontally with the support of split bamboo strips. It is usually used in flooded paddy fields during the monsoon and post-monsoon months to catch small miscellaneous fishes. *Bundh dingora* is another variant and is similar to *Dingora* except that one end of the trap is closed. These traps are operated in paddy fields, *Beels*, ponds, and lakes. Snails are used as bait and the main catch comprise of *Mystus* spp, *Wallago attu, Heteropneustes fossilis, Clarias batrachus, Puntius* spp., *Channa punctatus, Anabas testudineus, Macrognathus pancalus, Channa marulius,* etc.

4.7 Ghumai khowa

Ghumai khowa has a circular base with the mouth of 60 to 70 cm in diameter which gradually tapers toward the opposite end, thus giving a trapezoidal contour. A small window 14 x 18 cm is placed at the side of the body that also acts as harvesting side. The strips with a thickness of 0.5 cm are placed at a gap of 0.3 to 0.5 cm. The total length of the trap is around 160 cm. The trap is operated in *beels*, running water and rivers. It is placed in series against the current with *Bana* (Bamboo screen) on both sides. These traps target large sized fishes, however small varieties such as *Mystus* spp., *Puntius* spp., *Channa* spp., are also caught.

4.8 Goni

Two variations were found based on the rigging towards the mouth side. It is a complete cylindrical trap with an overall length of 78 to 148 cm and circumference of about 131 to 190 cm. The strips are 0.5 cm thick with a gap of 0.4 to 0.5 cm in between. These strips are tied together with either plastic rope or with cane. The mouth depth of the *Goni* is about 86 cm and width of 46 cm. Both the types are operated in *Beels* and rivers during monsoon. The traps are placed at some distance in opposite direction such that the mouth of two traps faces each other. Usually a *Bana* is placed between two *Gonis,* in the middle so that the fish can enter from both directions. Fishes up to 20 kg are caught in this trap.

4.9 Khoka

The shape of this trap is like a bottle. These are also made of bamboo strips interwoven by plastic or cane. The total length is 49 cm and the base side is broader to which the non-retractable mouth is attached. The diameter of this side is 16 cm whereas the diameter of narrower end at the top is 9 cm. During operation of the trap the mouth opening is closed using weeds. The distance from the top to the trunk is 23 cm. The height of the non-retractable mouth is around 23 cm and has a circular base with a diameter of 14 cm. Trap is placed in a small stream with the mouth facing strong current. It is secured with bamboo poles or stakes. Another variant of *Khoka* has a long handle. This is conical in shape, made of bamboo. The frame is made of thick bamboo splits while the body is made of interwoven thin bamboo splits. *Khoka* differs from *Hukuma* in its design at the apex. The apex of *Khoka* terminates into a handle of around 10 cm. The gap of the mouth measures around 62 cm and the total length approximately 1 m. The trap is placed at a depth of 2 to 3 m in weed infested water bodies for around 24 hours. The trap is lifted periodically to remove the fish. It is operated in low-lying areas and in pond dykes with mild current. The target species are *Channa gachua, Clarias batrachus, Mastacembalus armatus, Mystus* spp., and *Puntius* spp.

4.10 Hufa

It is a wedge cone elongated conical trap (50 to 60 cm long, 10 to 15 cm mouth diameter) made of split bamboo and locally called *Hufa*. During the rainy season when water flows over low-lying fields the water flow is regulated through a number of small gaps. A number of these traps are set in these gaps against the current. The fishes coming along with the water enter the trap and being conical at the posterior end, the fishes (small murrels, gouramies etc.) get trapped head on.

4.11 Runga

Runga is made of split bamboo strips and are operated during day and night both against and towards the water current placed in the outlets of ponds and *Beels* mainly during rainy season. The trap is about 1 m in length and about half meter in depth. It has an entrance on one end and an opening is provided on the opposite side of the trap for removing the fish. These come in various sizes with slight variations in shape. Small

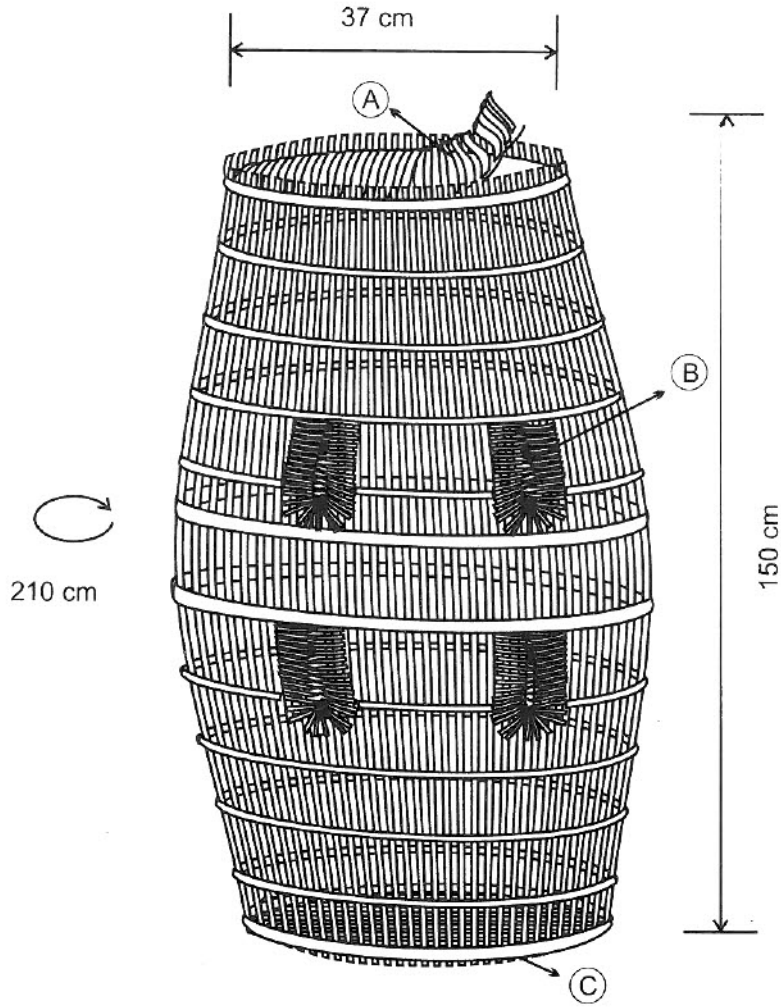
miscellaneous fishes are caught in this trap.

4.12 Sohra

This is a small funnel shaped cylindrical eel trap made from single bamboo piece, having a node at the bottom and a circular wide mouth of 15 to 20 cm in diameter, that tapers on one end. The trap is woven with bamboo strips. The broader end has a circumference of 50 cm and the length of the traps is around 30 cm. The mouthpart is intertwined with The mouthpart is intertwined with thin strips of cane or bamboo in a circular fashion. The tarp is operated during rainy season in paddy fields and low lying water bodies with swift current. The mouth end is placed facing the current. this is also known as *Baha* in some areas. Another variant known as *Bamidhora sohra* is also seen in Assam which is also used to capture eels. The trap is kept overnight and the catches are removed in the morning. *Channa gachua, Heteropreustes fossilis, Mystus* sp. *Puntius* spp. *Mastecembalus armatus, Macrognathus pancalus, Anabas testudineus,* eels, etc. are the main catch.

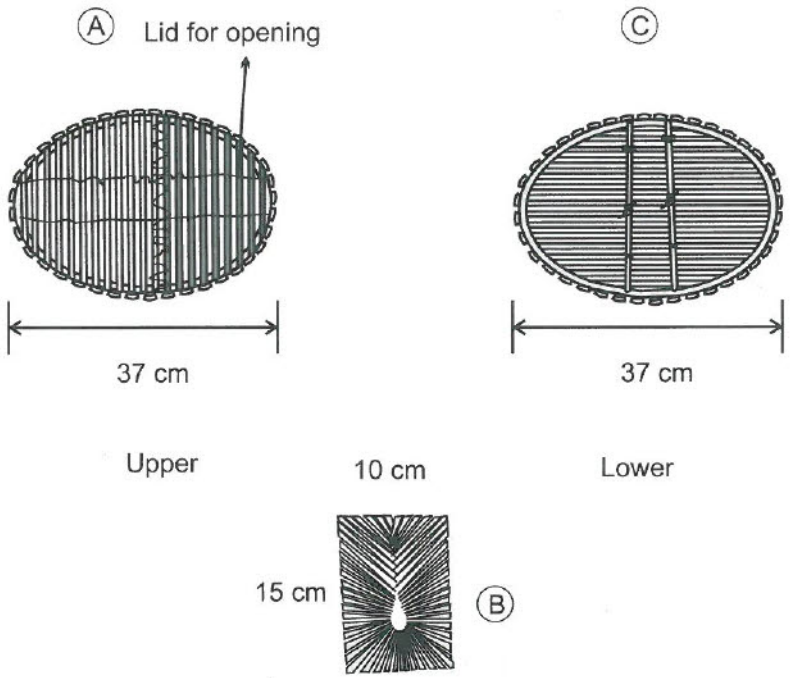
TRAP
Cylindrical
Sepa
Miscellaneous fish

LOCATION
Koilaghat, Dergaon, Golaghat - Wet lands
Pre and post monsoon



TRAP
Cylindrical
Sepa
Miscellaneous fish

LOCATION
Koilaghat, Dergaon, Golaghat - Wet lands
Pre and post monsoon



TRAP

Cylindrical

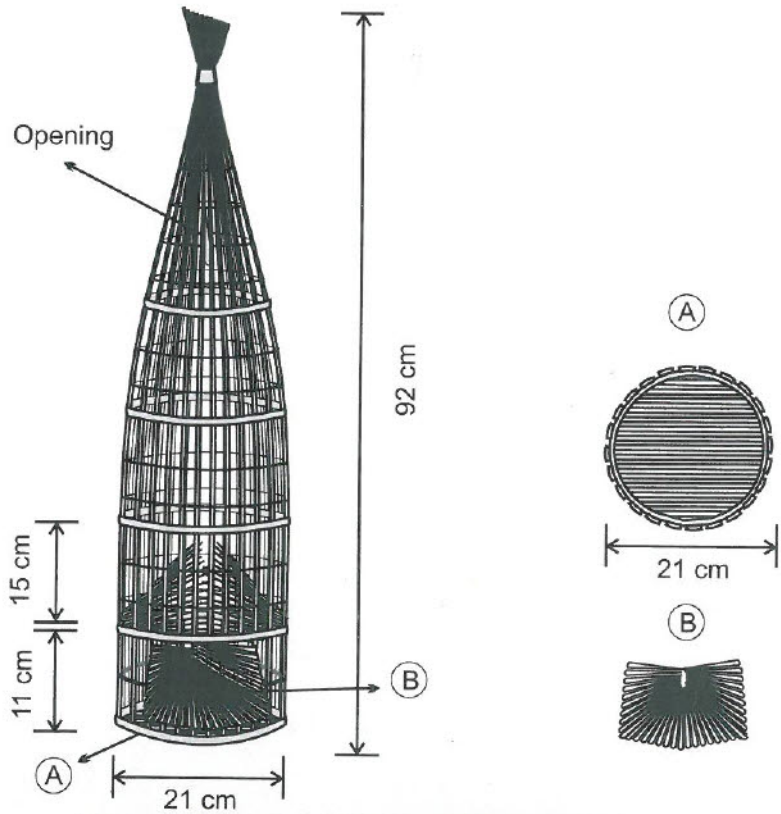
Ubhoti

Mastacembalus spp, *Mystus* spp, *Channa* spp, *Clarias* spp.

LOCATION

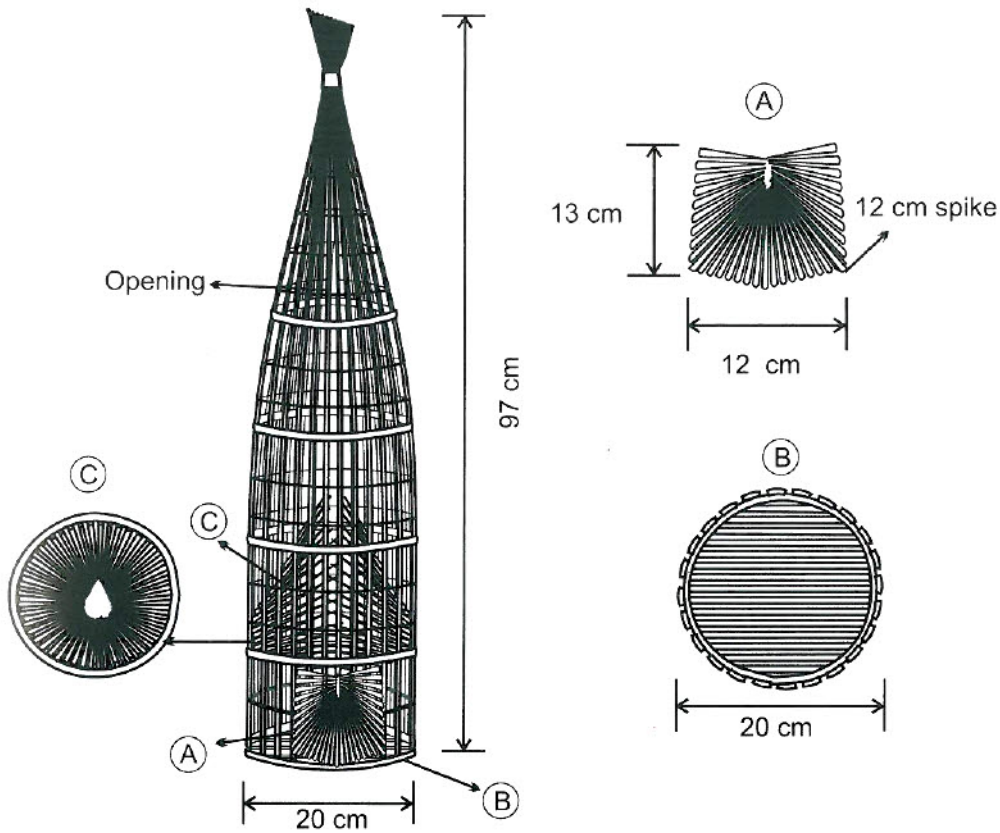
Auniati, Majuli - Paddy fields

Monsoon



TRAP
Cylindrical
Ubhoti
Mastacembalus spp, *Mystus* spp, *Channa* spp, *Clarias* spp.

LOCATION
Cachar - Paddy fields
Monsoon



TRAP

Cylindrical

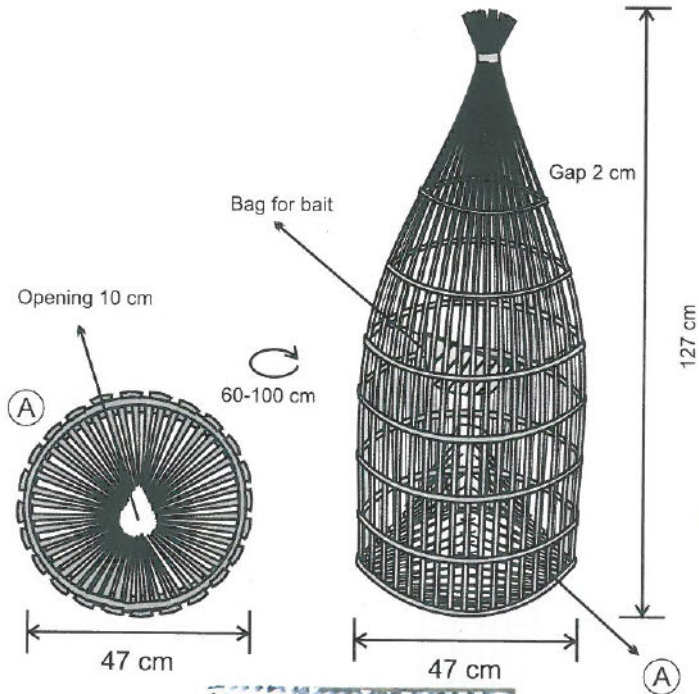
Doo

Aorichthys spp *Chitala* spp, *Channa* spp.

LOCATION

Baskandi, Puran bazaar, Cachar - Paddy fields

Monsoon



TRAP

Cylindrical

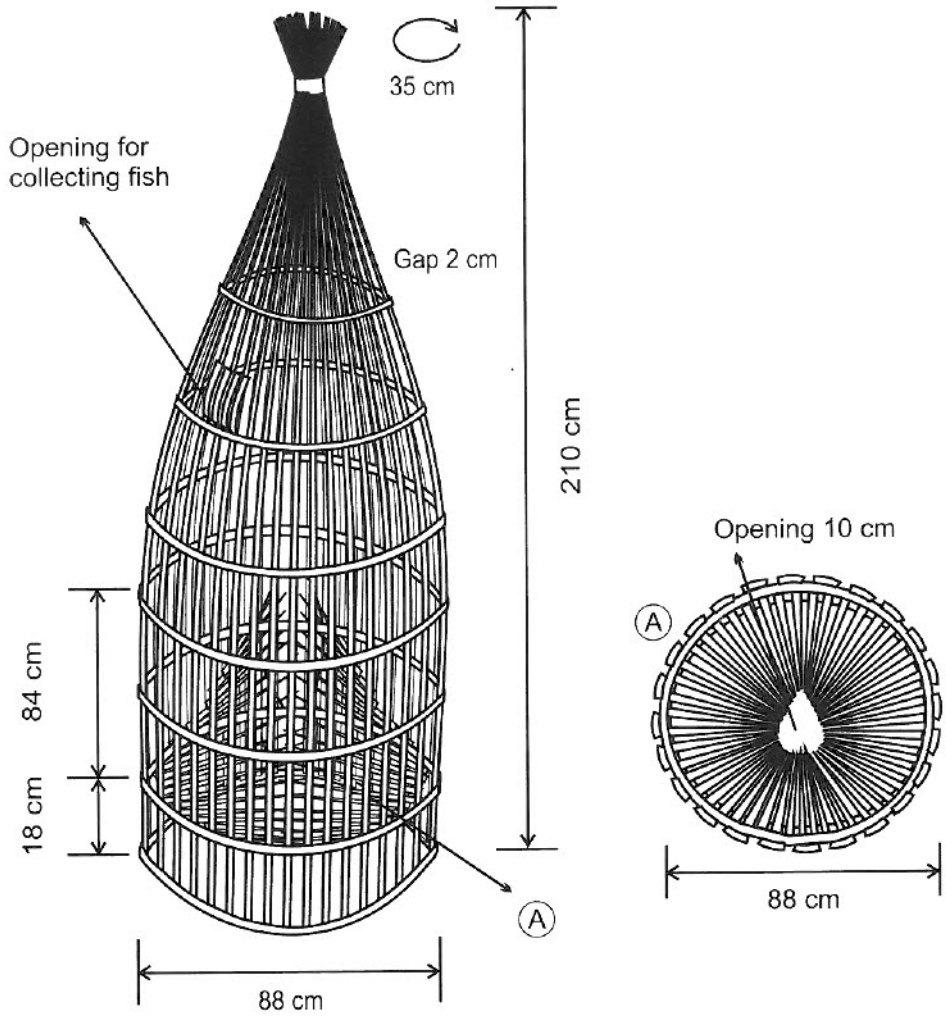
Doo

Aorichthys spp *Chitala* spp, *Channa* spp.

LOCATION

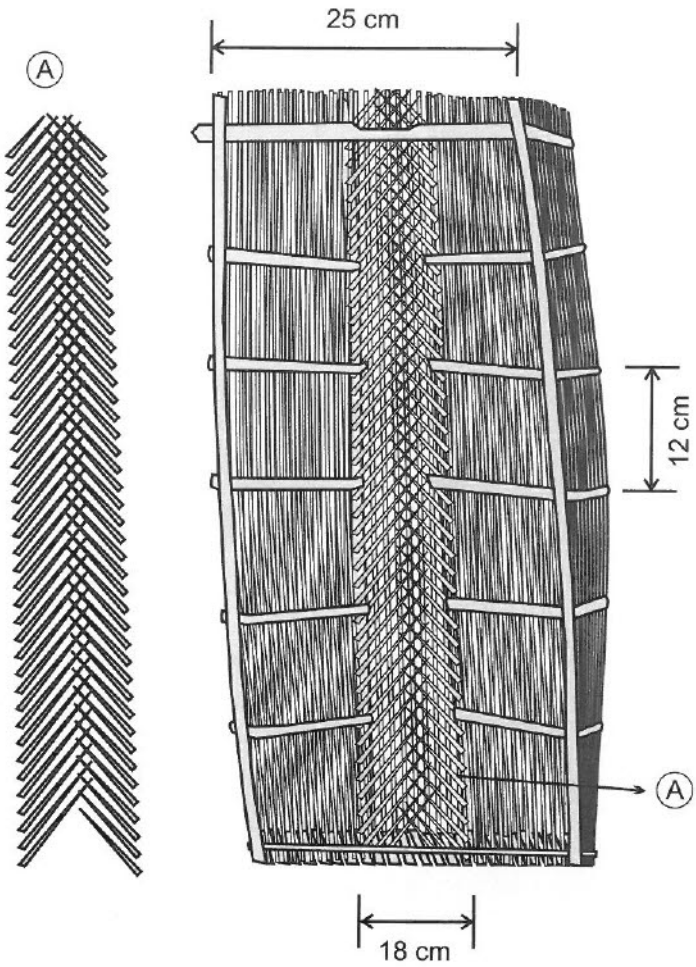
Baskandi, Puran bazaar, Cachar - Paddy fields

Monsoon



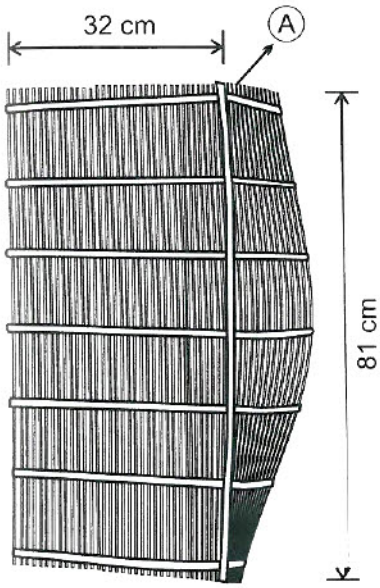
TRAP
Cylindrical
Dingori
Miscellaneous fish

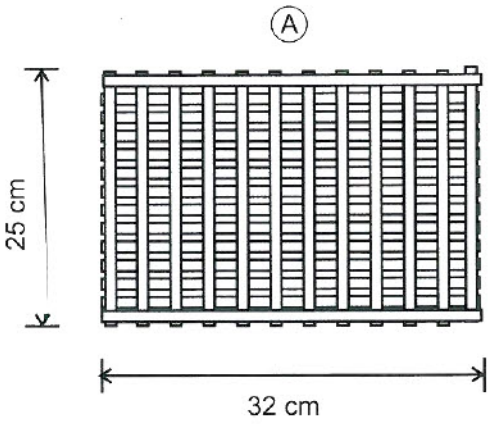
LOCATION
Morigaon - Monoha beel, River
Monsoon



TRAP
Cylindrical
Dingori
Miscellaneous fish

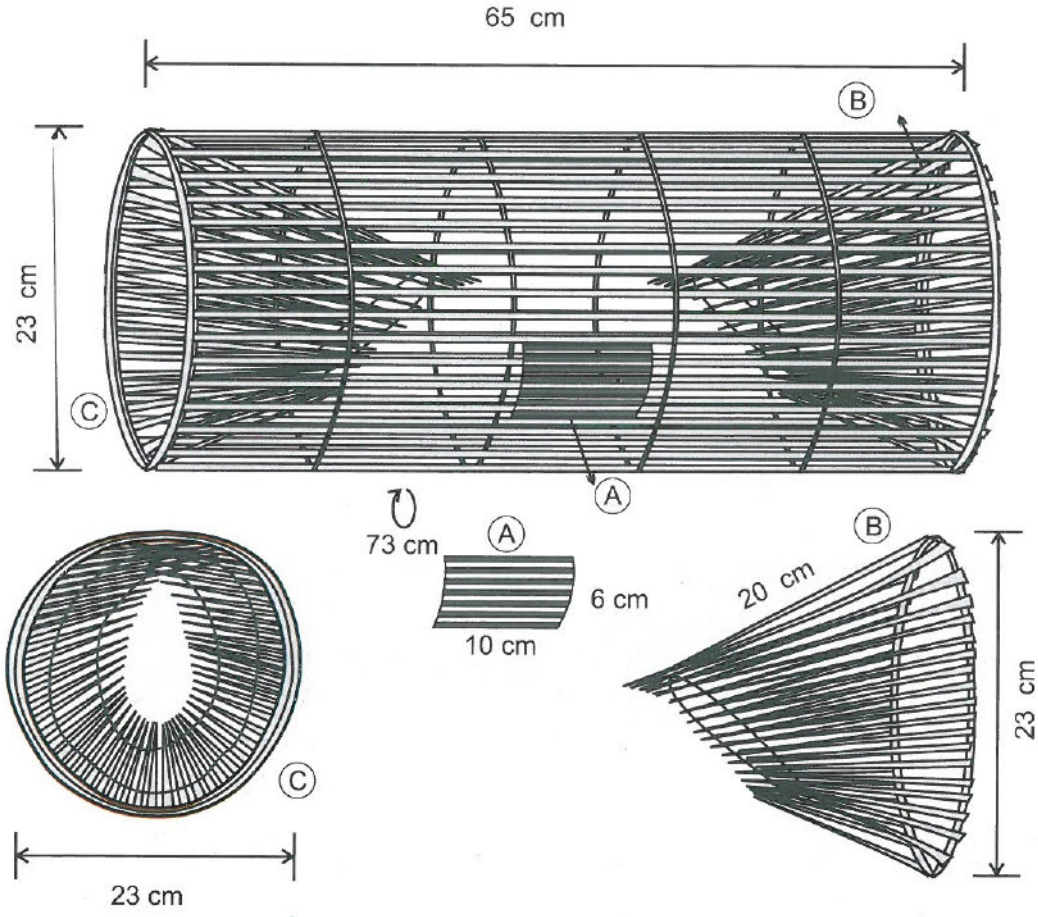
LOCATION
Morigaon - Monoha beel, River
Monsoon

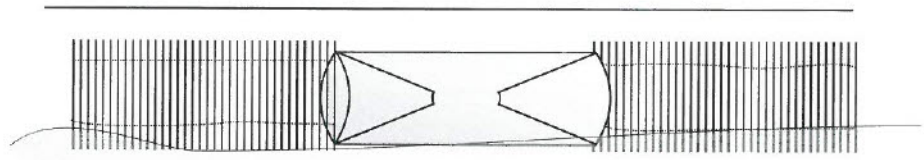




TRAP
Cylindrical
Dingora
Miscellaneous fish

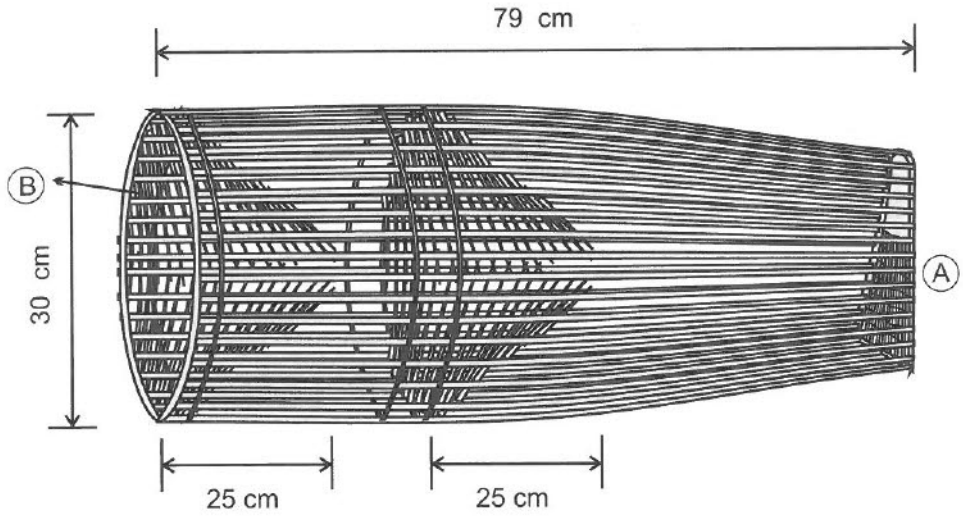
LOCATION
Majuli - Paddy fields
Monsoon and post monsoon

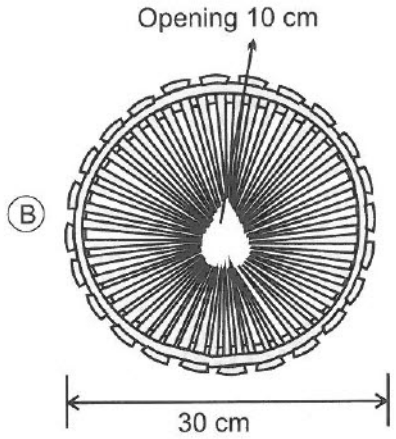


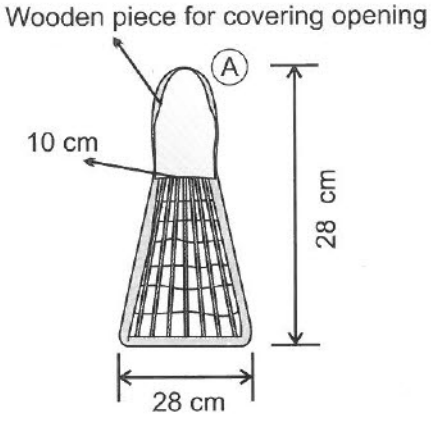


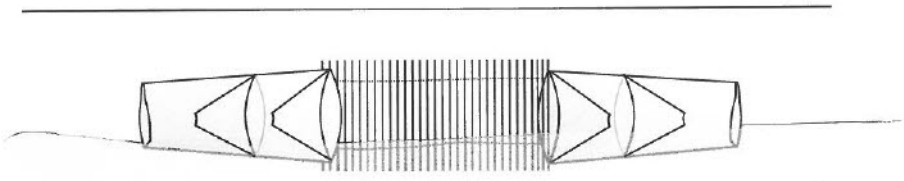
TRAP
Cylindrical
Dingora
Wallago spp, *Channa* spp,
Anabas spp, *Puntius* spp & *Magur* spp

LOCATION
Majuli - Beels and paddy fields
Monsoon and post monsoon









TRAP

Cylindrical

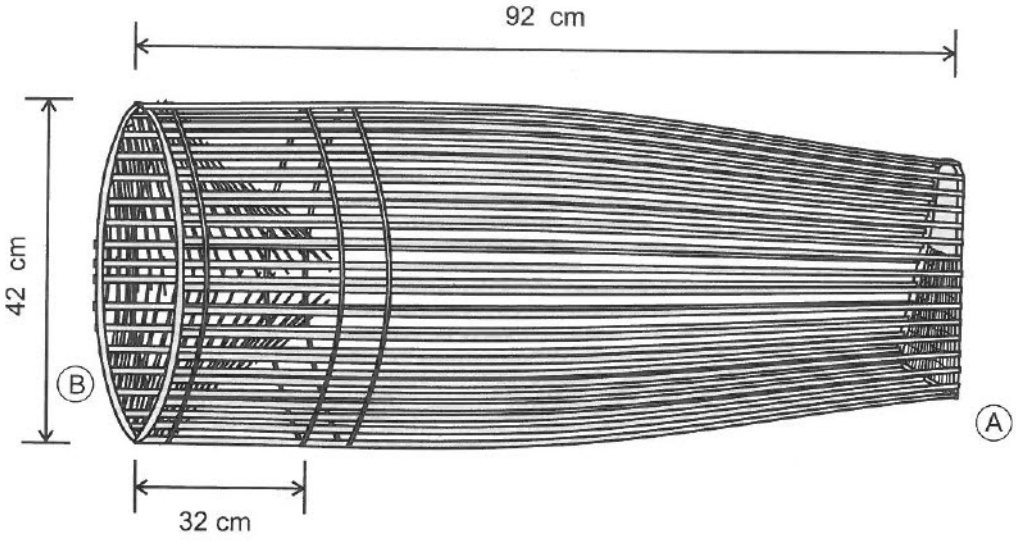
Bundh Dingora

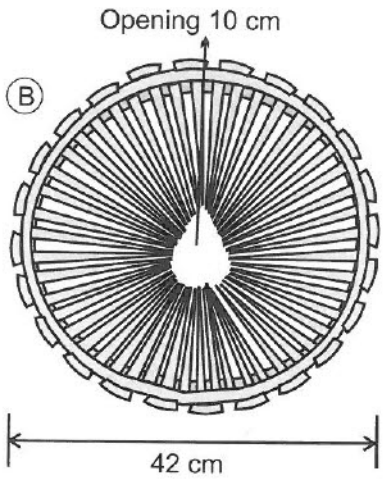
Channa spp, *Wallago* spp, *Puntius* spp

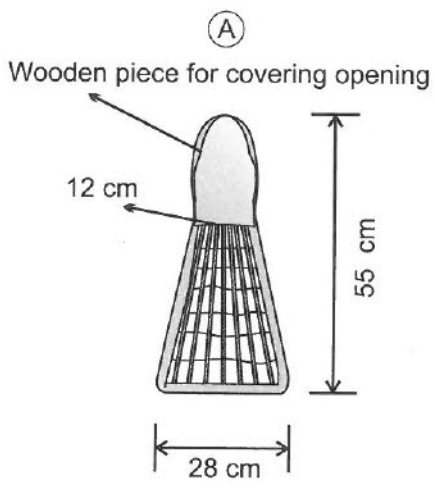
LOCATION

Majuli - River bank, Paddy fields

Monsoon and post monsoon

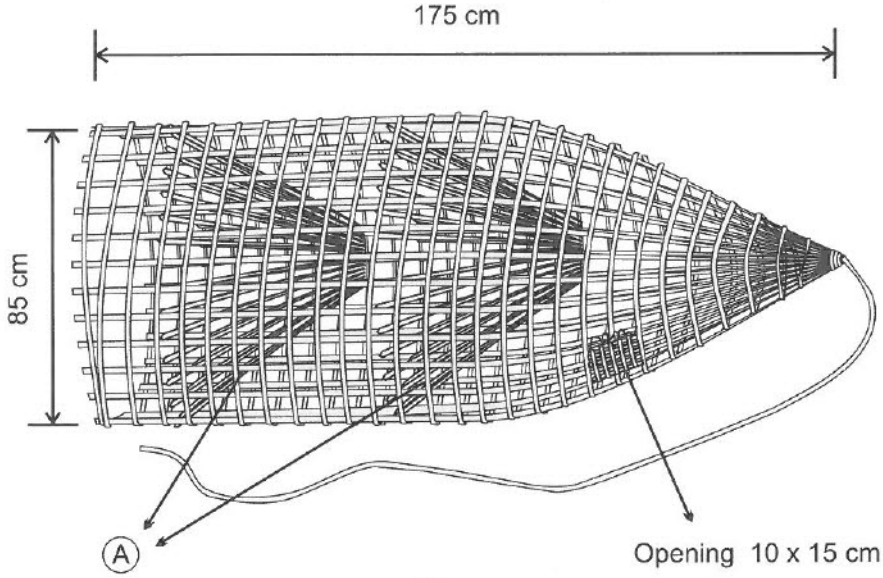


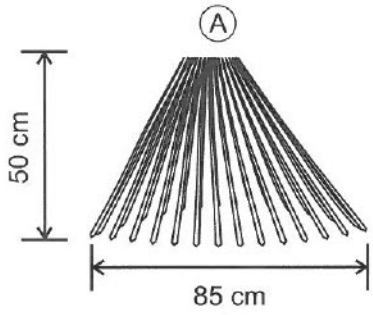


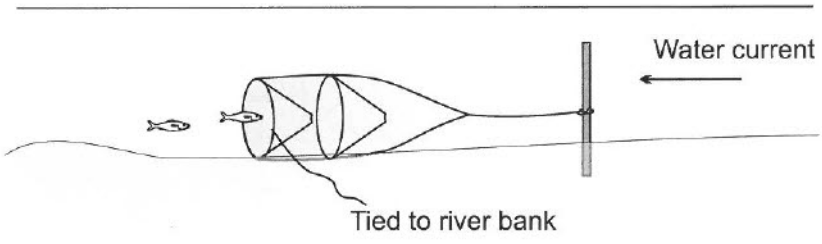


TRAP
Cylindrical
Dho Mukhi Paori
Channa spp, *Wallago* spp

LOCATION
Lakhimpur - Beels
Monsoon

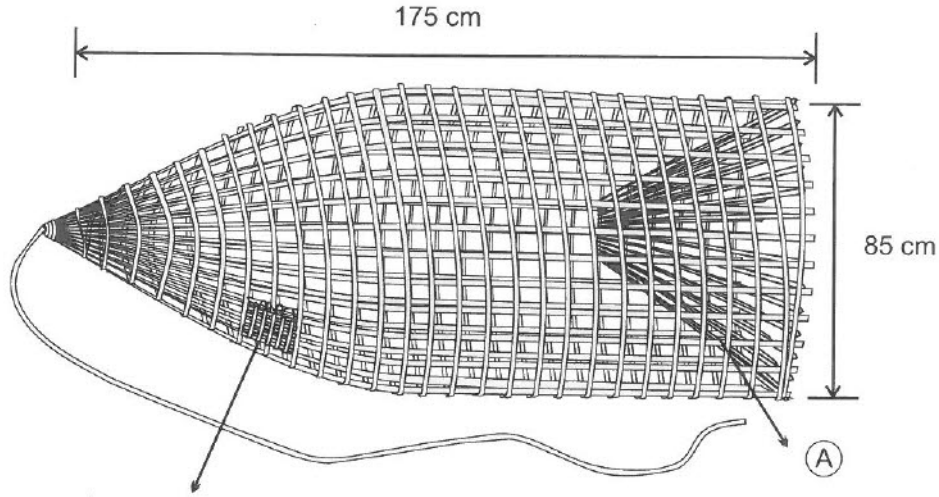




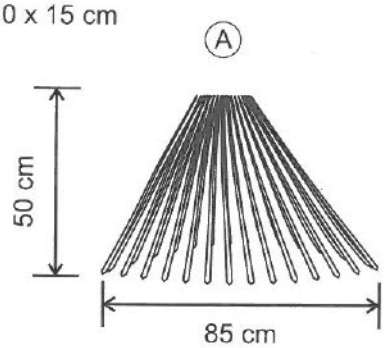


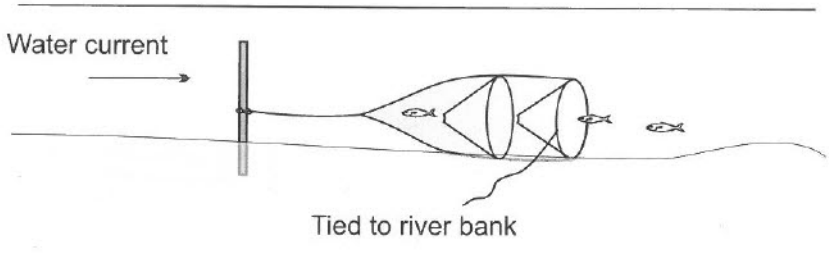
TRAP
Cylindrical
Ek Mukhi Paori
Channa spp, *Wallago* spp

LOCATION
Lakhimpur - Beels
Monsoon



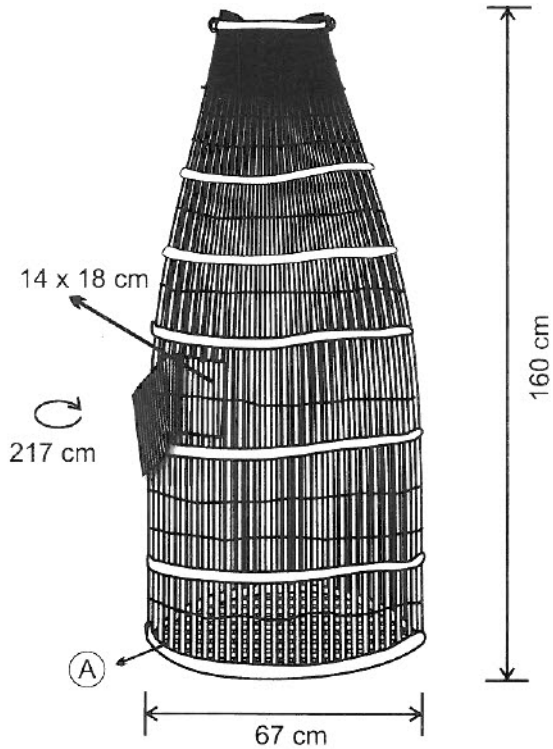
Opening 10 x 15 cm

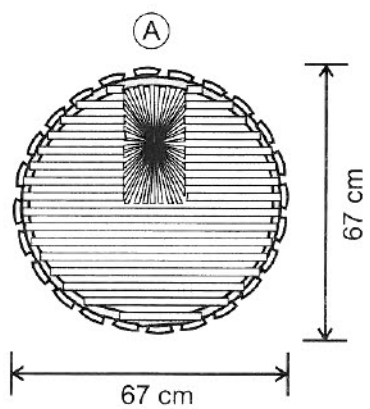




TRAP
Cylindrical
Ghumai khowa
Mystus spp, *Puntius* spp, *Channa* spp

LOCATION
Morigaon - Doipara beel, River
Monsoon



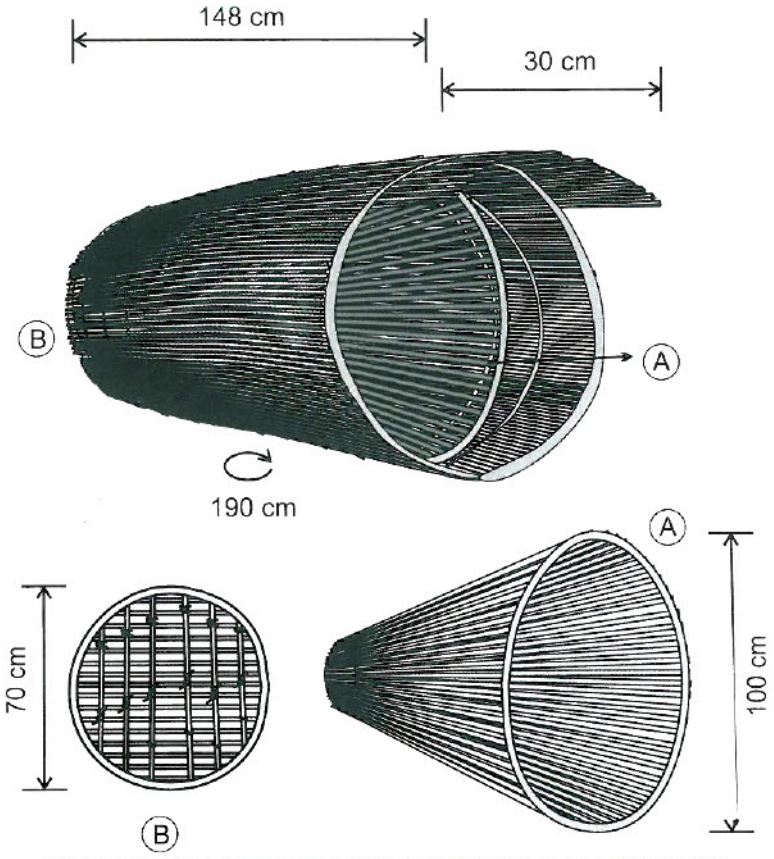


TRAP
Cylindrical
Ghumai khowa
Mystus spp, *Puntius* spp, *Channa* spp

LOCATION
Morigaon - Doipara beel, River
Monsoon

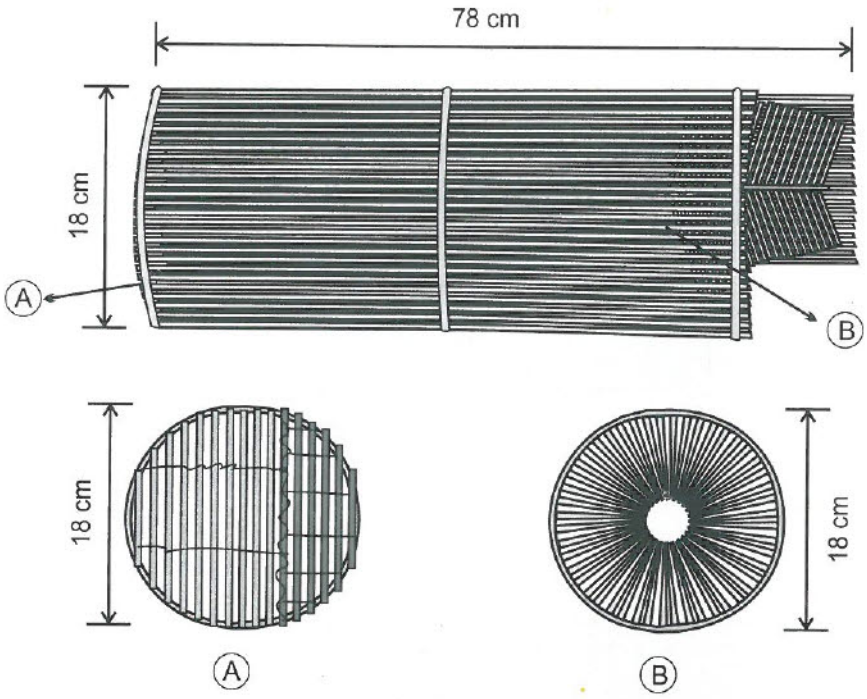
TRAP
Cylindrical
Goni
Miscellaneous fish

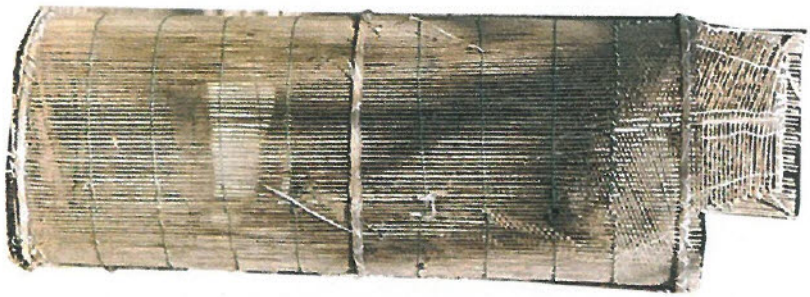
LOCATION
Golaghat, Dighalipam - River and beel
Monsoon



TRAP
Cylindrical
Goni
Small miscellaneous fish

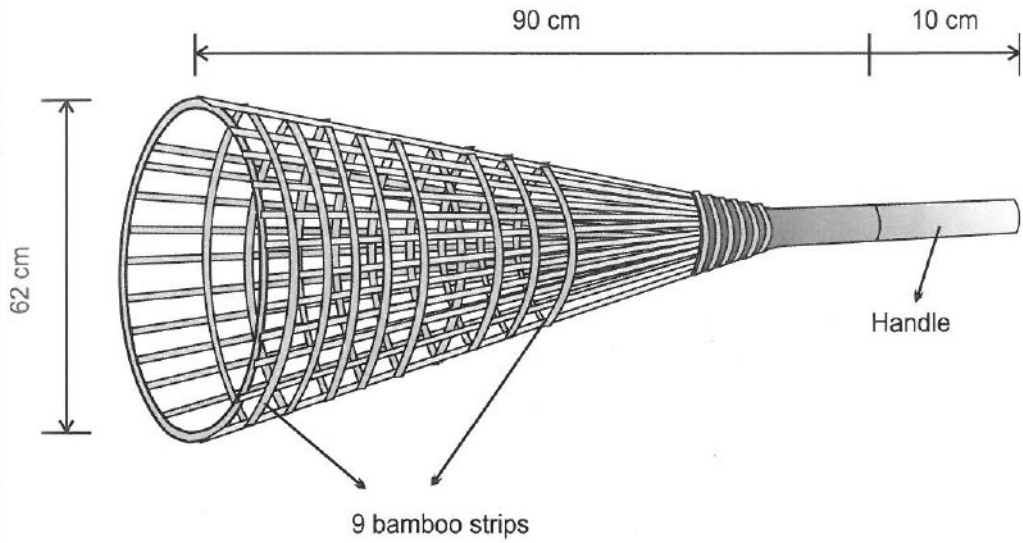
LOCATION
Majuli - River and beel
Monsoon and post monsoon





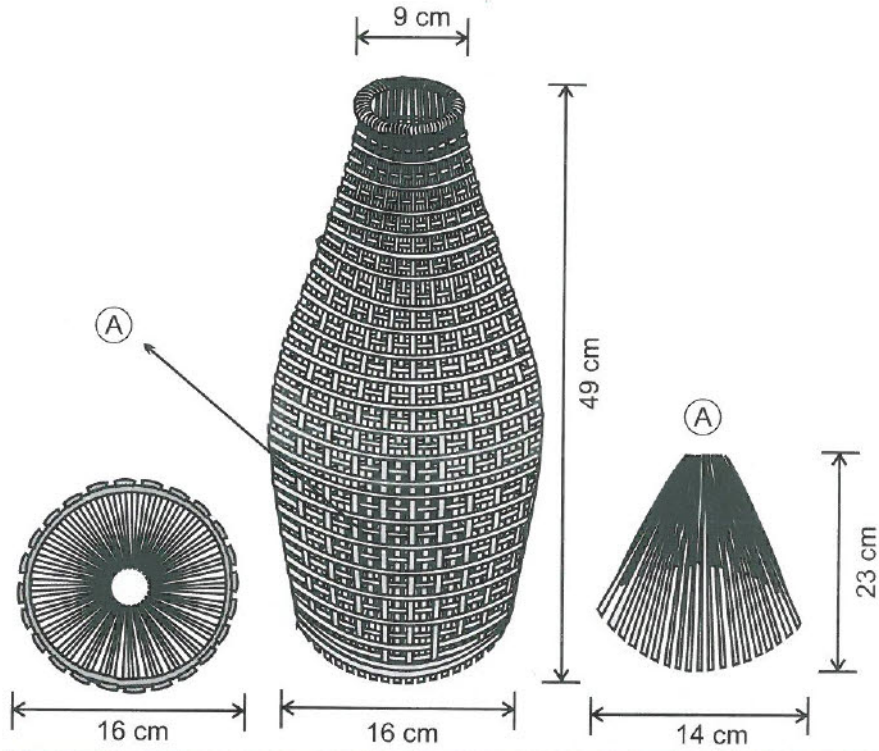
TRAP
Cylindrical
Khoka
Miscellaneous fish

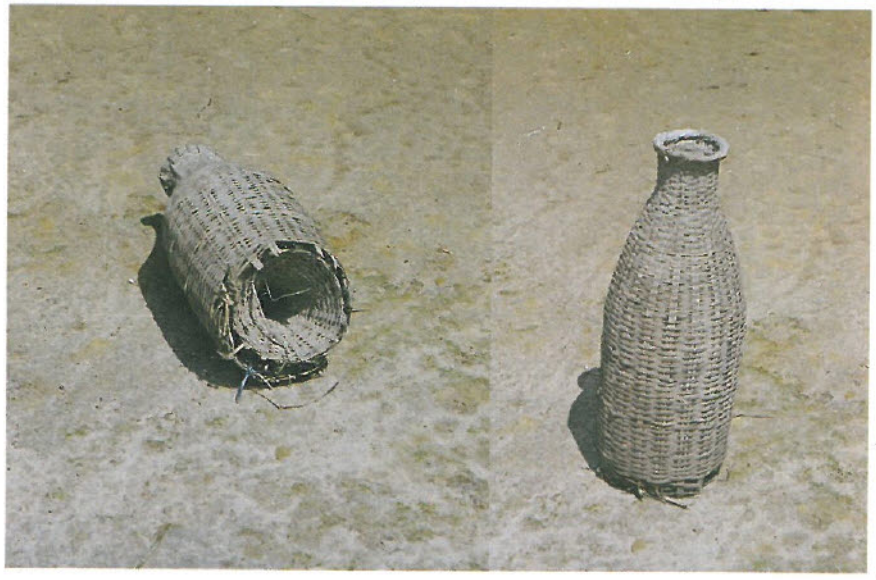
LOCATION
Majuli - Rivers and beels
Monsoon and post monsoon



TRAP
Cylindrical
Khoka
Clarius spp, *Mystus* spp, *Puntius* spp

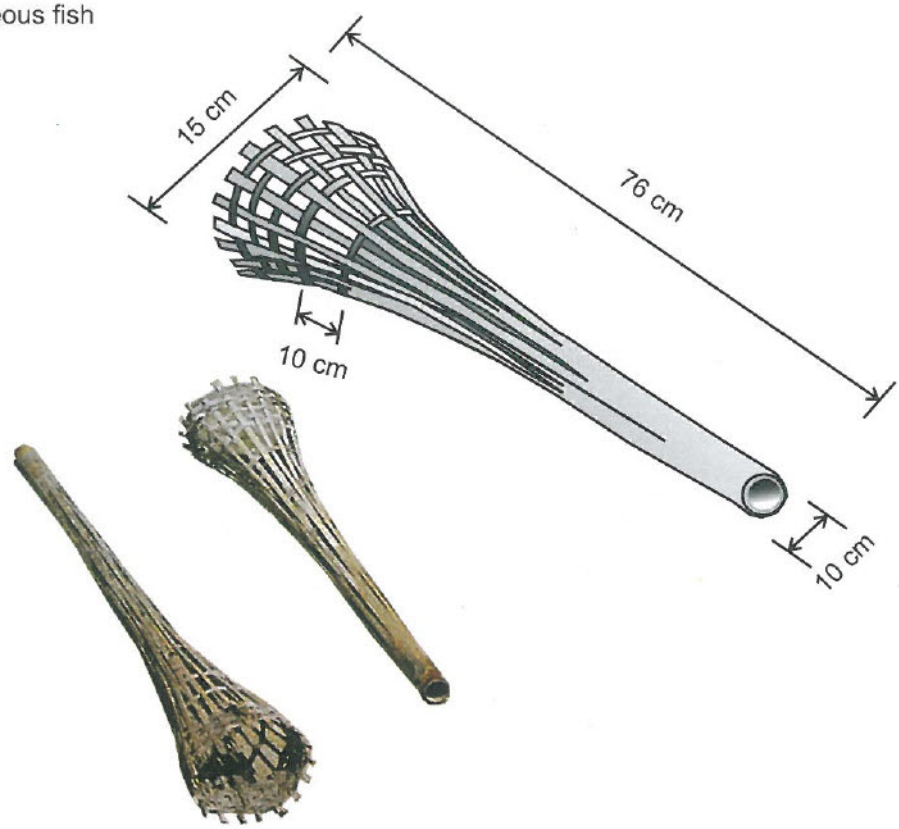
LOCATION
Bihara, Cachar - Small streams
Monsoon and post monsoon





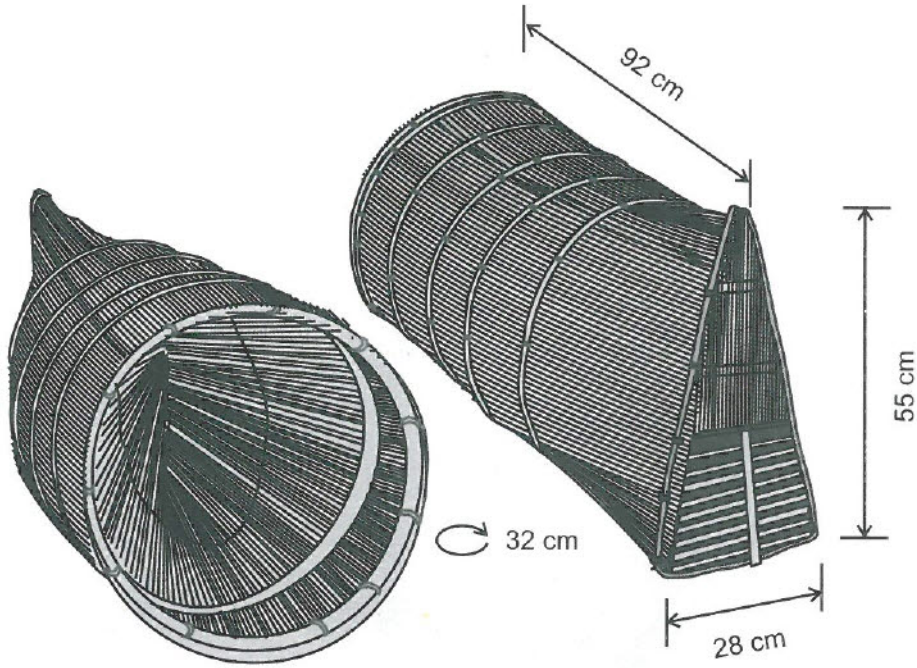
TRAP
Cylindrical
Hufa
Miscellaneous fish

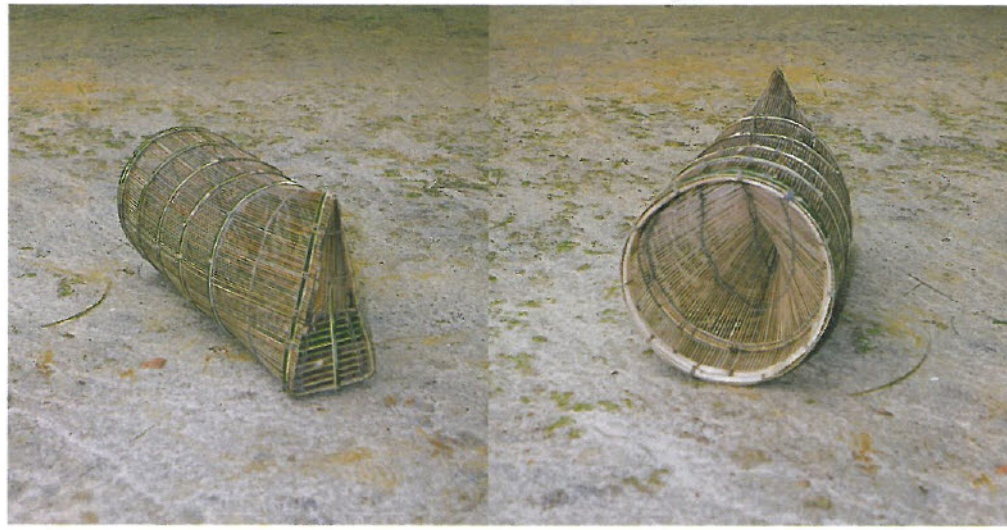
LOCATION
Bihara, Cachar - Wet lands
Monsoon and post monsoon



TRAP
Cylindrical
Runga
Miscellaneous fish

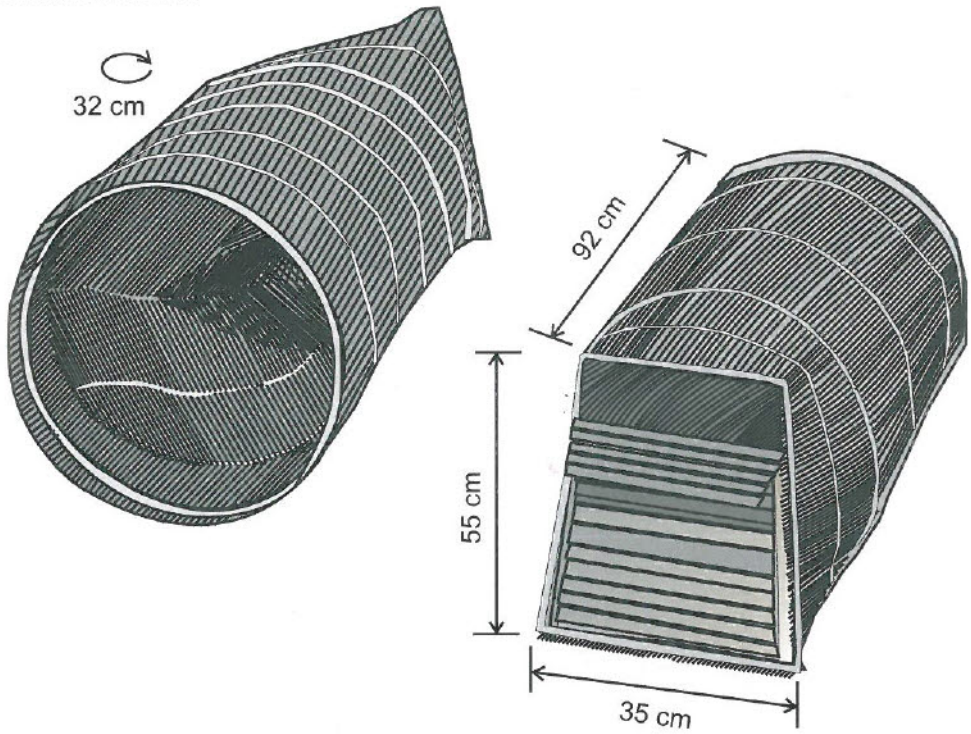
LOCATION
Bihara, Cachar- Pond outlets and beels
Monsoon

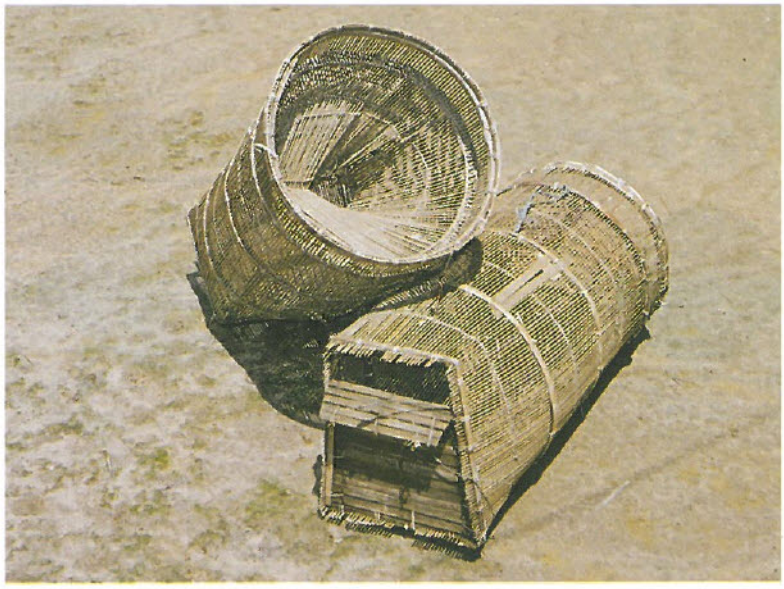




TRAP
Cylindrical
Runga
Miscellaneous fish

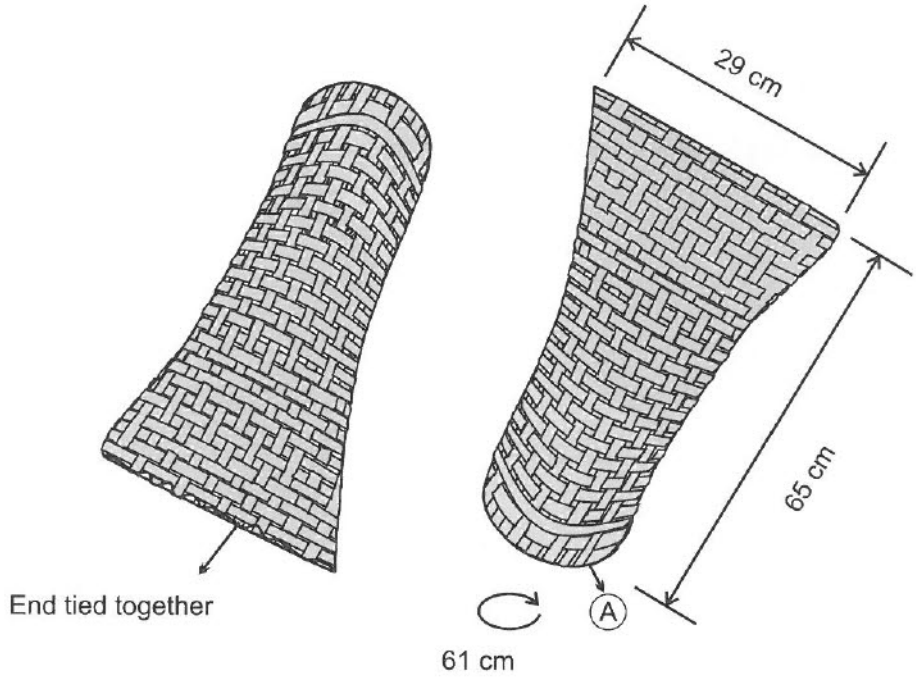
LOCATION
Bihara, Cachar - Wet lands and beels
Monsoon

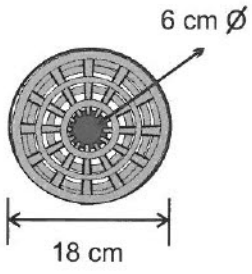


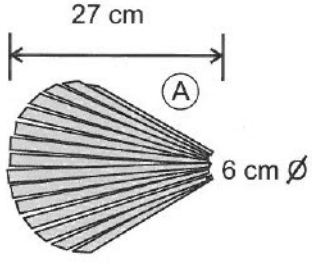


TRAP
Cylindrical
Runga
Channa spp, *Eel*

LOCATION
Ramnagar, Cachar - Paddy fields
Monsoon and post monsoon

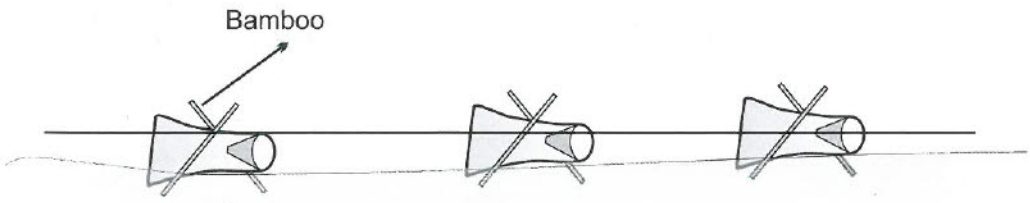






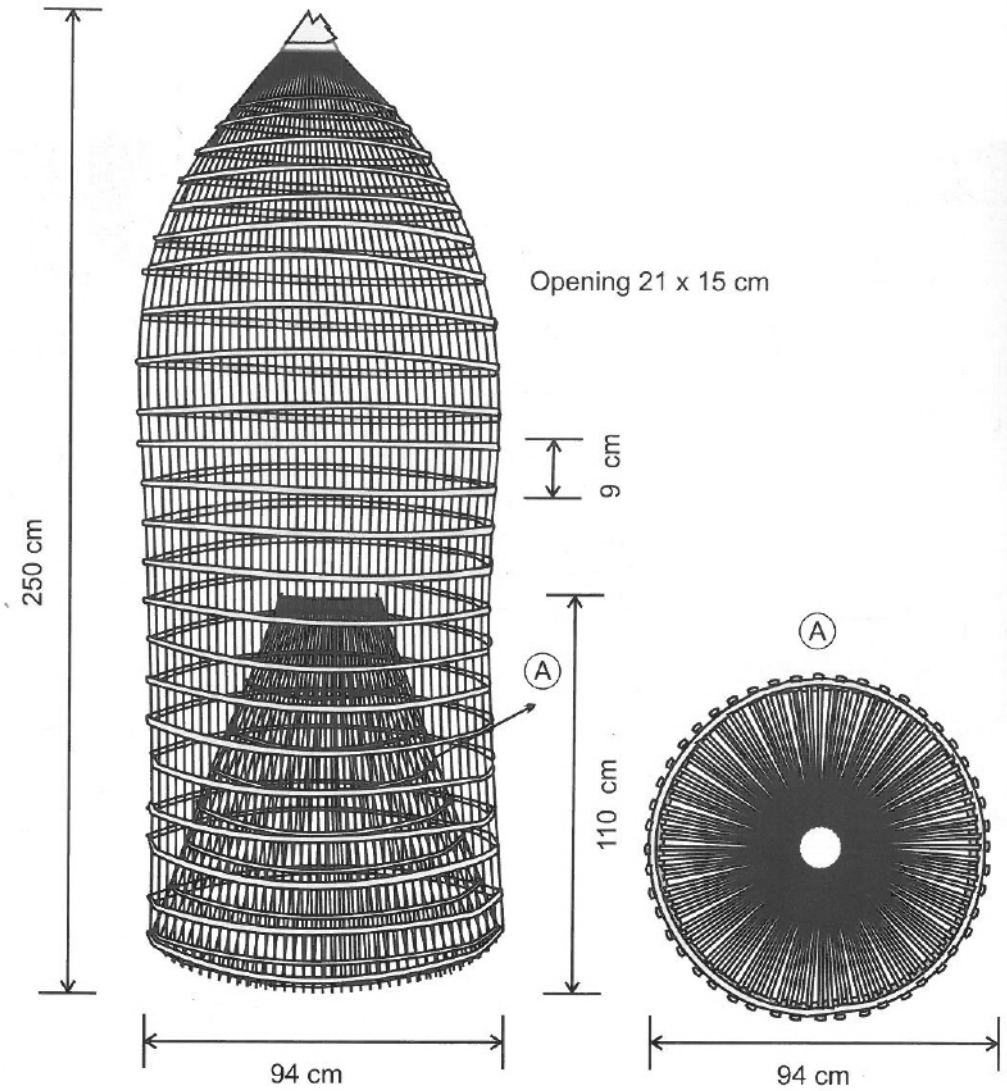
TRAP
Cylindrical
Runga
Channa spp, *Eel*

LOCATION
Ramnagar, Cachar - Paddy fields
Monsoon and post monsoon



TRAP
Cylindrical
Juti
Miscellaneous fish

LOCATION
Dolatpur, Karimganj - Rivers and beels
Monsoon



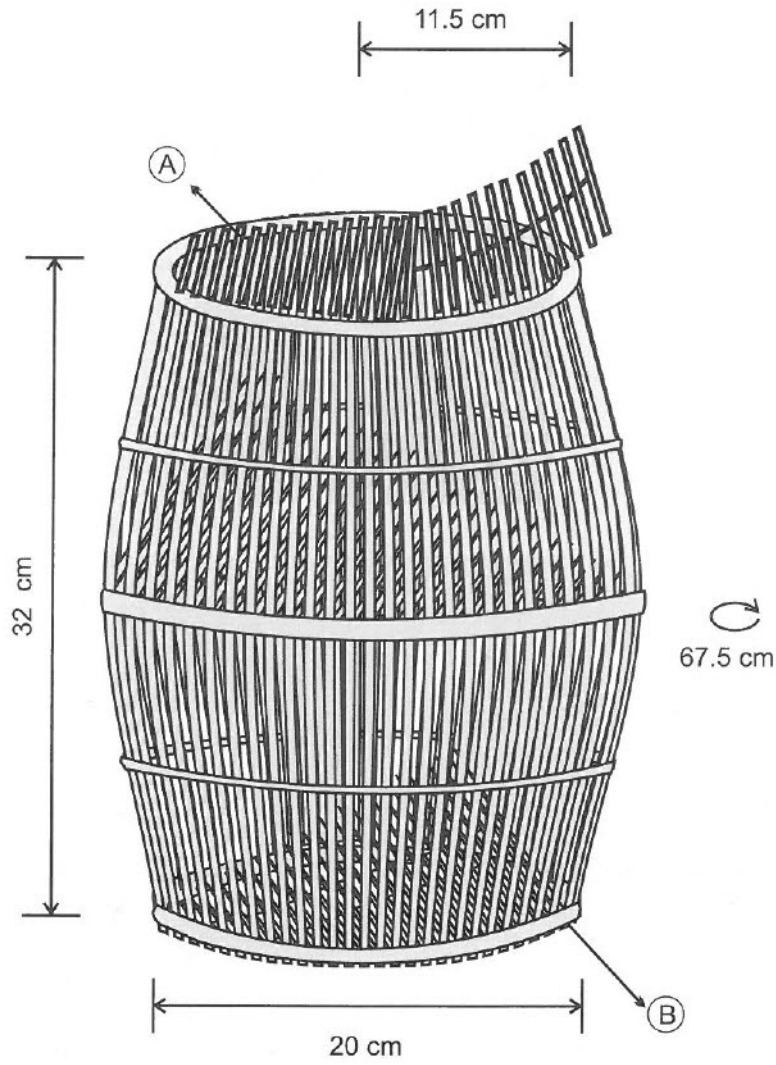
TRAP
Cylindrical
Juti
Miscellaneous fish

LOCATION
Dolatpur, Karimganj - Rivers and beels
Monsoon

Operation of *Juti* in river

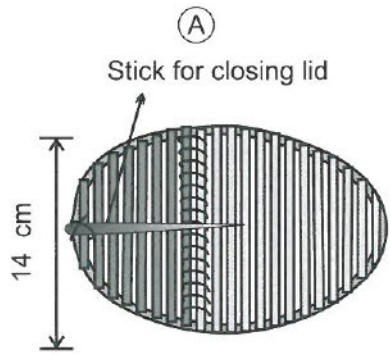
TRAP
Cylindrical
Kaita
Spiny eel, *Channa* spp,

LOCATION
Dhubri - Kumri beel
Monsoon

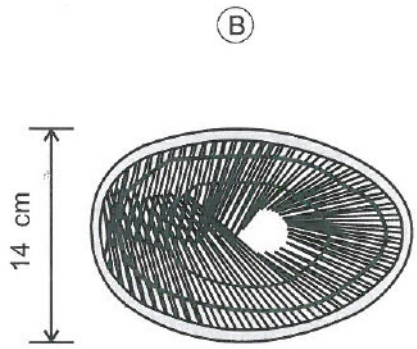


TRAP
Cylindrical
Kaita
Spiny eel, *Channa* spp,

LOCATION
Dhubri - Kumri beel
Monsoon



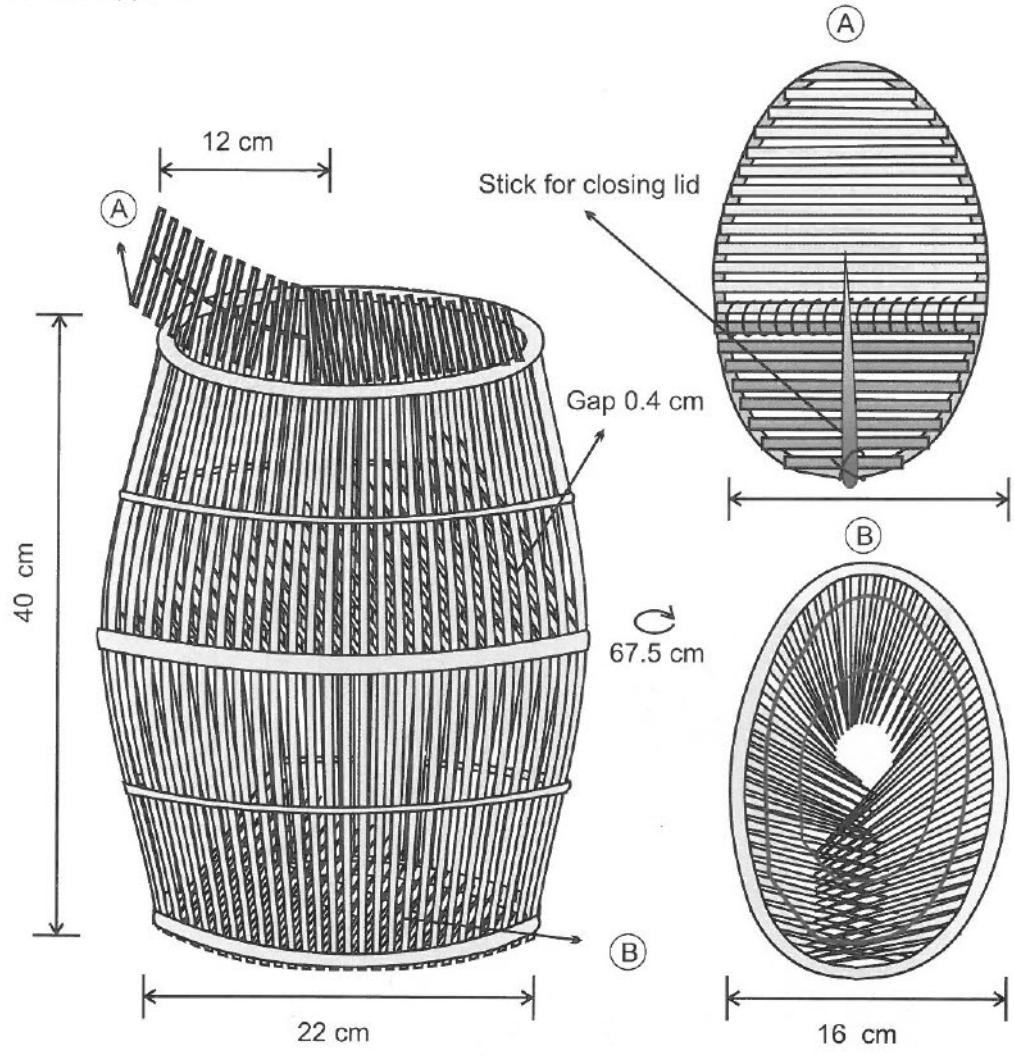
Upper

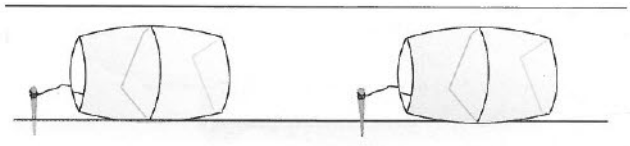


Lower

TRAP
Cylindrical
Sepa/Kaita/Chapa
Puntius spp, Eel

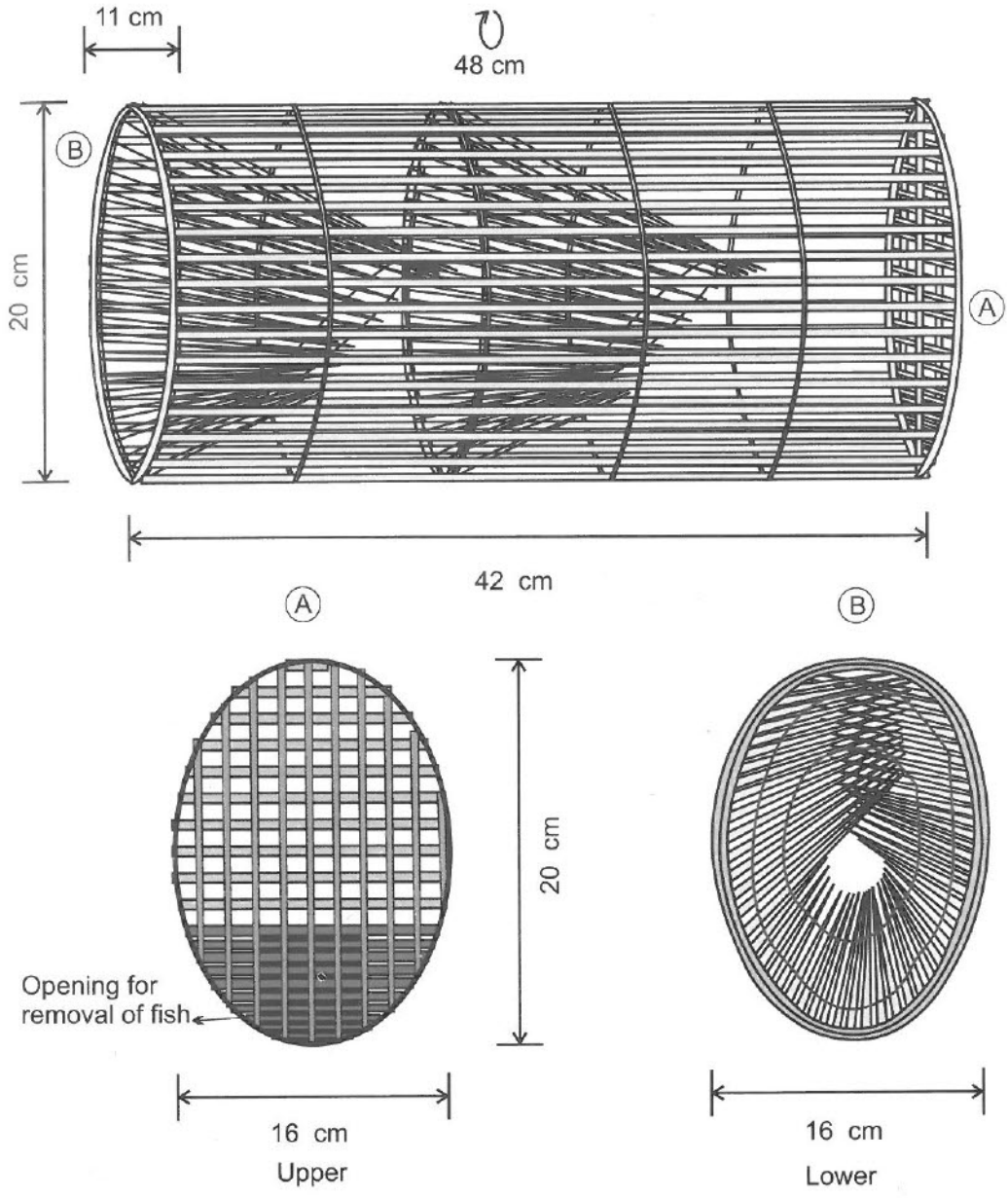
LOCATION
Barpeta - Beel
Monsoon





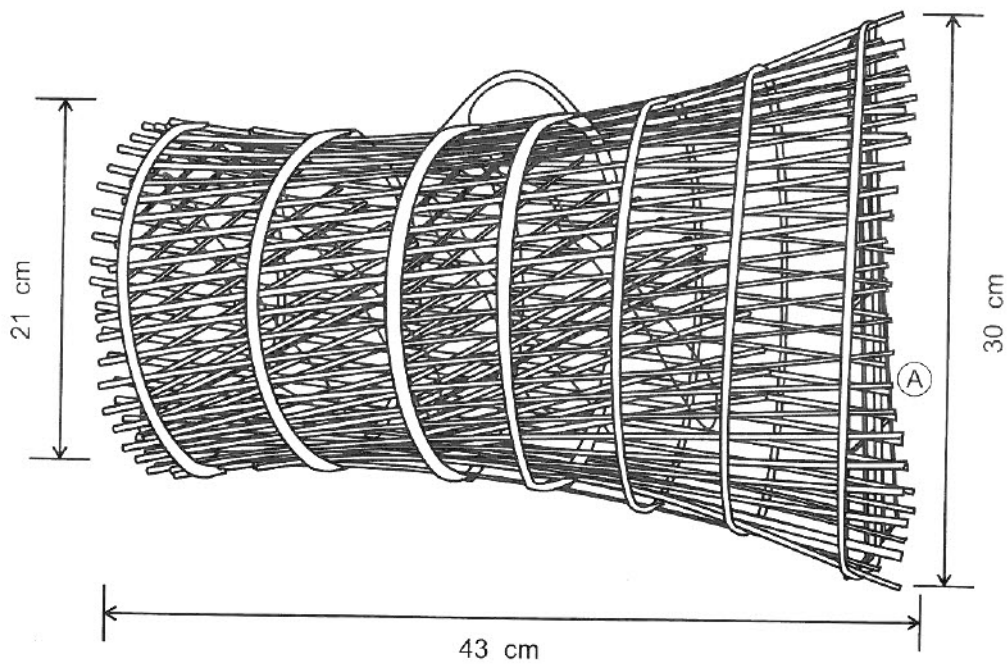
TRAP
Cylindrical
Kutup purang
Eel, *Mystus* spp

LOCATION
Tinsukia - Beel
Pre and post monsoon



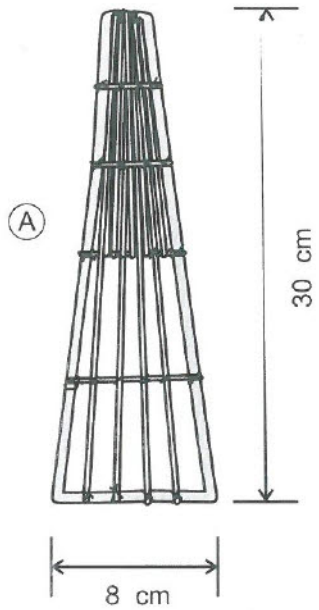
TRAP
Cylindrical
Faron
Miscellaneous fish

LOCATION
Panighat, Karimganj - Paddy fields and beels
Monsoon



TRAP
Cylindrical
Faron
Miscellaneous fish

LOCATION
Panighat, Karimganj - Paddy fields and beels
Monsoon



TRAP

Cylindrical

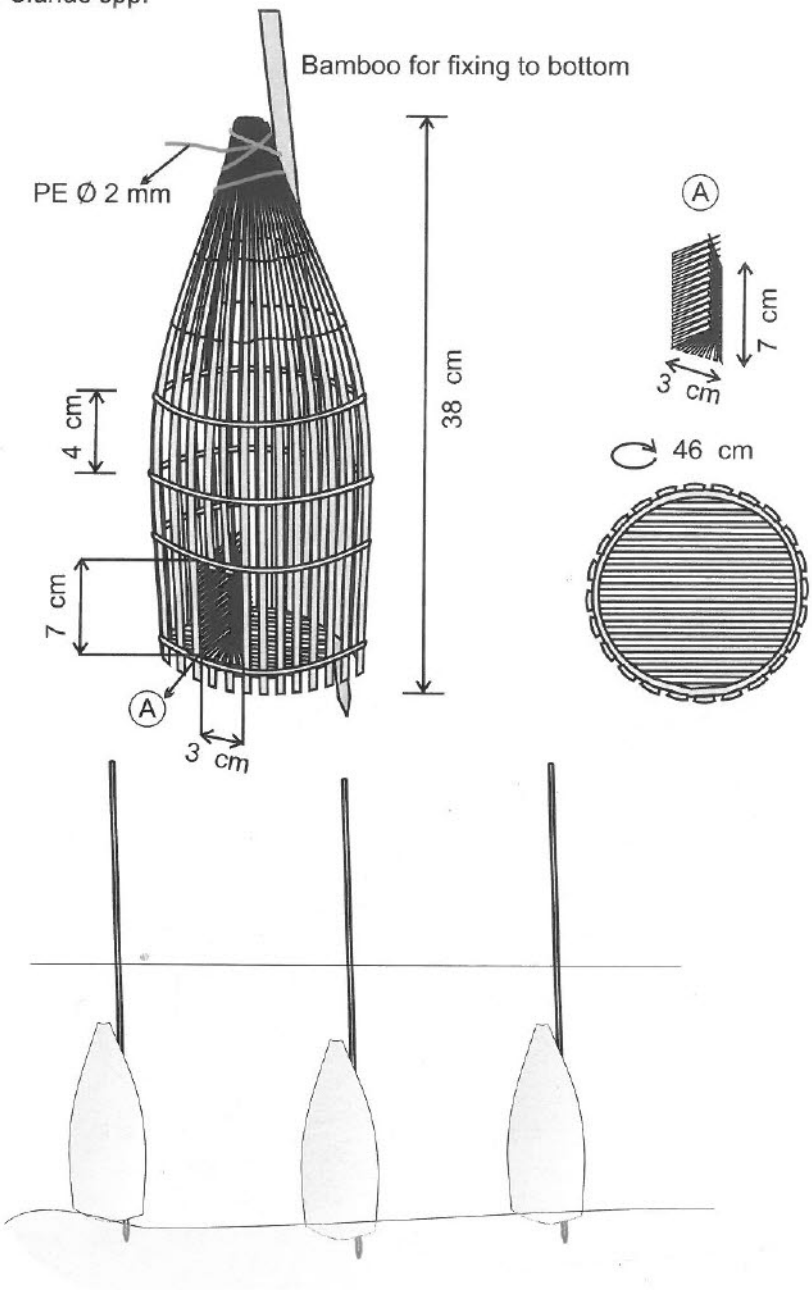
Queen

Mastacembalus spp, *Mystus* spp, *Channa* spp, *Clarias* spp.

LOCATION

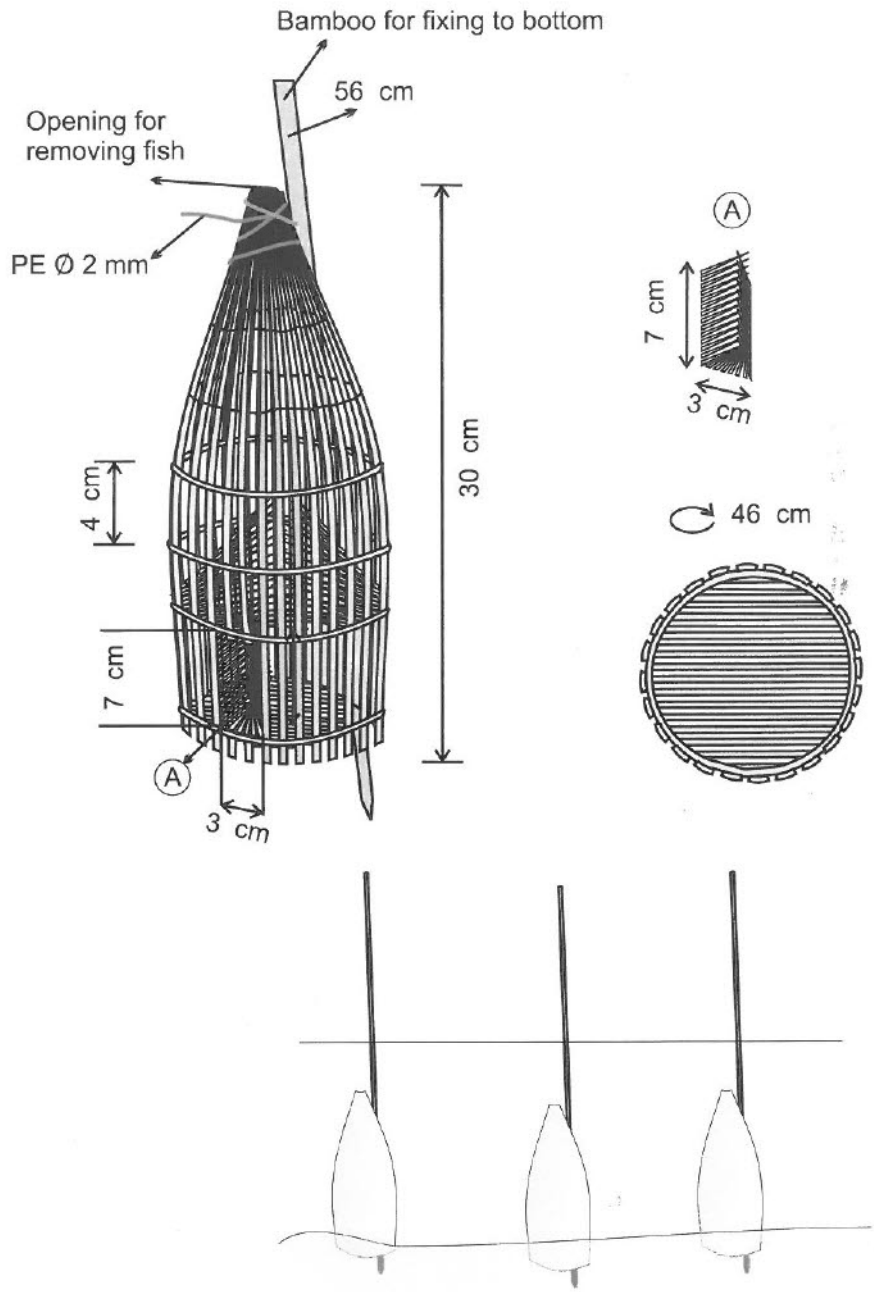
Guijanghat, Tinsukia - Paddy fields

Pre and post monsoon



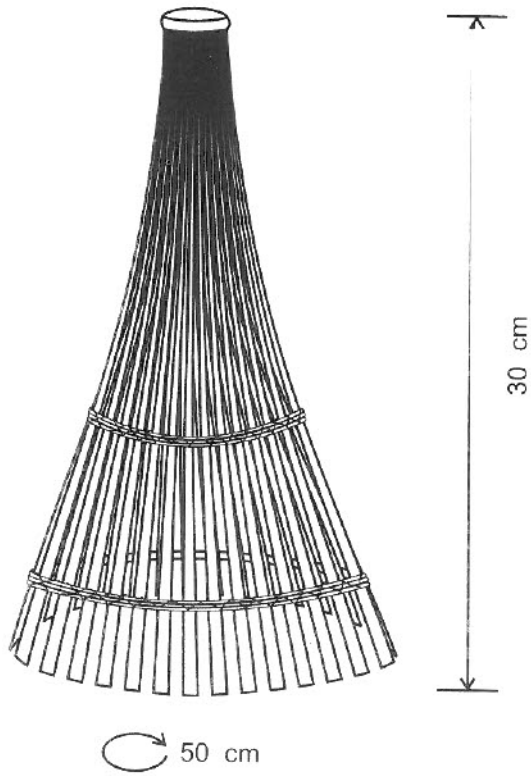
TRAP
Cylindrical
Kuni
Mystus, spp, Miscellaneous fish

LOCATION
Barpeta - Paddy fields, river embankments
Pre and post monsoon



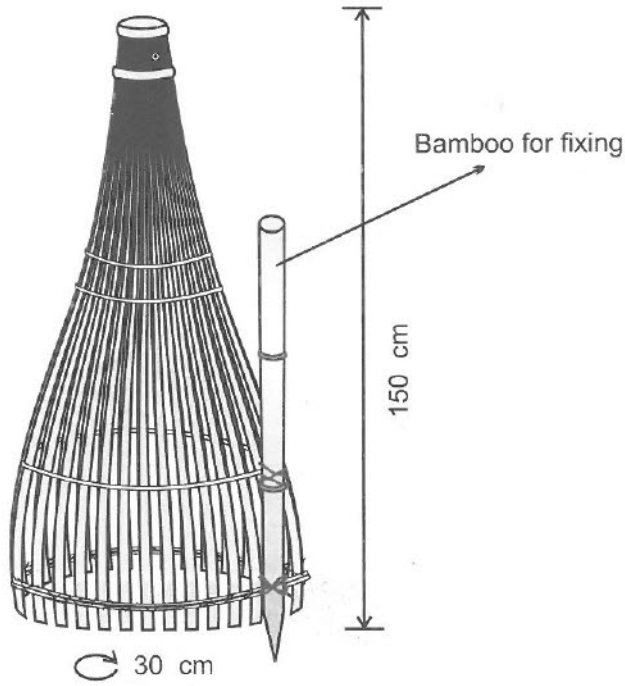
TRAP
Cylindrical
Sohra
Spiny eels

LOCATION
Bhamidora - Wet lands
Pre and post monsoon



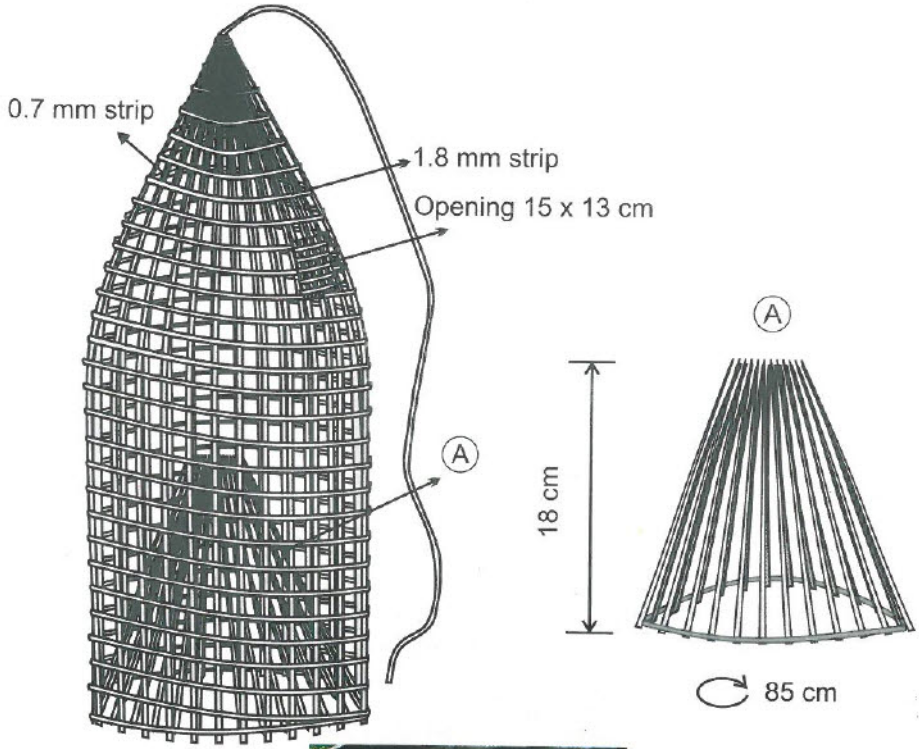
TRAP
Cylindrical
Baha
Small miscellaneous fish

LOCATION
Karimganj - Beels
Pre and post monsoon



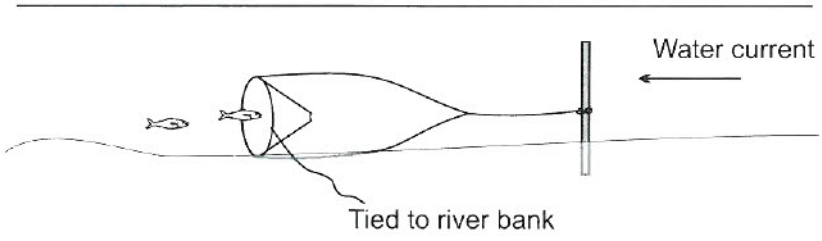
TRAP
Cylindrical
Paori
Aorichthys spp
Chitala spp, *Channa* spp.

LOCATION
Dhergaon, Gholaghat - Rivers
Monsoon



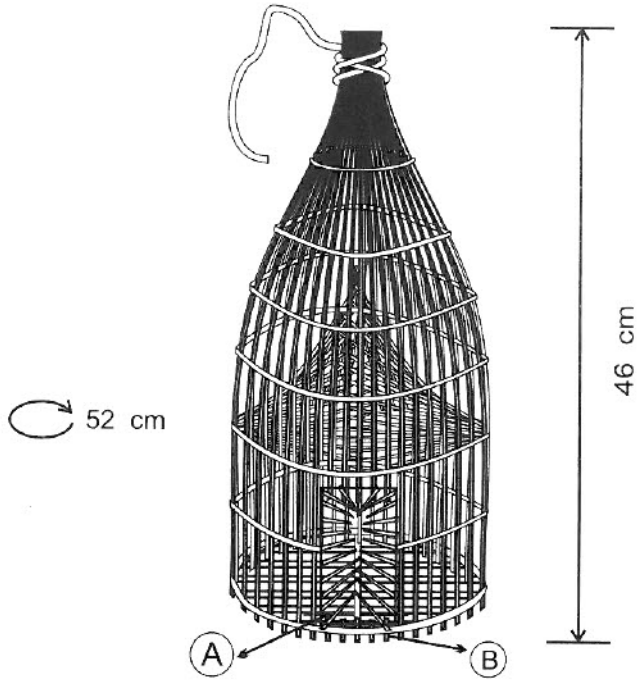
TRAP
Cylindrical
Paori
Aorichthys spp
Chitala spp, *Channa* spp.

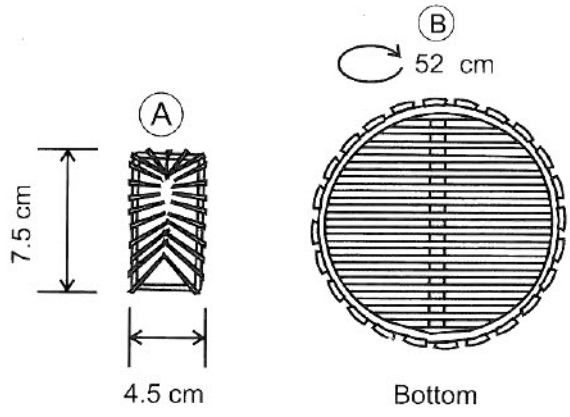
LOCATION
Dhergaon, Gholaghat - Rivers
Monsoon



TRAP
Cylindrical
Tuni
Mystus spp

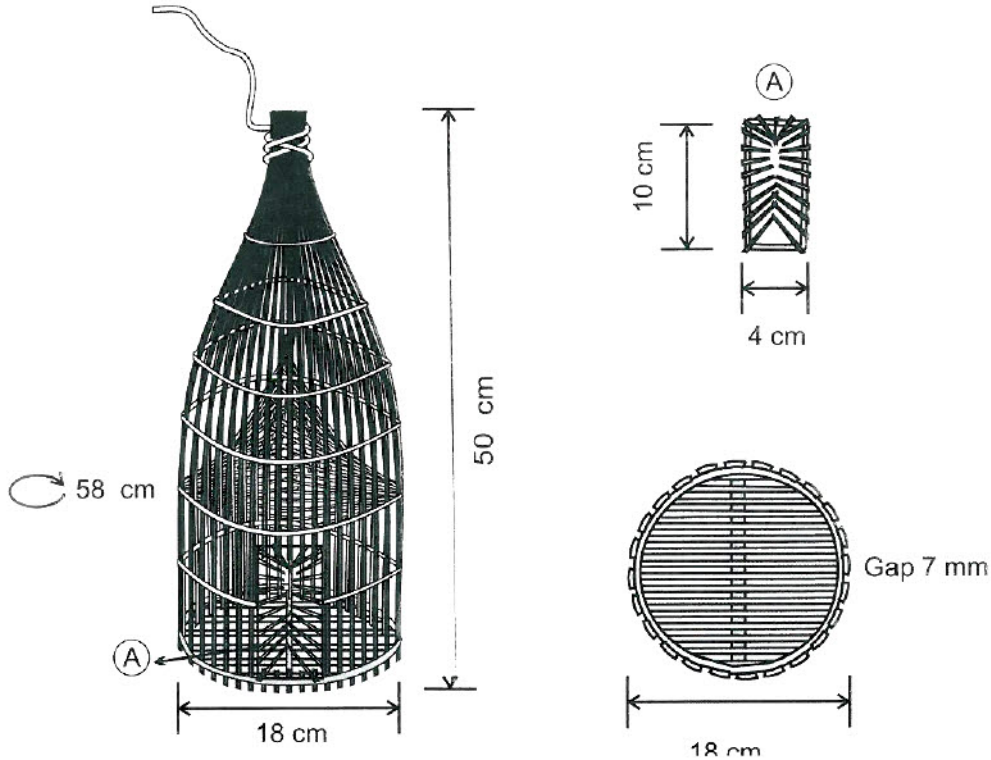
LOCATION
Morigaon - Beel, Paddy fields
Monsoon





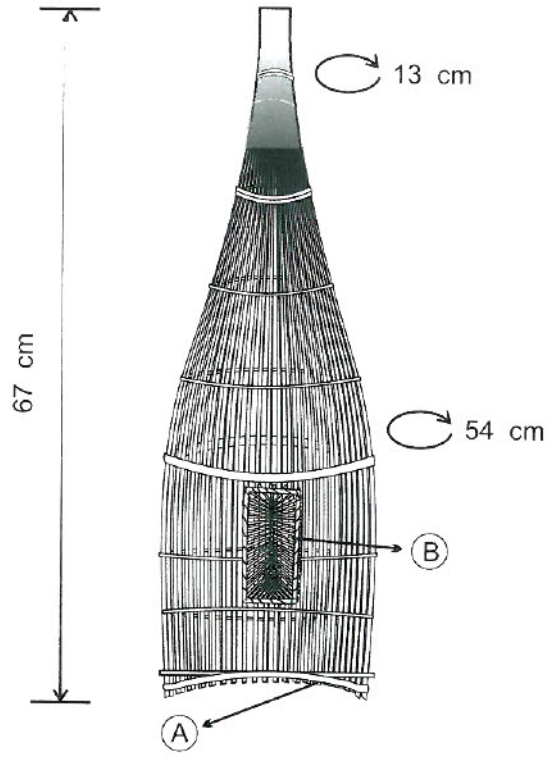
TRAP
Cylindrical
Thetung purang / Dingora
Miscellaneous fish

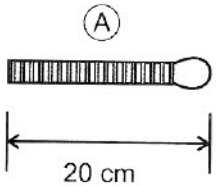
LOCATION
Tinsukia - River, Paddy fields
Pre - monsoon



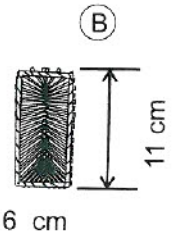
TRAP
Cylindrical
Sepa bhari
Miscellaneous fish

LOCATION
Dhubri - Rivers and beels
Pre and post monsoon



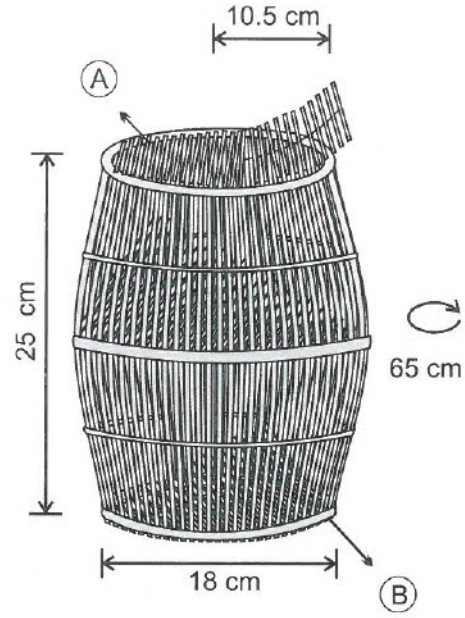


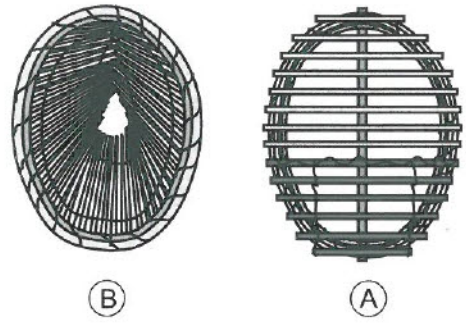
Bottom

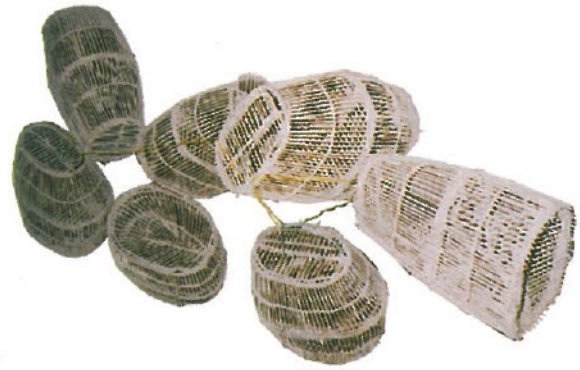


TRAP
Cylindrical
Sepa
Prawns

LOCATION
Kamrup - River
Post monsoon

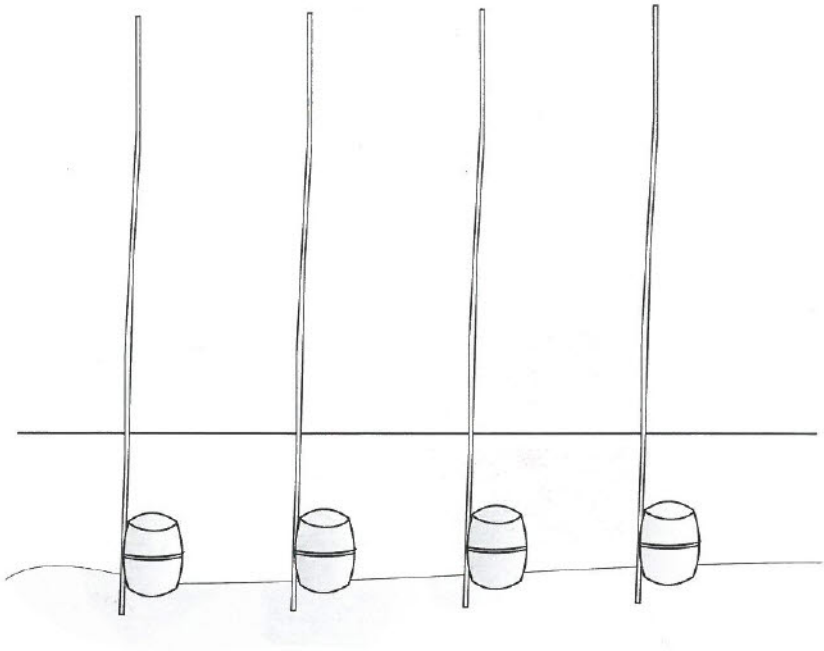






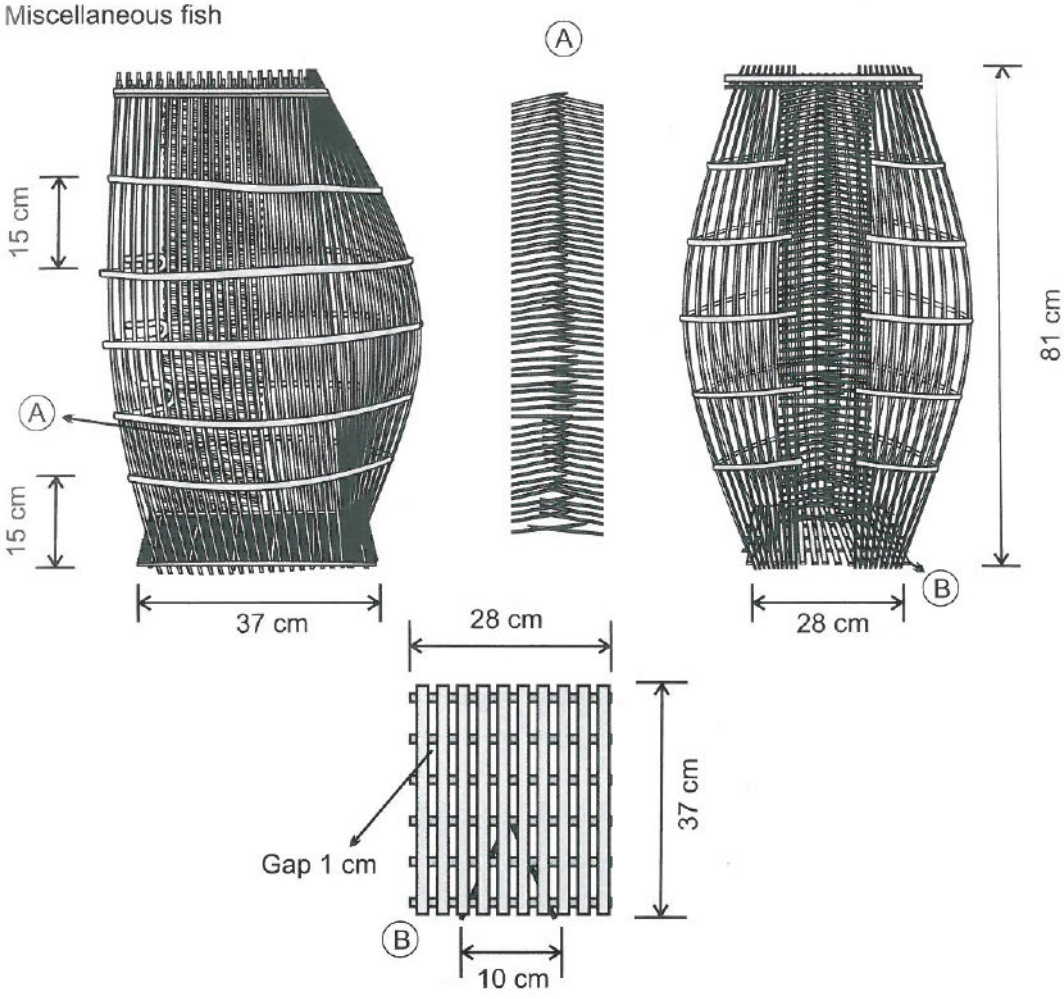
TRAP
Cylindrical
Sepa
Prawns

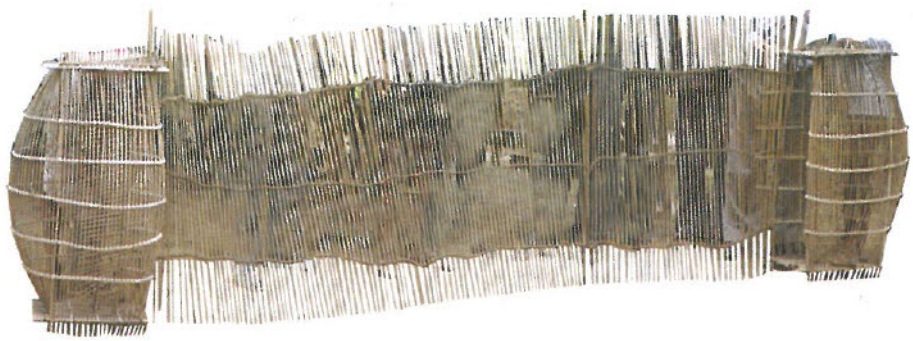
LOCATION
Kamrup - River
Post monsoon



TRAP
Cylindrical
Dingori
Miscellaneous fish

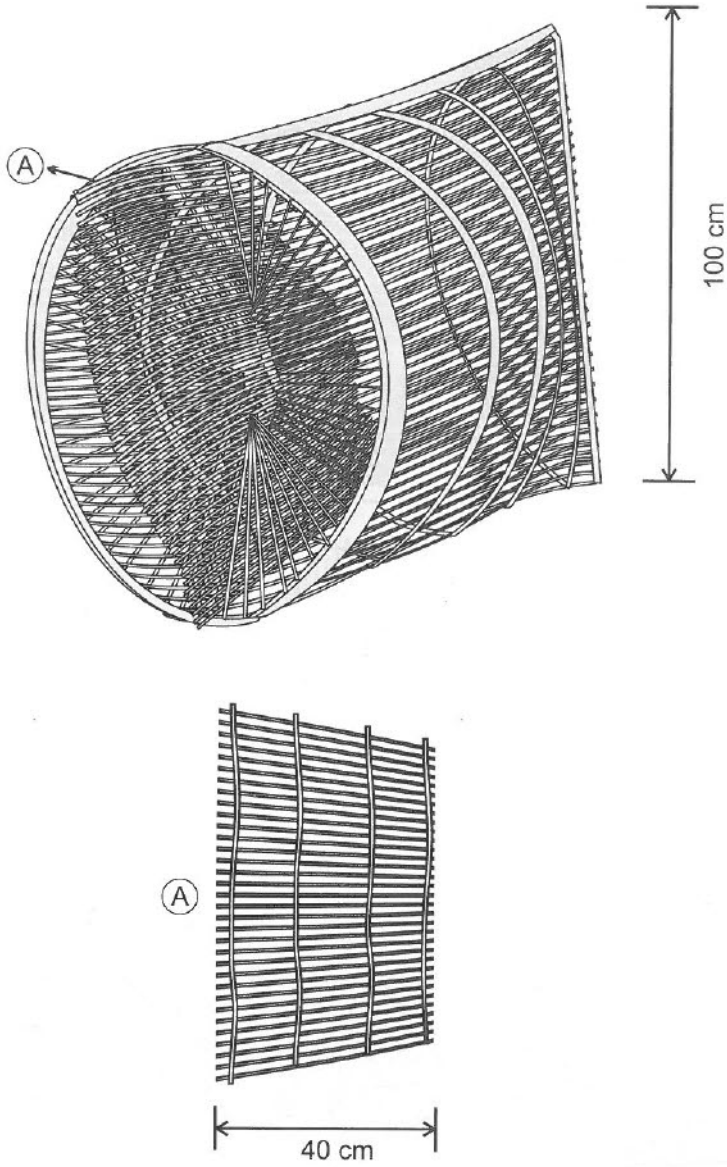
LOCATION
Morigaon - River
Pre and post monsoon





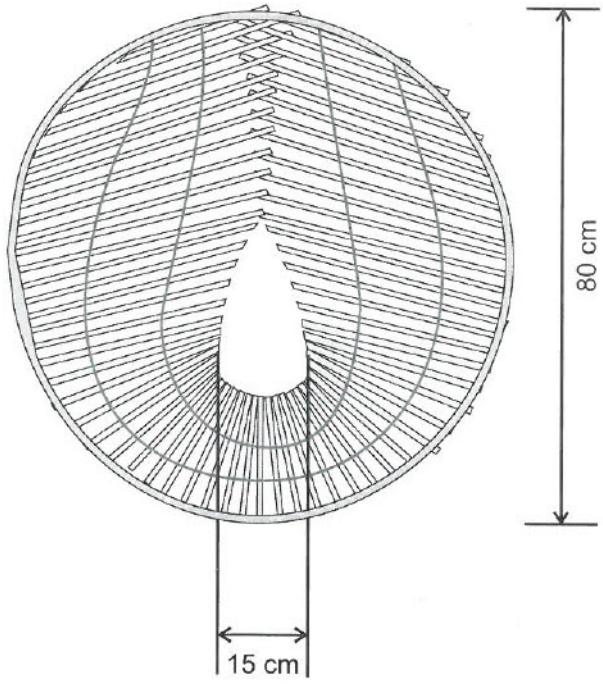
TRAP
Cylindrical
Dhowar
Prawn, Miscellaneous fish

LOCATION
Kamrup - River
Pre and post monsoon



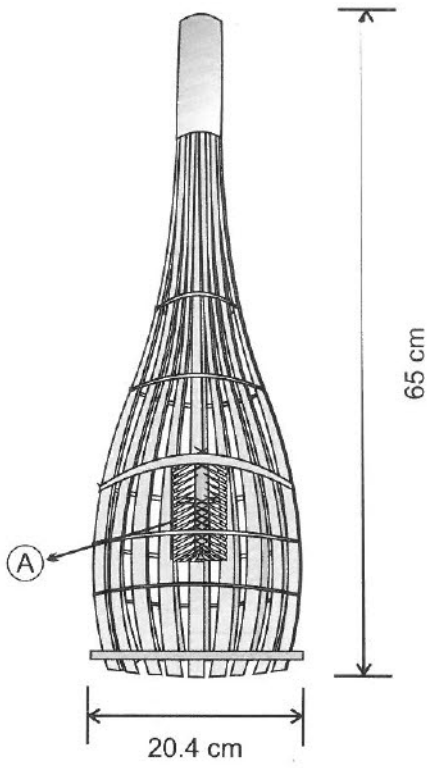
TRAP
Cylindrical
Dhowar
Prawn, Miscellaneous fish

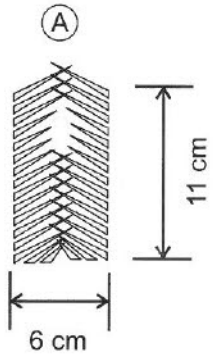
LOCATION
Kamrup - River
Pre and post monsoon



TRAP
Cylindrical
Sepa
Miscellaneous fish

LOCATION
Satyantala, Dhubri - Paddy fields
Pre and post monsoon





5 Spindle traps

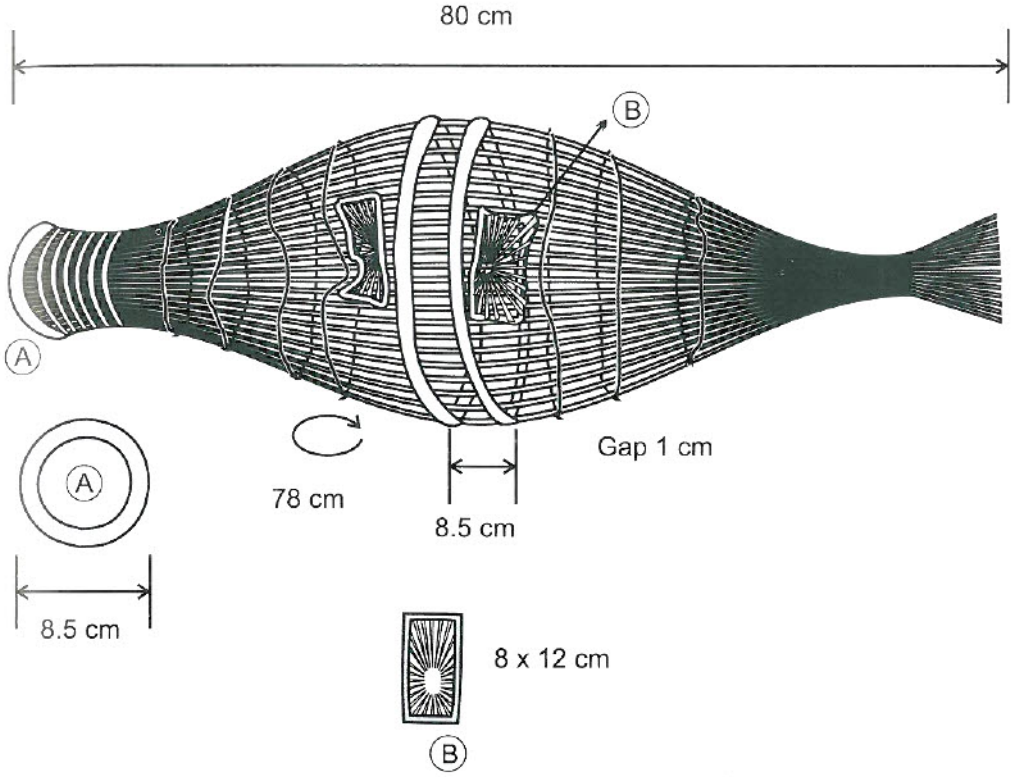
5.0 Spindle Traps

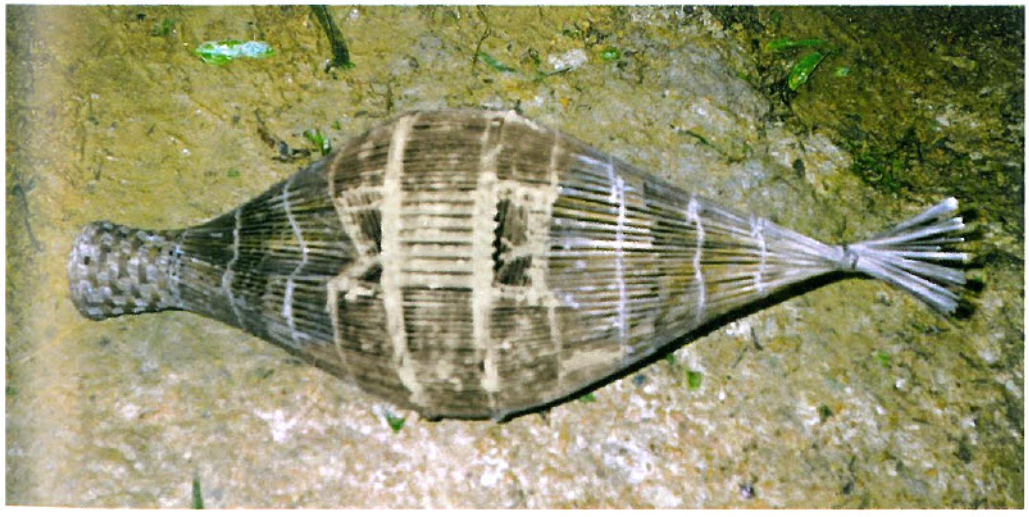
5.1 Seppa

These are spindle shaped and are seen in various sizes. They too are known by different names in different areas like *Sohara*, *Tepa*, *Badu Betok* and *Chepa*. These traps are made of split bamboo with interwoven gap of about 1 cm . The length of the *Seppa* ranges from 80 to 250 cm and are tapered at both the ends. Generally it has two mouth openings in the mid region of the trap for the entry of the fish. An opening is provided for removal of catch on one end of the trap which is closed by fastening together during operation. These traps are extensively used in *Beels* and inundated paddy fields and catchment areas to catch miscellaneous fishes.

TRAP
Spindle
Seppa
Miscellaneous fish

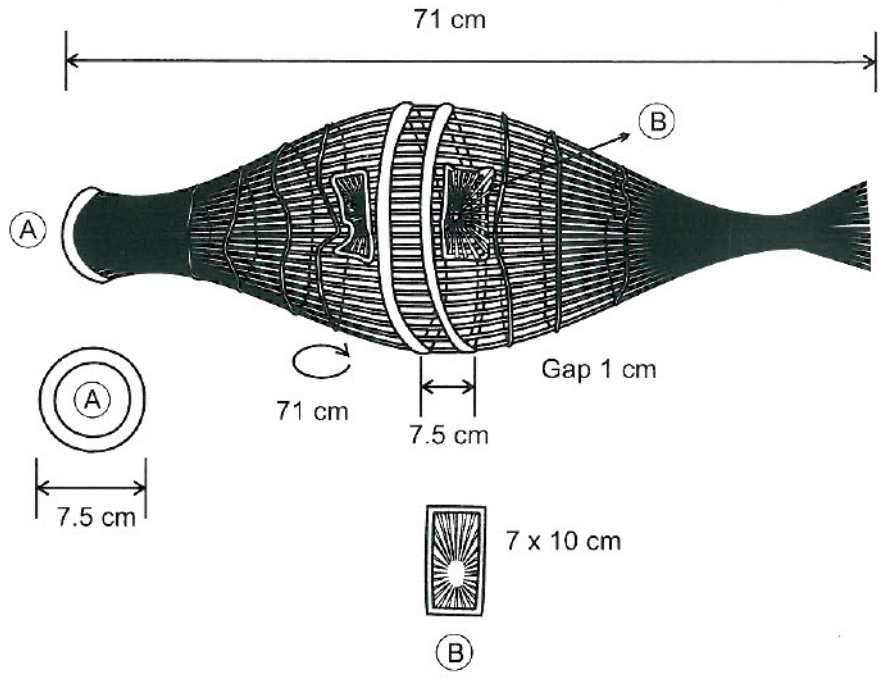
LOCATION
Soharjum, Cachar - Paddy fields
Pre and post monsoon





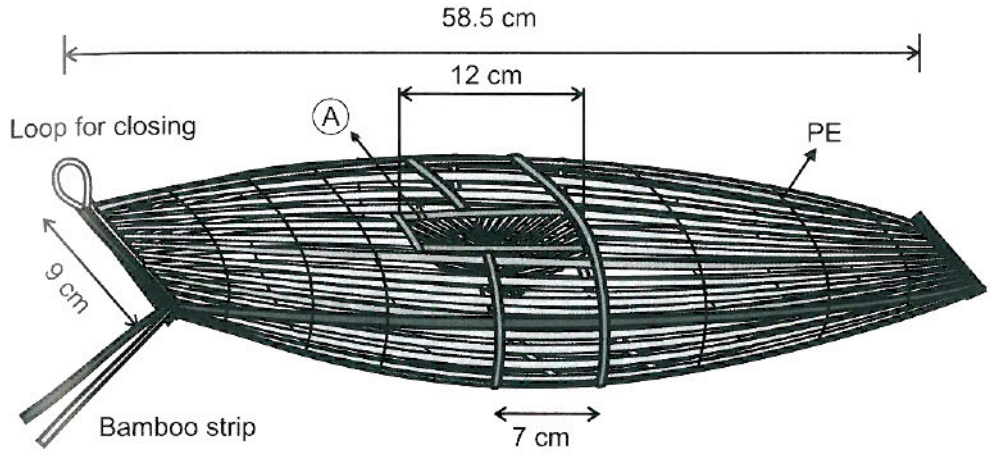
TRAP
Spindle
Seppa
Miscellaneous fish

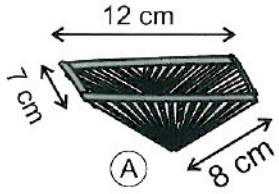
LOCATION
Tinsukia - Paddy fields
Pre and post monsoon



TRAP
Spindle
Seppa
Prawn and miscellaneous fish

LOCATION
Beldora beel, Kamrup district
Pre and post monsoon





Operation of *Sepa* in shallow waters

TRAP

Spindle

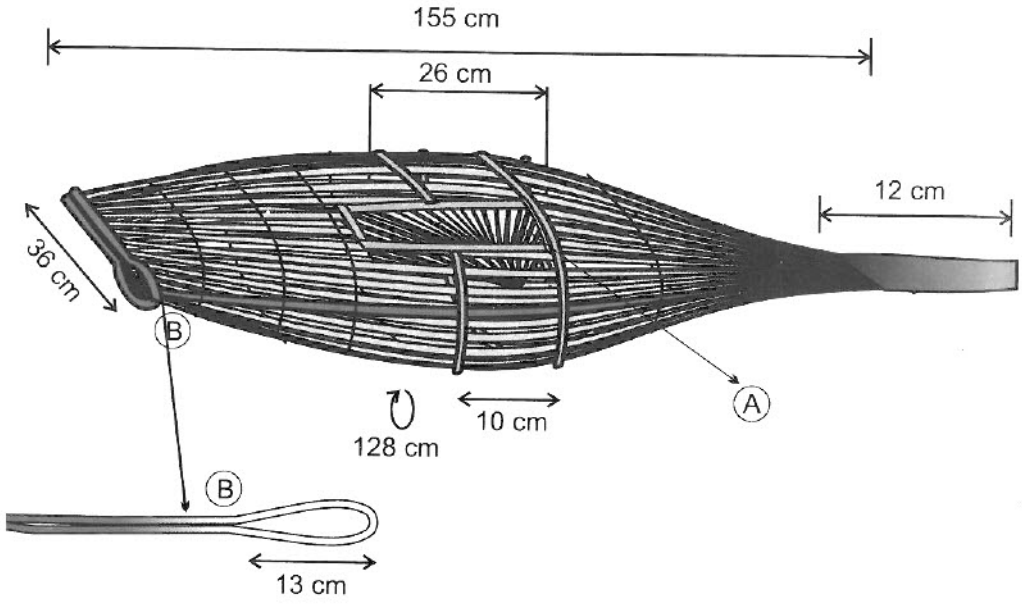
Seppa

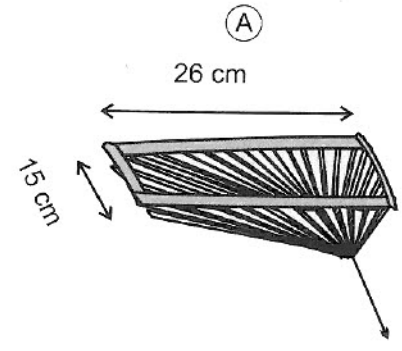
Prawns and small fishes

LOCATION

Majuli - Wet lands and paddy fields

Pre and post monsoon

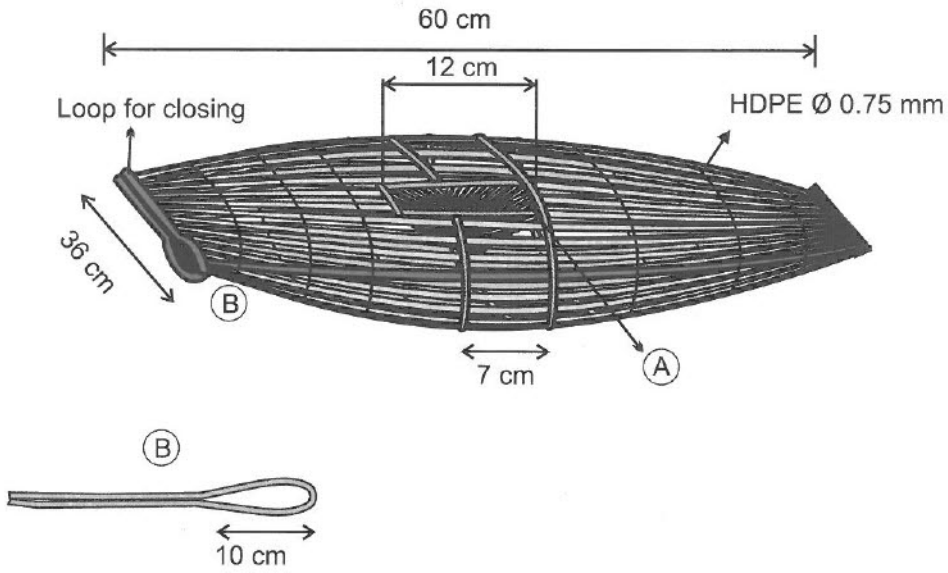


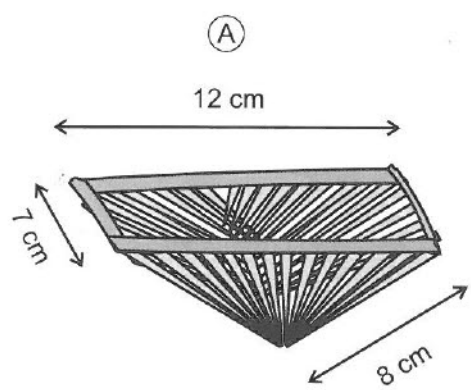


Opening Ø 1 cm

TRAP
Spindle
Seppa
Prawns and small fishes

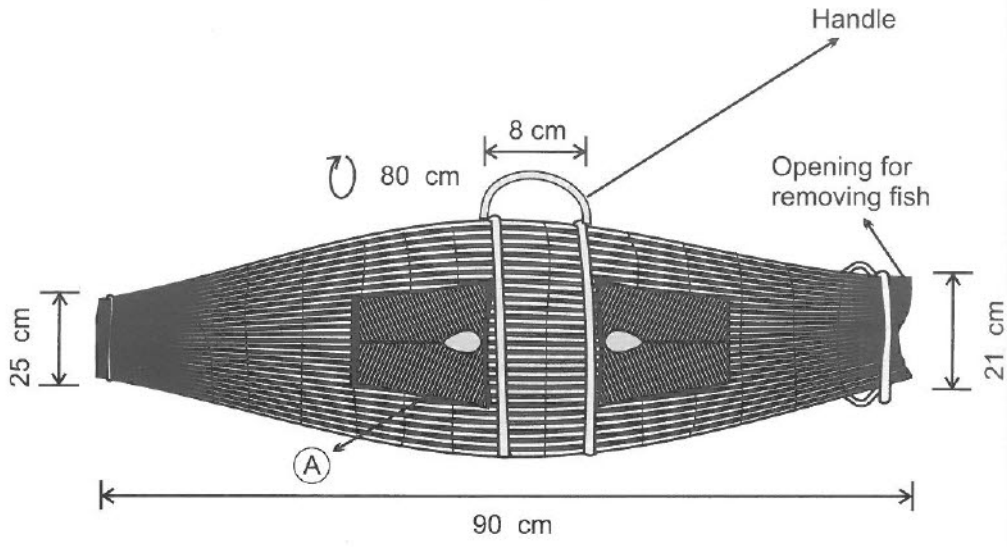
LOCATION
Lakhimpur - Wet lands and paddy fields
Pre and post monsoon

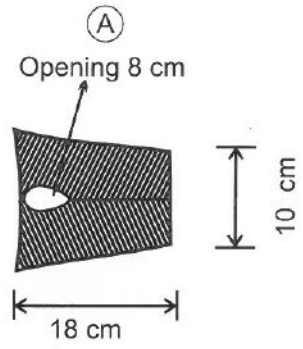


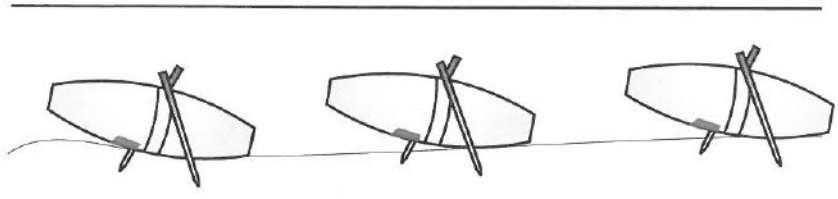


TRAP
Spindle
Sohara
Prawns and miscellaneous fish

LOCATION
Dhubri - Rivers and beels
Pre and post monsoon

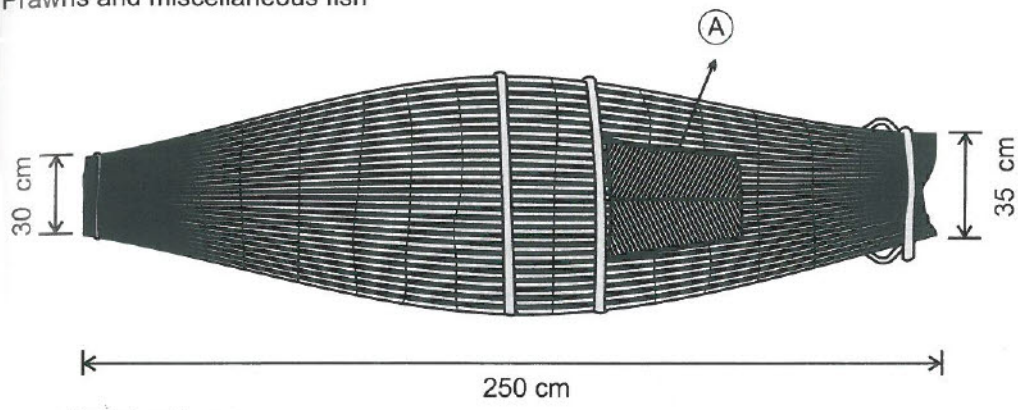


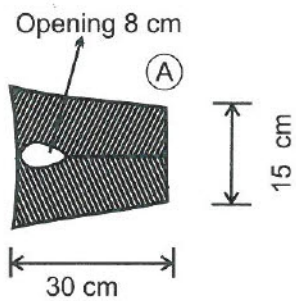




TRAP
Spindle
Sohara
Prawns and miscellaneous fish

LOCATION
Dhubri - Rivers and beels
Pre and post monsoon





TRAP

Spindle

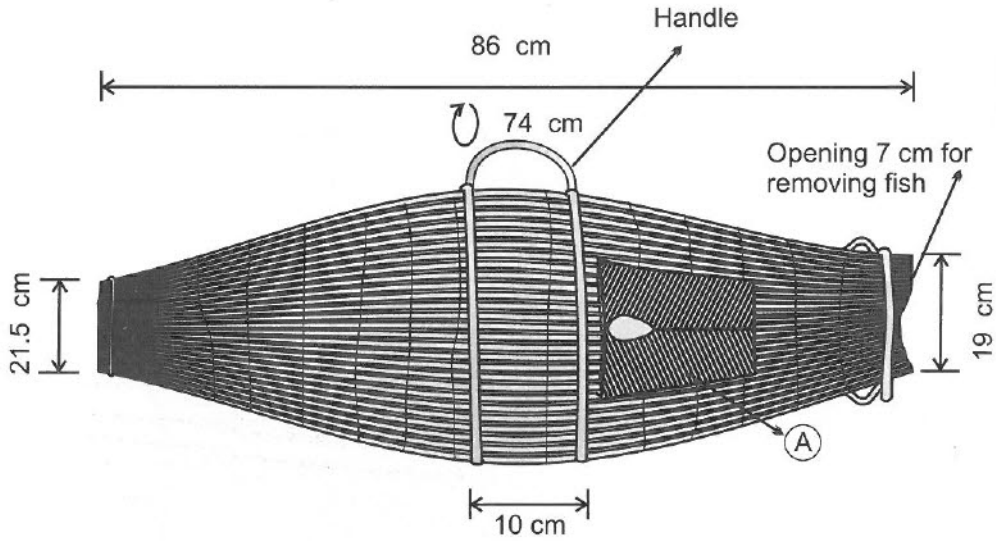
Tepa

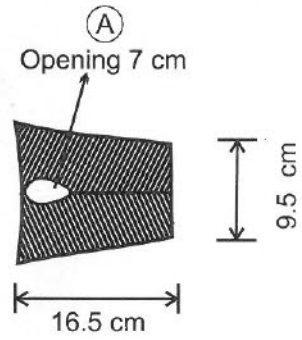
Prawns and miscellaneous fish

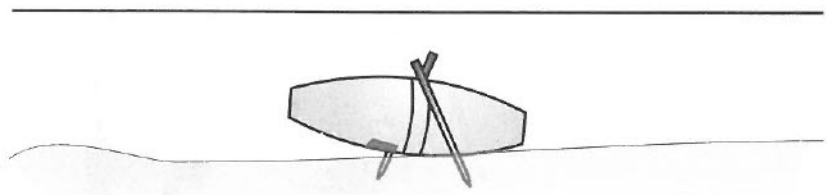
LOCATION

Dhubri - Rivers and beels

Pre and post monsoon

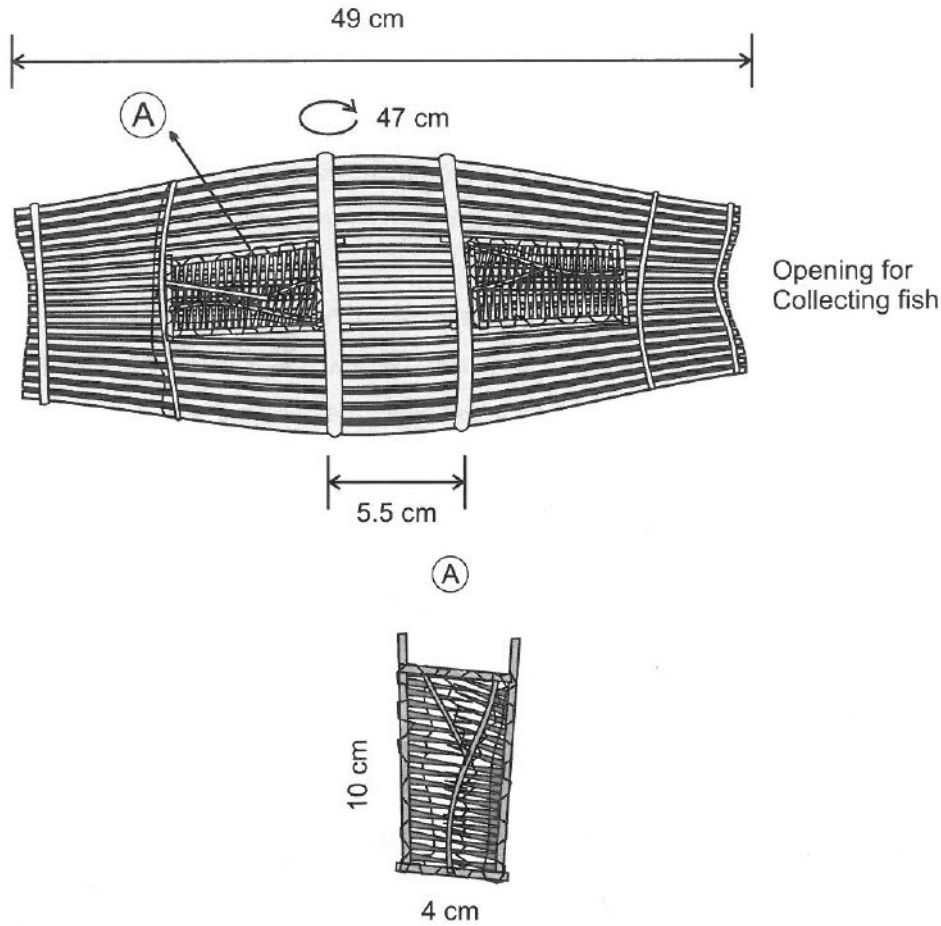






TRAP
Spindle
Badu betok / Chepa
Prawns and miscellaneous fish

LOCATION
Tinsukia - Rivers and beels
Monsoon



6 Box traps

6.0 Box traps

Box traps are widely used and are seen in various sizes. These too are known by different names in various areas of the state. The traps are made of split bamboo and the interspaces vary depending on the type and size of the target fish sought. The traps are provided with 'V' shape inlet valves, either small or long covering different sides. These are extensively operated in *Beels*, derelict water bodies, inundated paddy fields and catchment areas, these traps are either baited or unbaited depending on the type of fish targeted. Similar types of box traps operated in Chilka Lake is reported by Jones and Sujansingani (1952) and Roy and Banerjee (1980). Use of bamboo screens (*Bana*) to guide the fish in to the trap is also prevalent as this increases the catching efficiency of the gears as it restricts the movement of the fish and ultimately leads them to the trap.

6.1 Boldha/Ghani

This is rectangular cube shaped trap and is also made up of bamboo strips having a vertical inlet at the narrow side. The inlet is "V" shaped and the sticks from either end touch together at the middle resembling spines, there by preventing the trapped fishes from moving out of the trap. Length varies from 26 to 86 cm, breadth 14 to 32 cm and height 14 to 32 cm. The bamboo strips are 0.3 mm thick and are placed at a gap of 0.8 mm. The mouth is on one side of the body and equals the height of the trap. It measures10 to 19 cm in depth and 5 to 28 cm in breadth. An opening is provided on the upper portion of the trap to collect the fishes trapped. *Koliha* used in upper Assam is similar to *Boldha.* The front and rear part of the trap are curved into two lobe like structures and the mouth opens inwards. These traps are operated in shallow region of rivers, *Beels* and paddy fields. Crushed snails are used as baits. *Heteropnuestes fossilis, Clarias batrachus, Channa striatus, Channa punctatus, Mastacembalus armatus*, prawns and other small fishes are the common catch.

6.2 Dori

These traps have an arched body at the back and are cube shaped with a wide inlet. *Dori* has wide V-shaped inlet at one end and is made up of 5 rows of split bamboo pieces fixed transversely at regular intervals. It is vertically set against the water current. Small fishes including prawns moving with the current are trapped inside the trap, which

are removed through a big opening provided at the top (may or may not be closed with a removable cover) *Dori*, commonly used in Barak valley of Assam is moderate in size (50 to 60 cm wide, 70 to 80 cm deep and 80 to 100 cm high). *Dingorah*, used in the Brahmaputra valley of Assam is slightly smaller in size. This is comparatively wider than *Dori* in front and is devoid of transverse bamboo strips making it less sturdy. The trap is placed with the mouth facing the current or along the current depending on the movement of the fish. Occasionally *bana* is given at the side of the trap. The upper part of the trap is kept open if the level of water is less than the height of the trap and is closed by mosquito net if the water level is high. Another similar trap *Nogonda faron* differs from *Dori* in dimension. The backside is rounded of along the height. Its length is 29 cm, breadth 22 cm, and height 18 cm. The strips are 0.2 cm thick and a gap of 0.3 cm is maintained while stitching the strips. They are sewn together with cane. Two thick bamboo strips of 1.2 cm are tied at the top and bottom as strengtheners. Rice bran mixed with mud is used as bait. The main catches are prawns, *Heteropneustes fossilis, Botia* spp. and *Puntius* spp.

6.3 Sepeti

Sepeti is similar to *Boldha* but gradually tapers along the frontal mouth end to its opposite end giving a trapezoidal shape to the top and bottom side. Length of the trap is 42 cm, breadth 21 & 37 cm, and the height 38 cm. The depth of the mouth is 28.5 cm and breadth 19.5 cm. An opening of 6.5 x 6.5 cm is given for removal of the catch. Strips of 0.3 - 0.4 cm thickness are stitched with cane and a gap of 0.2 to 0.3 cm is maintained throughout. The trap is operated in shallow area of river and channel against the current. *Bana* is also provided to facilitate the movement of fish into the trap. The trap is fixed with bamboo sticks. Usually used to trap prawns. Other variants of this trap are *Gui, Tesung Purang and Haokuri.* There are many variations in the box type of traps and they are known by different local names at different regions.

Ghoni has a mouth and an additional folding door made of bamboo strips and both the sidewalls along the height are arched. The mouth end is broader which gradually tapers towards the opposite end. In case of *Koliha* the front side is arched. In case of *Gui* the body at the frontal side directly curves inside to form a non-retractable mouth. It is set along or against water current in shallow waters to catch small fishes. collect the fishes

trapped. *Koliha* used in upper Assam is similar to *Boldha.* The front and rear part of the trap are curved into two lobe like structures and the mouth opens inwards. These traps traps are operated in shallow region of rivers, *Beels* and paddy fields. Crushed snails are used as baits. *Heteropnuestes fossilis, Clarias batrachus, Channa striatus, Channa punctatus, Mastacembalus armatus*, prawns and other small fishes are the common catch.

The traps are operated in slow flowing rivers, *Beels*, and paddy fields. These are generally set against the current and are provided with earthworm as baits. *Bana* is placed in between the two traps if they are placed facing each other to divide the mouth into two equal halves. The traps are kept in water overnight or the operation may continue day and night. In smaller sized traps the catches are *Mystus* spp, *Mastacembalus armatus*, prawns, *Colisa fasciatus*, *Puntius* spp, *Anabas testudineus* whereas in bigger size traps the catch comprises *Wallago attu*, *Clarias garipineus*, *Channa marulius*, *Labeo gonius*, and sometime tortoise.

6.4 Darki

These are also box shaped traps with multiple inlets. The breadth of the trap is shorter compared to the length and height. *Darki* and *Bosna* are operated in series across a flowing water body and are fixed together by a cross-cross bamboo poles. The gears are operated during monsoon season in rivers and during late monsoon in paddy fields when the flood waters starts receding. *Bana* is also provided at the two extreme ends of the series. *Bosna* is particularly used in the river Brahmaputra. The main catches are *Eutropiichthys vacha, Wallago attu, Labeo rohita,* Prawn *(Macrobrachium* spp*), Cirrhinus mrigala* etc. The length varies from 63 to 150 cm, breadth 10 to 14 cm, and height 20 to 40 cm. An opening is provided at the top of the trap to take out the fishes. Thicker bamboo stripes are used at the top and bottom at an interval of 13 to 35 cm depending on the box size. Bamboo/cane or plastic rope is used at intervals to stitch the bamboo strips of the entire body. *Darki,* and *Bosna* are more or less similar with slight variations in the dimensions and the size and number of mouth openings in the trap. *Boldha* is another variant and slightly differs in its design. The trap has a length of 28.5 cm, breadth 9 cm and height 30 cm. The non-retractable mouth is placed throughout the height on one side.

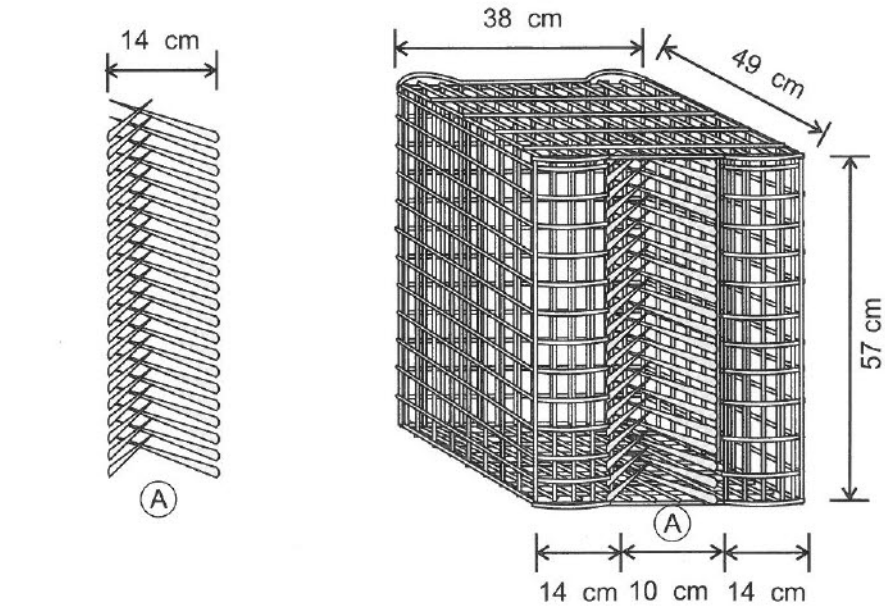
Hollow conical shaped bamboo webbings of 2 cm diameter at the top are stitched at the center, whose length is equal to the height of the trap. Earthworm tied to a thin bamboo stick is inserted into the webbing as bait. The trap is operated in monsoon season. The main catches are *Clarias batrachus* and *Amphiopnous cuchia*. Other variants of this trap are *Bosna, Diar, Sepa* and *Dingori.*

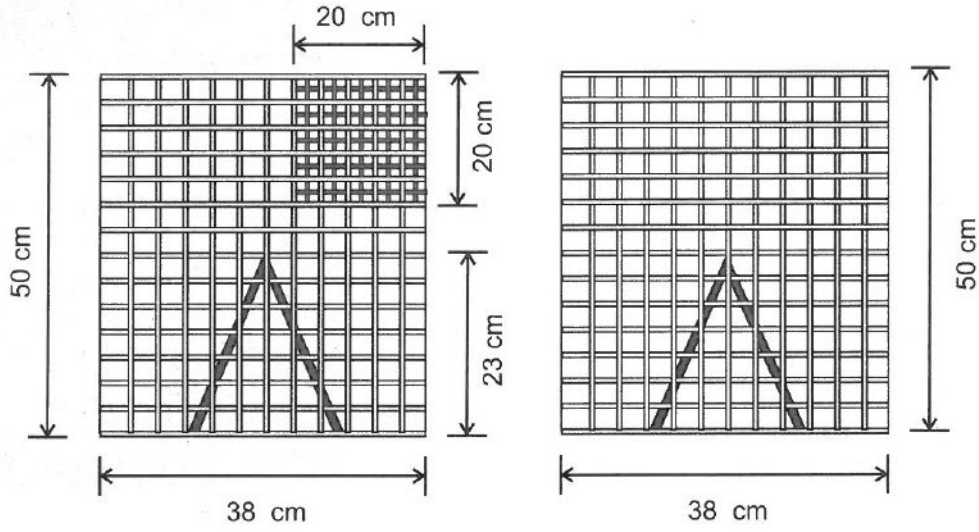
6.5 Borma / Mancheppa

This is a drop door trap and is roughly conical in shape made of bamboo. The trap is fixed with mechanically triggered door as closing mechanism. The trap is about 1.4 meter long and the width of the entrance is about 70 cm. the upper edge of the trap has a brick weighing about 3 to 4 kg. In the centre of the trap three to five PA 0.16 mm diameter monofilament strings are attached which are connected to a release mechanism that trigger the door to fall down when disturbed and fish which enters is trapped.

TRAP
Box
Koliha
Labeo spp, *Puntius* spp, *Channa* spp

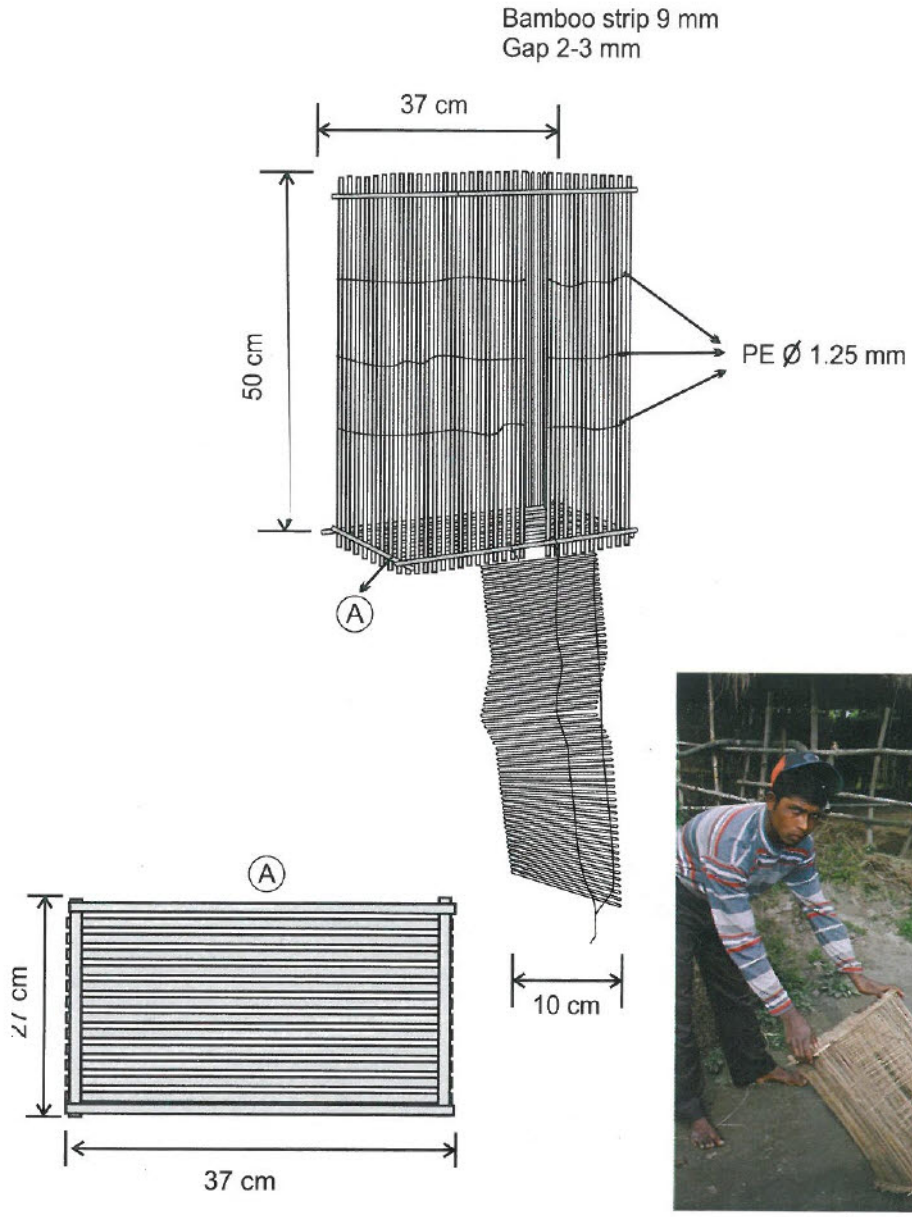
LOCATION
Dhemaji - Channel and beel
Monsoon and post monsoon





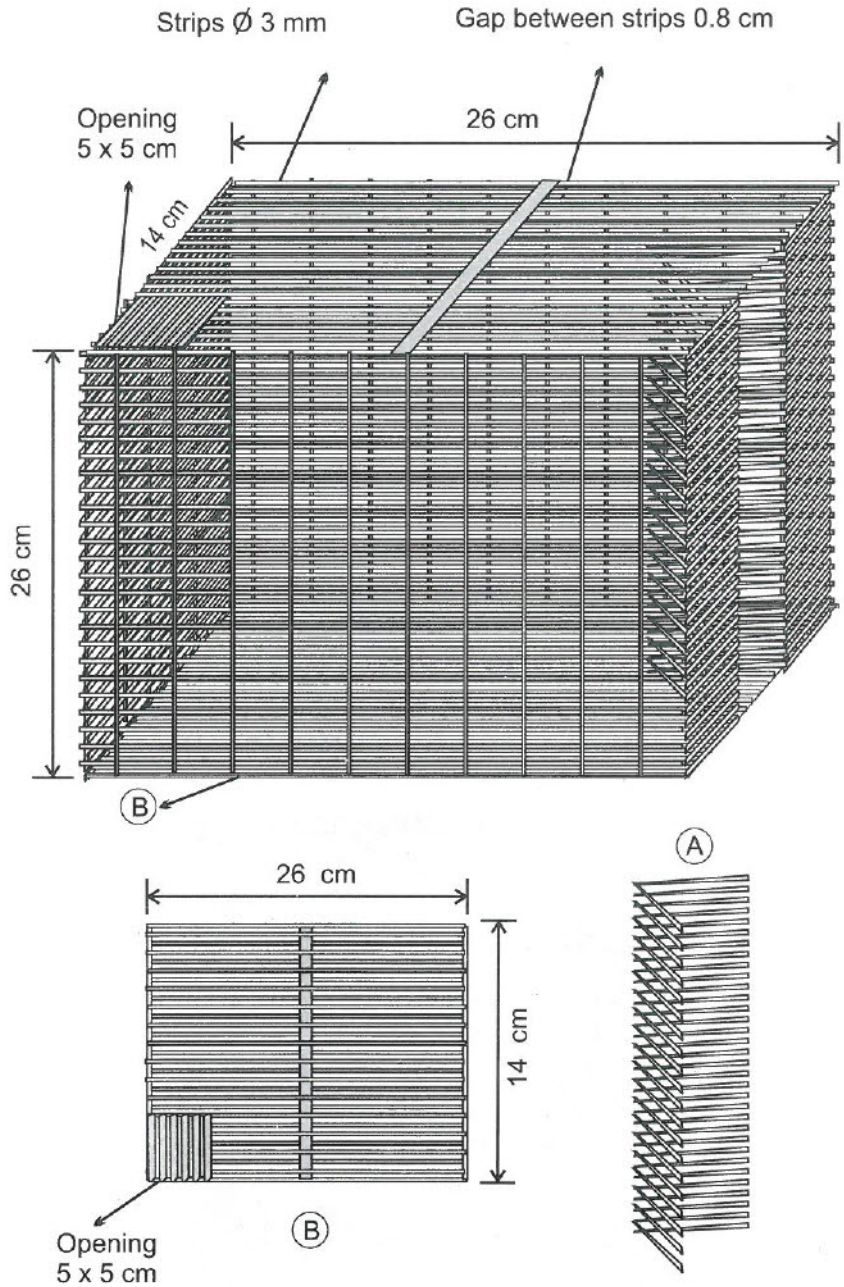
TRAP
Box
Ghani
Mystus spp

LOCATION
Majuli - River and beel
Monsoon



TRAP
Box
Ghani
Small miscellaneous fish

LOCATION
Nagaon - Rivers and beels
Monsoon and post monsoon



TRAP

Box

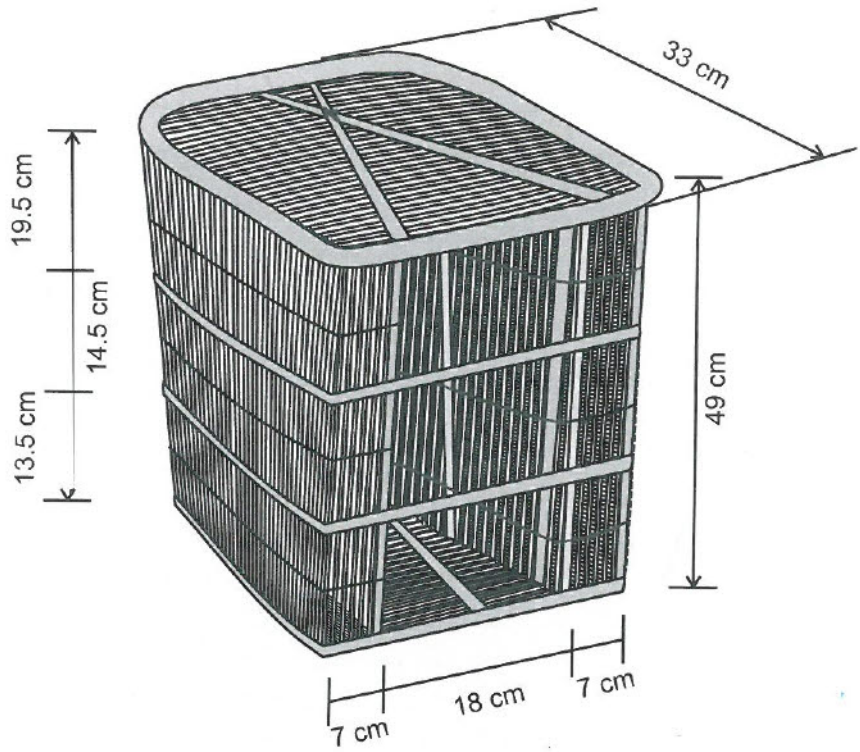
Dori

Miscellaneous fish

LOCATION

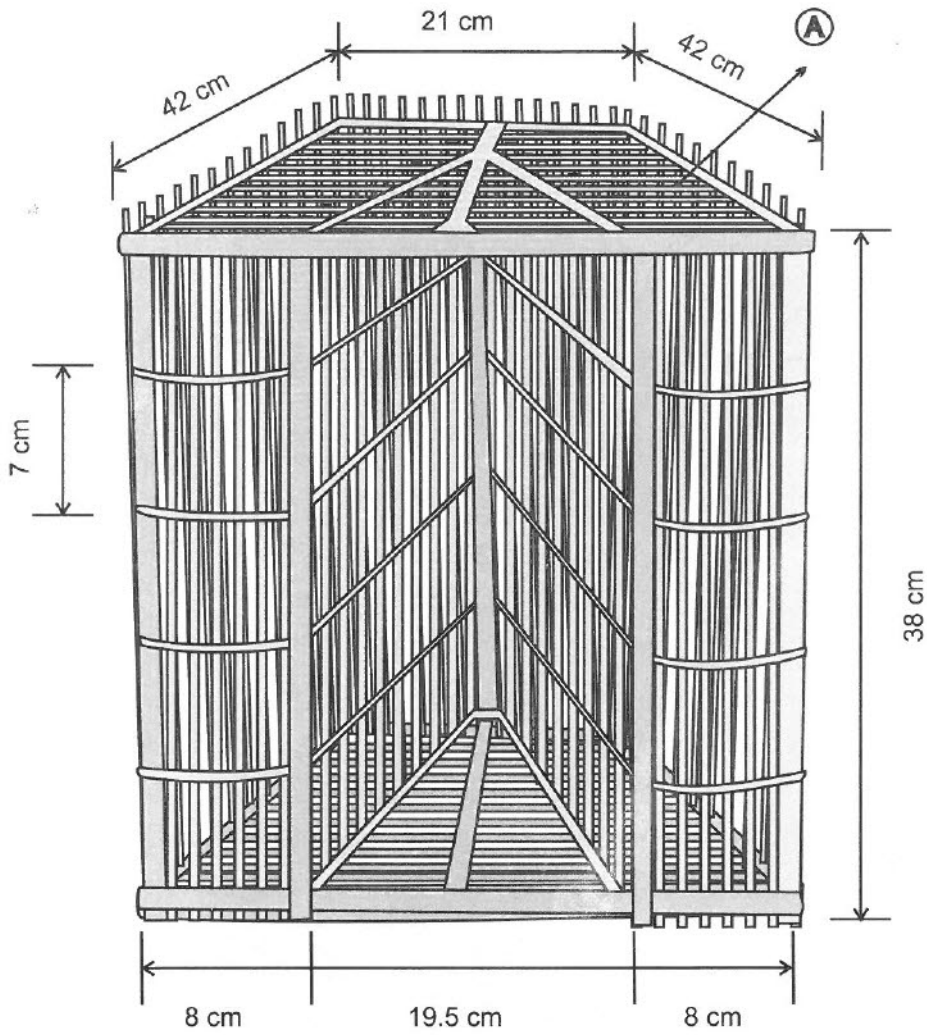
Kasadhora, Morigaon - Rivers and fields

Monsoon and post monsoon



TRAP
Box
Sepeti
Miscellaneous fish

LOCATION
Koilaghat, Dergaon, Golaghat - Rivers and beels
Monsoon and post monsoon



TRAP

Box

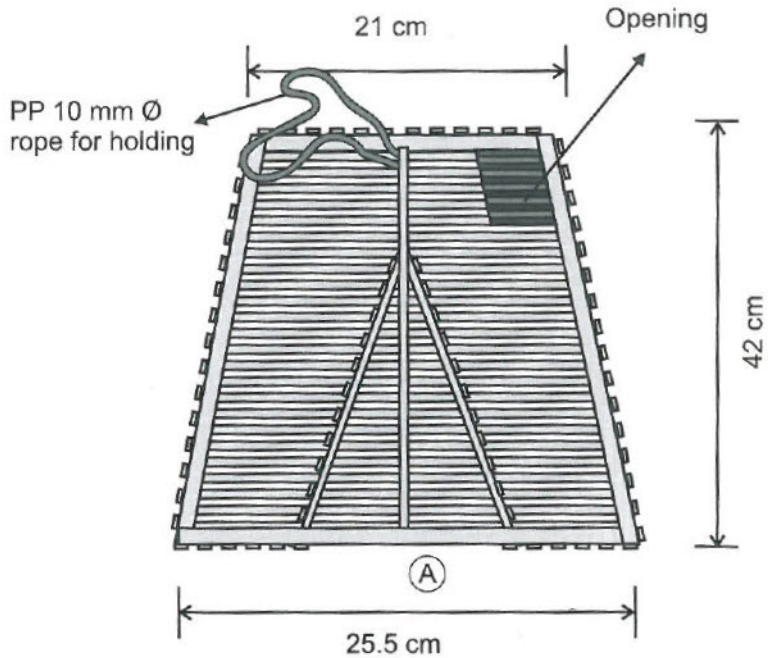
Sepeti

Miscellaneous fish

LOCATION

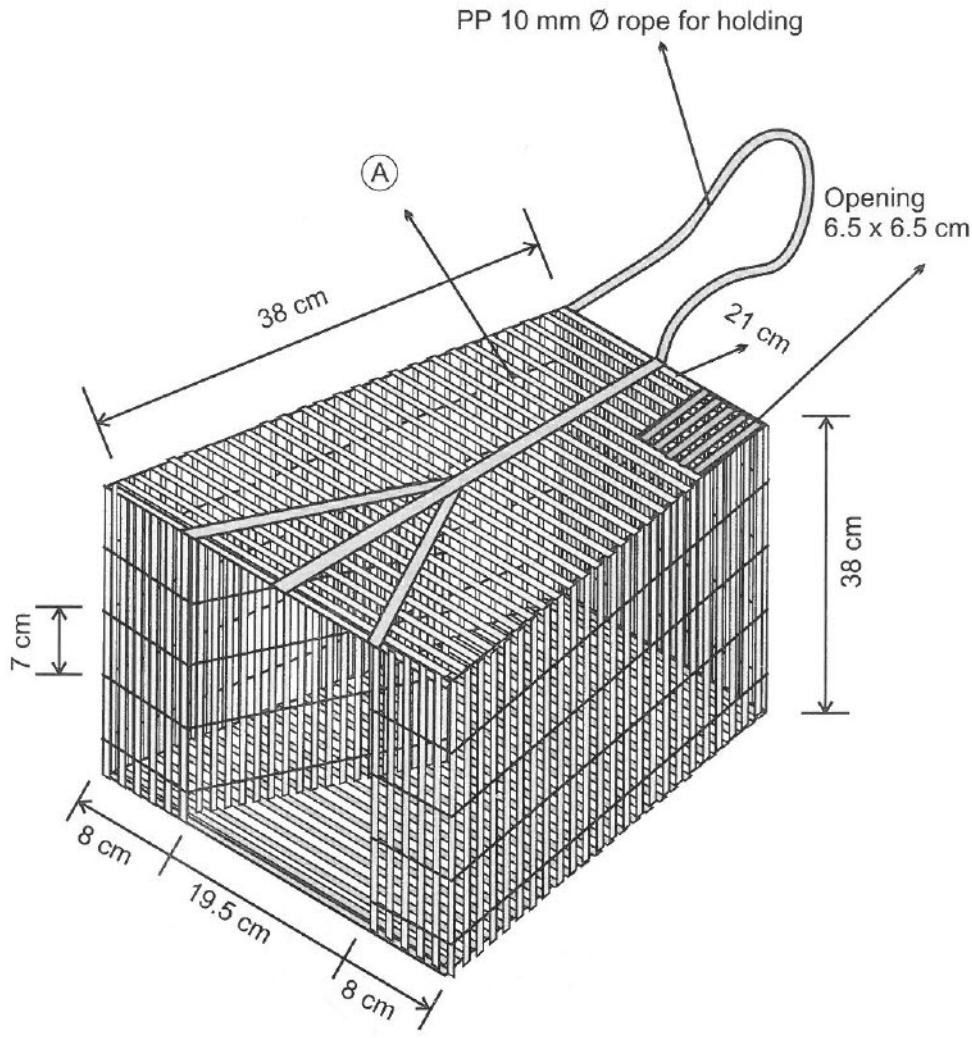
Koilaghat, Dergaon, Golaghat - Rivers and beels

Monsoon and post monsoon



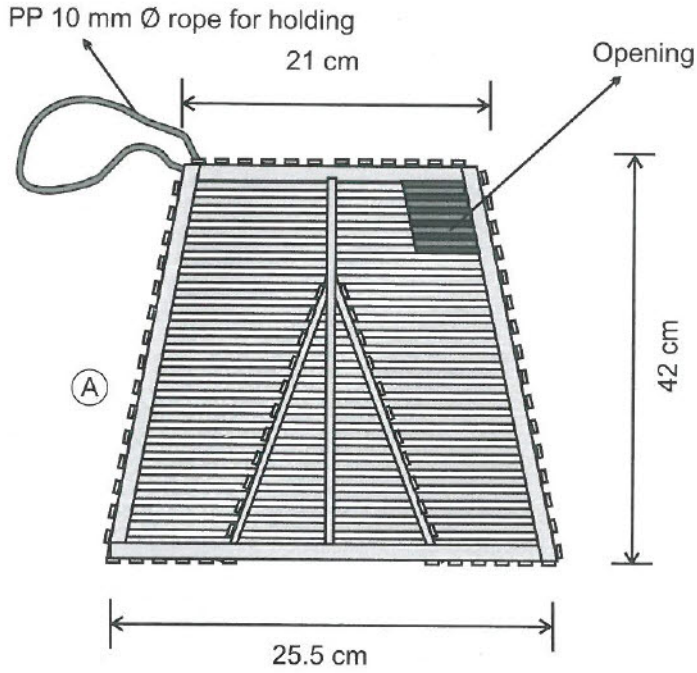
TRAP
Box
Sepeti
Miscellaneous fish

LOCATION
Morigaon - Diapor beel
Monsoon and post monsoon



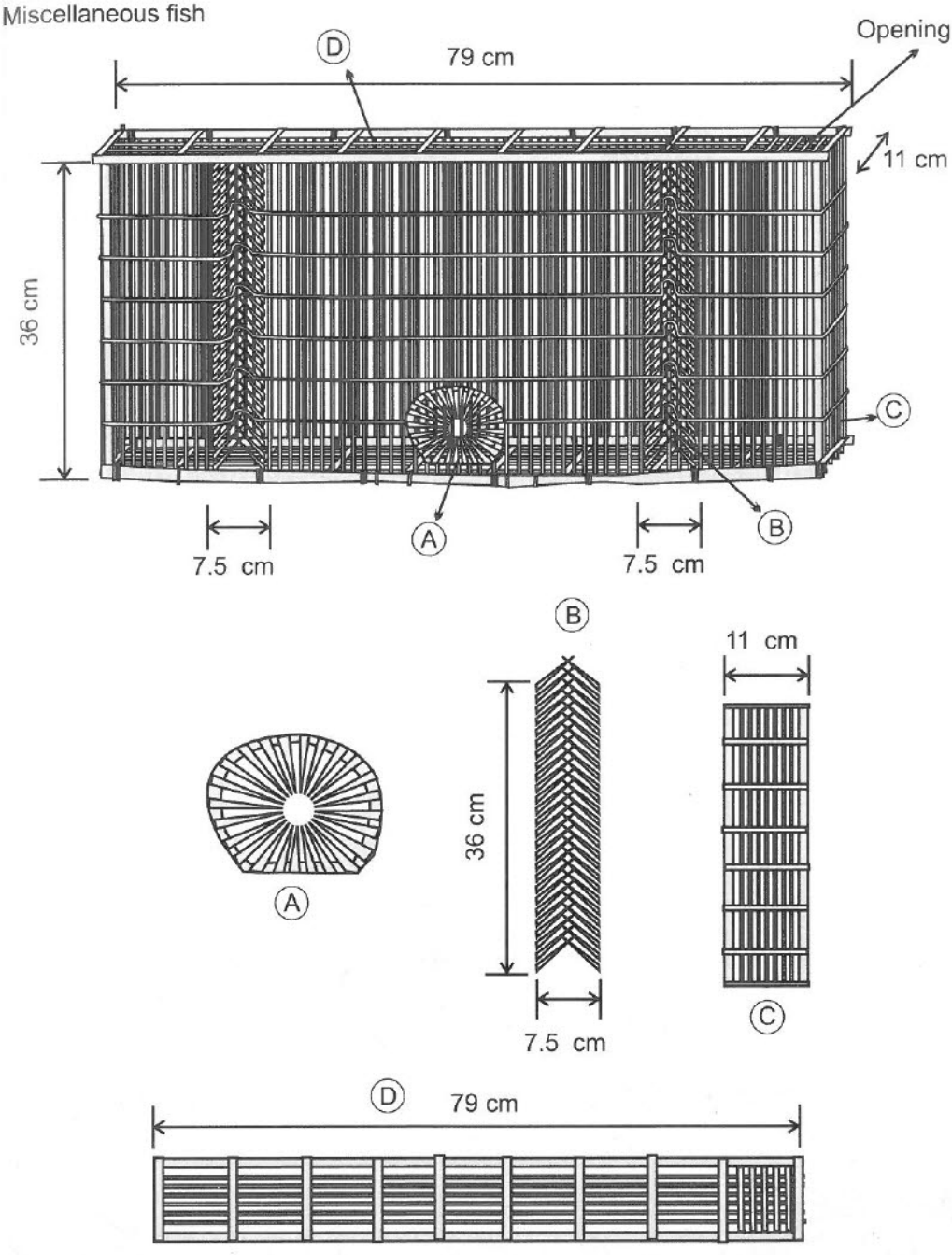
TRAP
Box
Sepeti
Miscellaneous fish

LOCATION
Morigaon - Diapor beel
Monsoon and post monsoon



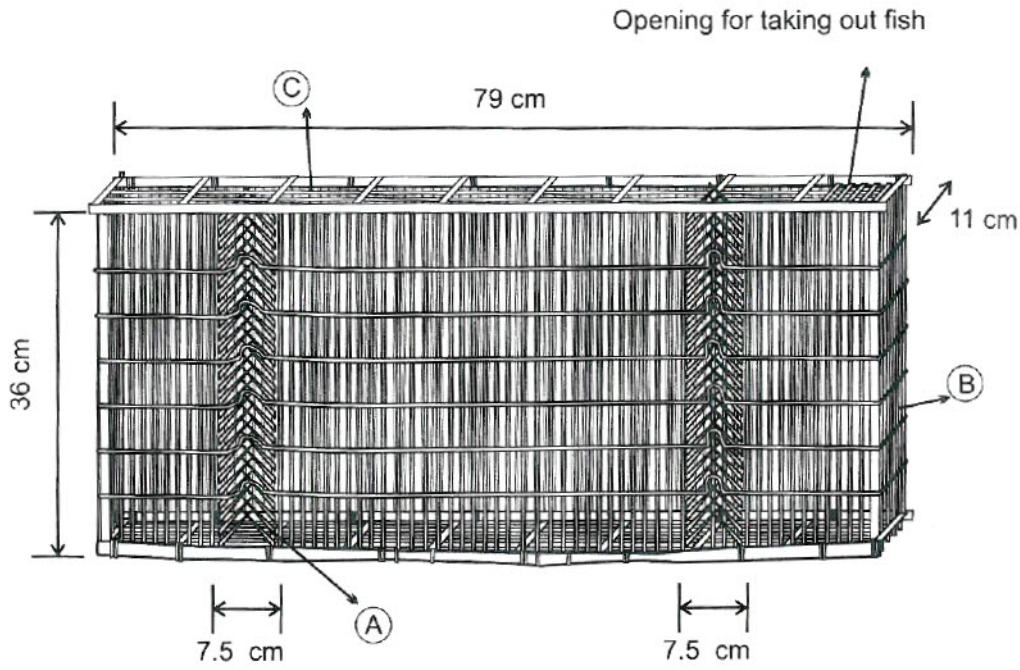
TRAP
Box
Darki
Miscellaneous fish

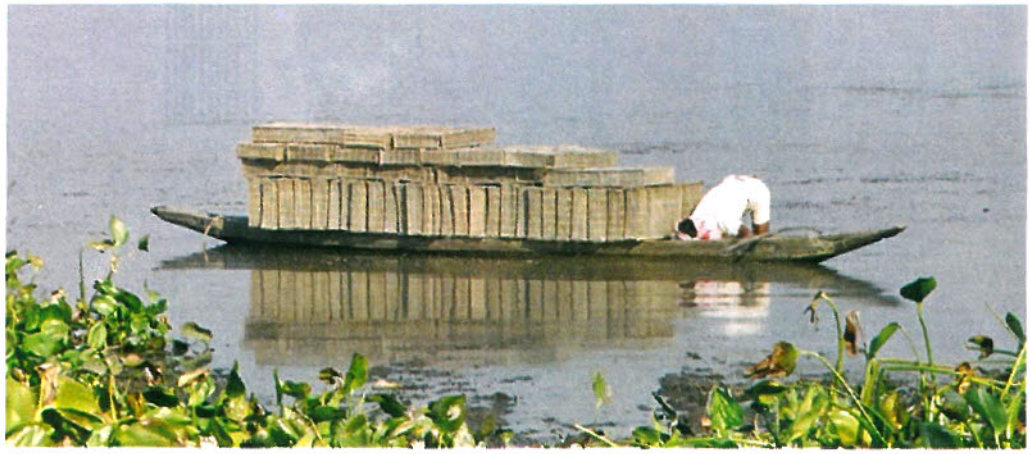
LOCATION
Morigaon - Ghorajan beel
Pre monsoon



TRAP
Box
Darki
Prawn, Eel, *Anabas* spp, Loach, *Puntuis* spp

LOCATION
Kamrup - Rivers and beels
Pre monsoon





TRAP

Box

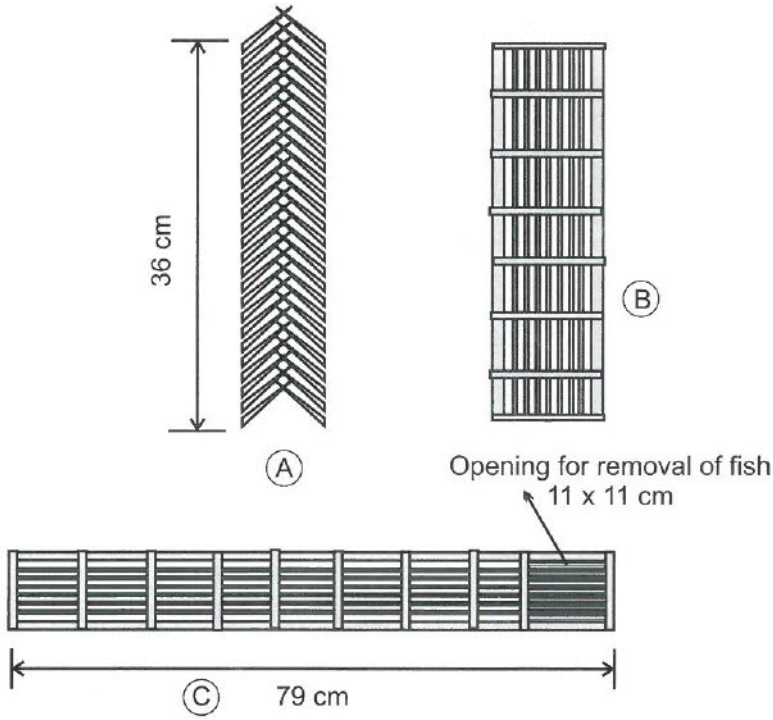
Darki

Prawn, Eel, *Anabas* spp, Loach, *Puntuis* spp

LOCATION

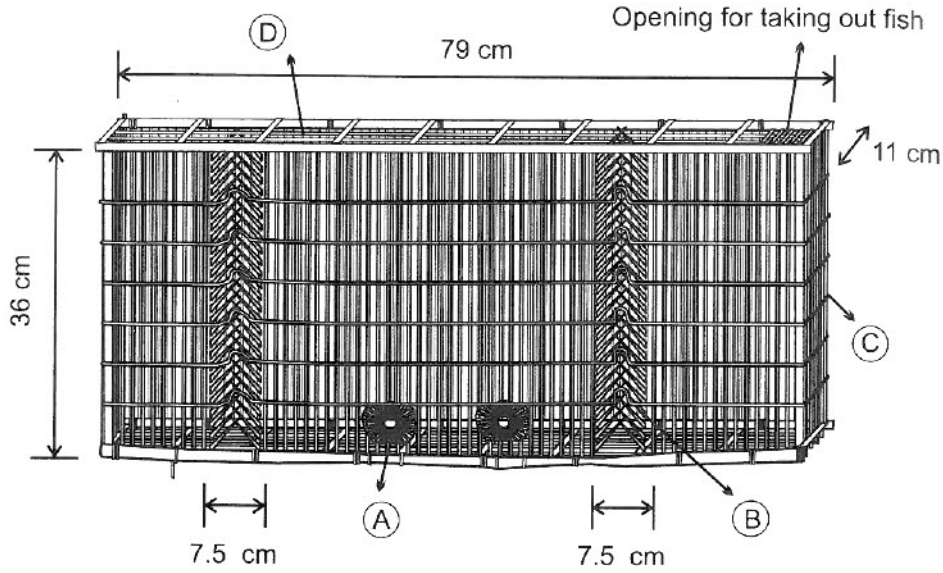
Kamrup - Rivers and beels

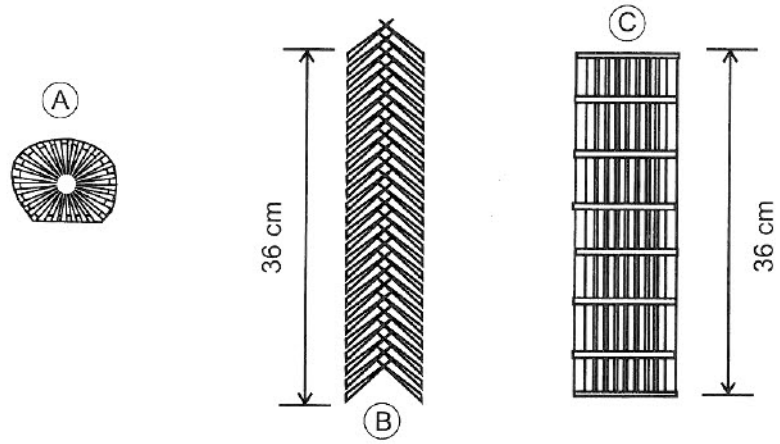
Pre monsoon

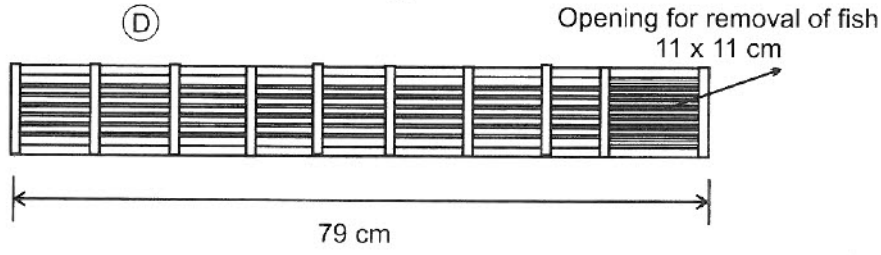


TRAP
Box
Darki
Miscellaneous fish

LOCATION
Morigaon - Ghorajan beel
Pre monsoon

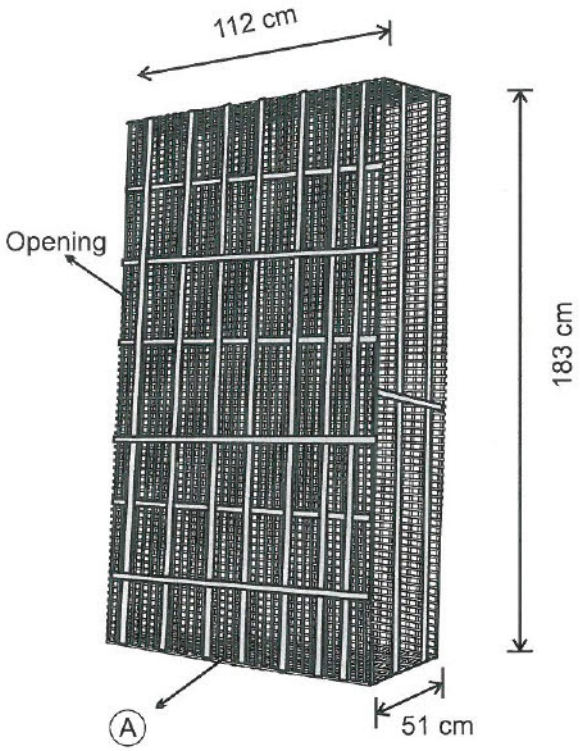


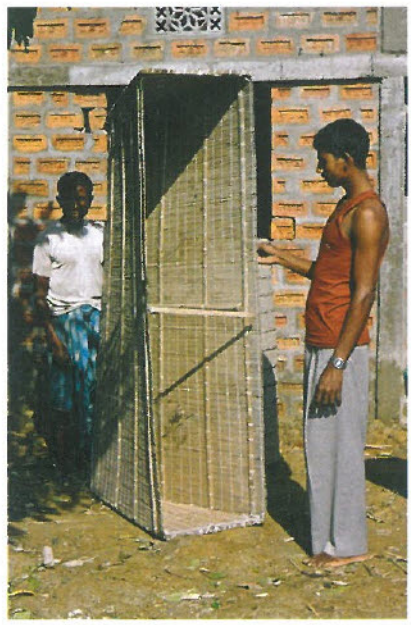


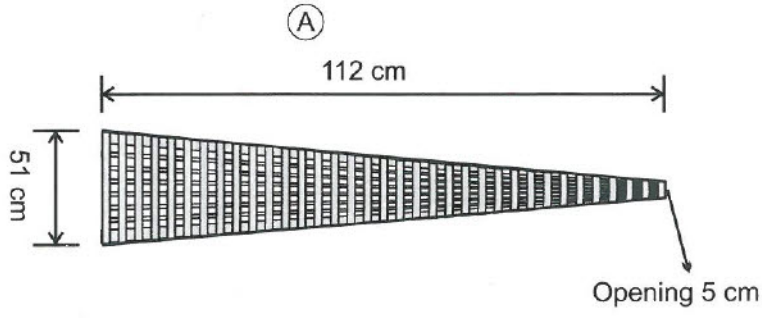


TRAP
Box
Par
Miscellaneous fish

LOCATION
Karkari, Cachar - Beels and ponds
Monsoon and post monsoon

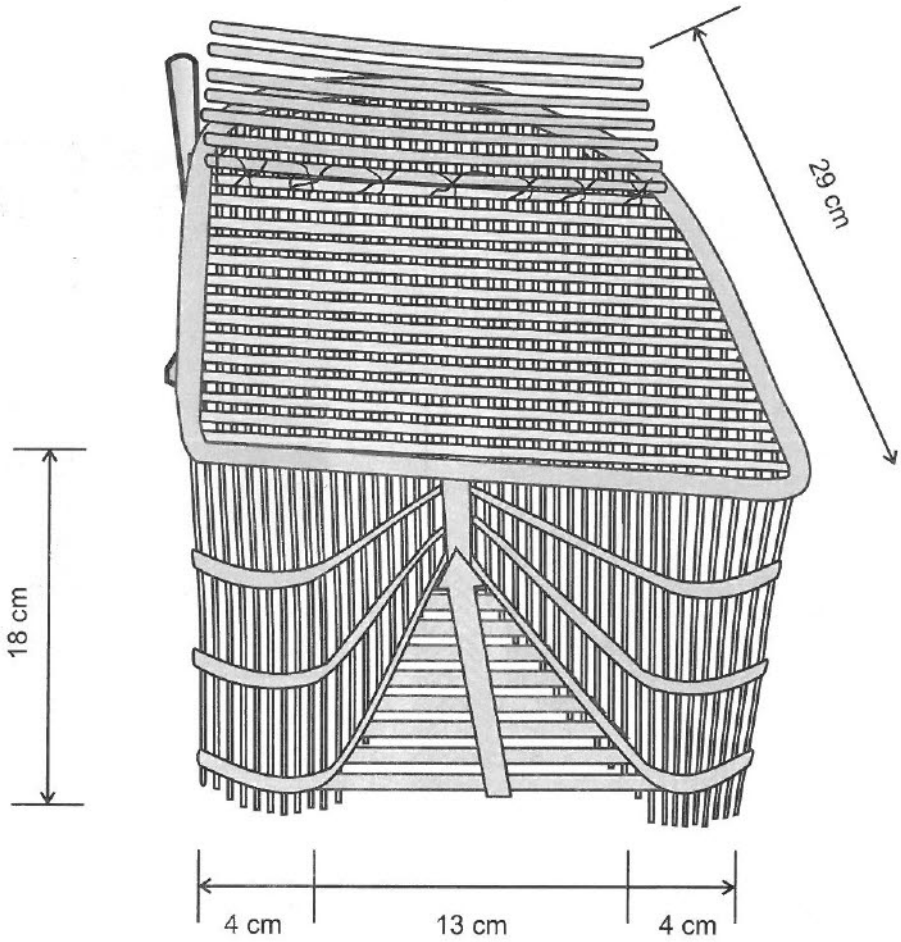






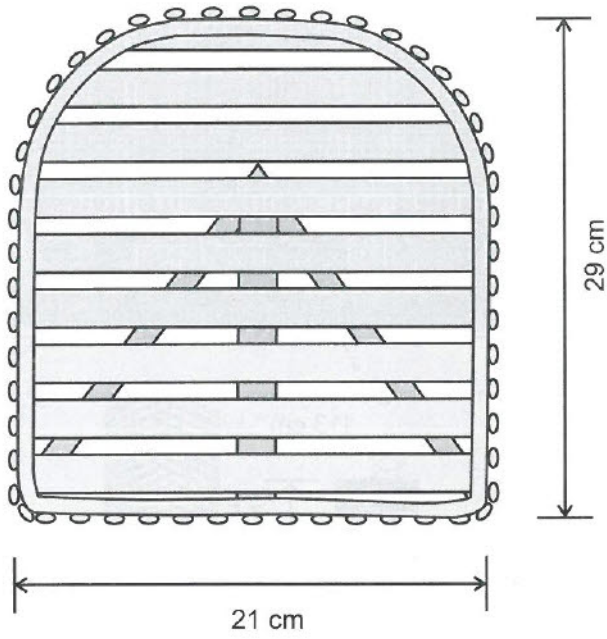
TRAP
Box
Nogonda faron
Prawn, miscellaneous fish

LOCATION
Noiatala, Karimganj - Rivers and beels
Pre and post monsoon



TRAP
Box
Nogonda faron
Prawn, miscellaneous fish

LOCATION
Noiatala, Karimganj - Rivers and beels
Pre and post monsoon



TRAP

Box

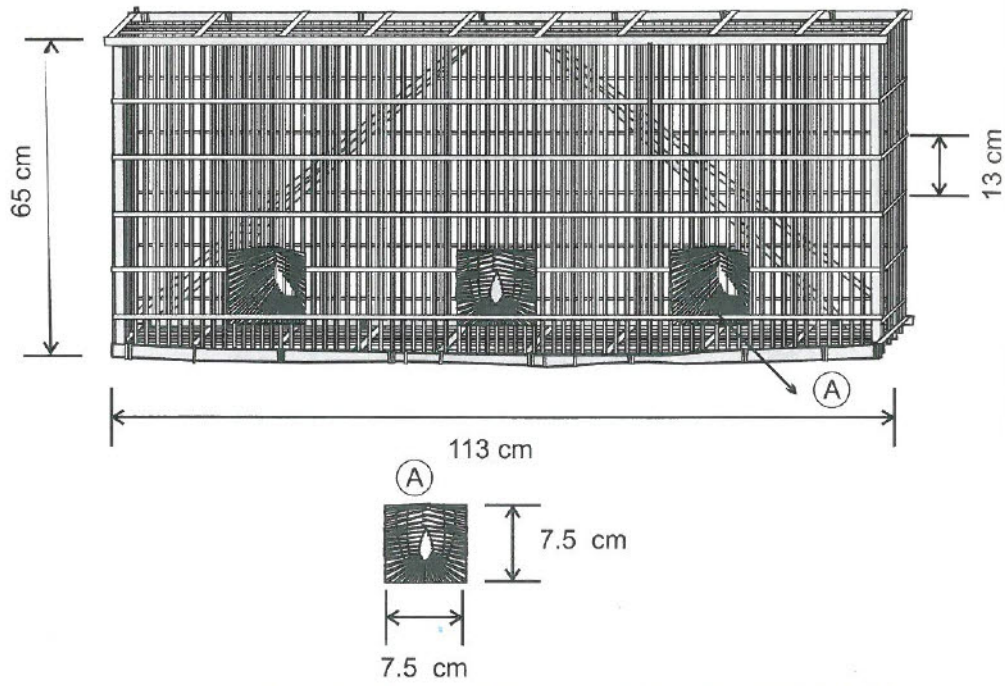
Bosna

Prawn, Eel, *Channa* spp,
Puntius spp *Mystus* spp

LOCATION

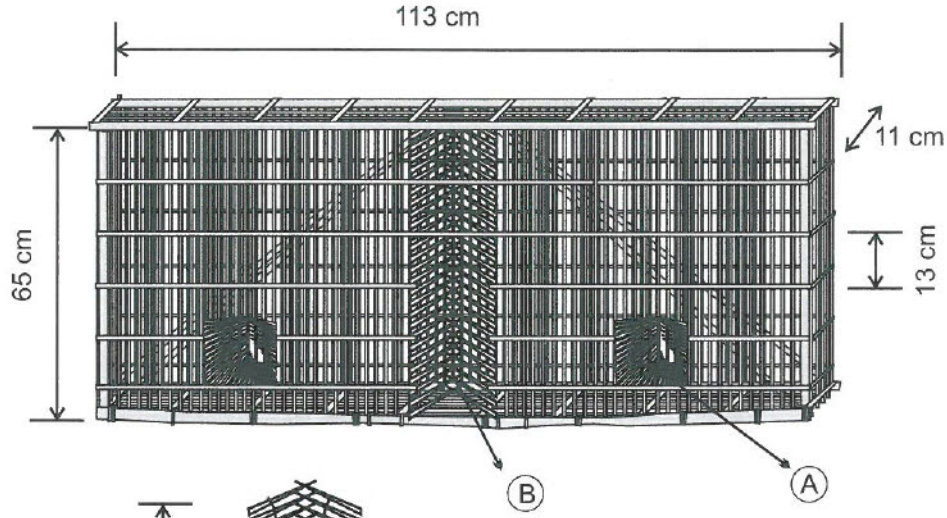
Dhubri - River and beels

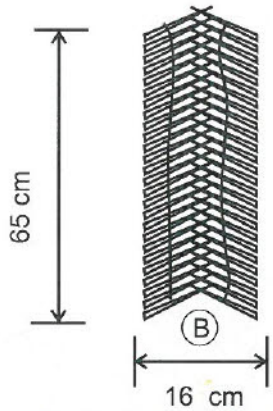
Pre monsoon

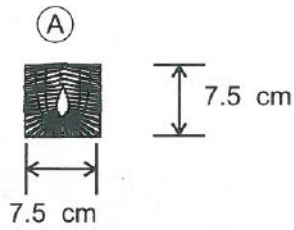


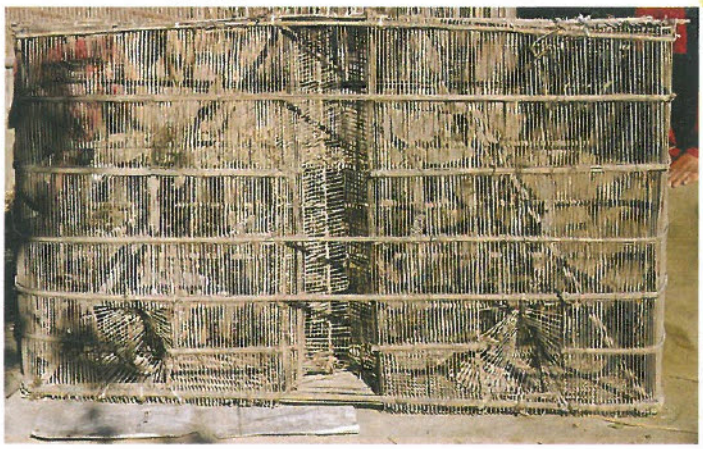
TRAP
Box
Bosna
Miscellaneous fish

LOCATION
Dhubri - River and beels
Pre monsoon



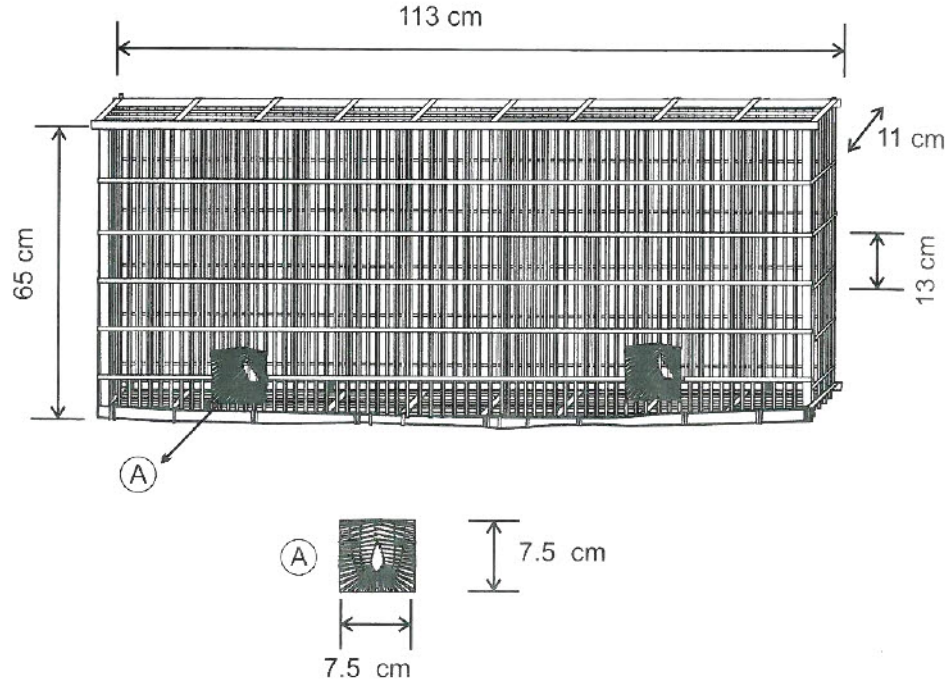






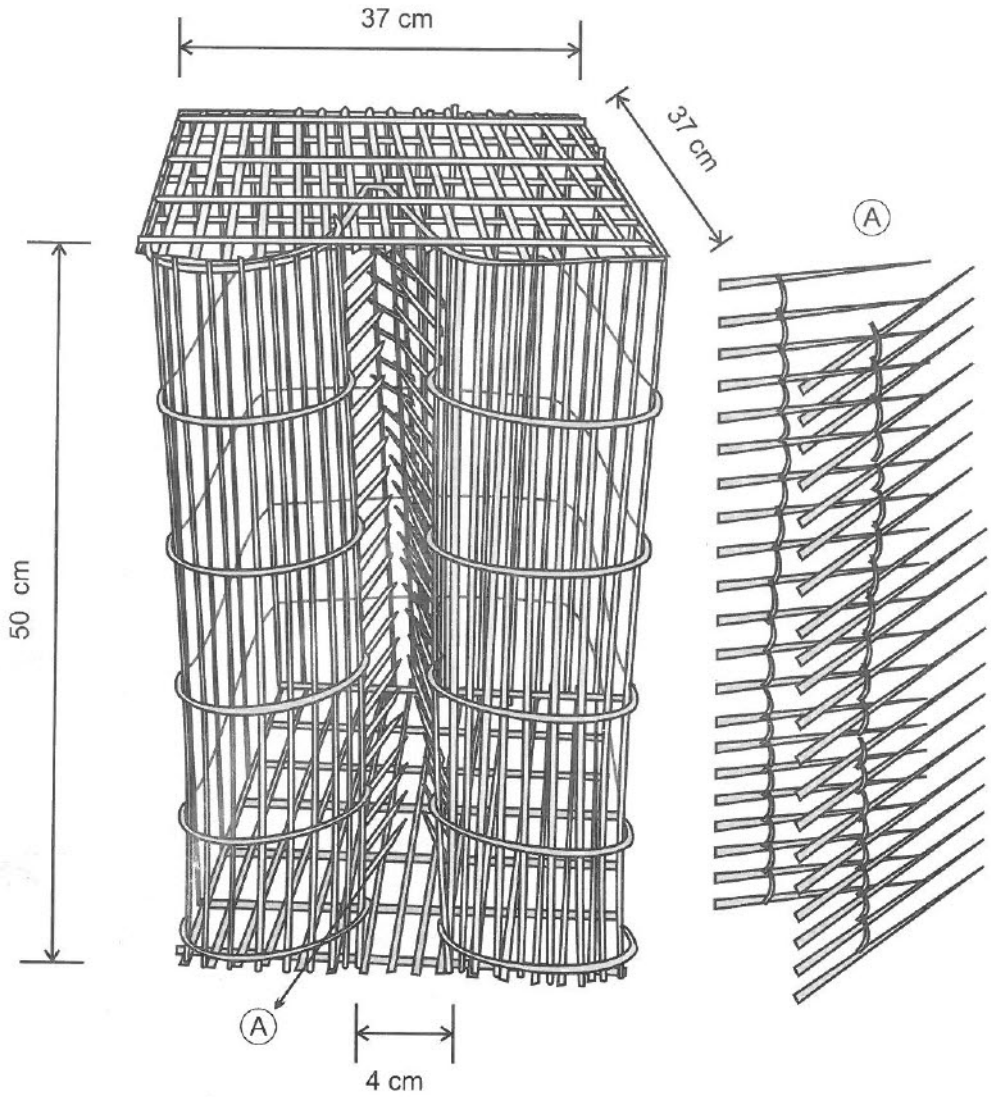
TRAP
Box
Bosna
Miscellaneous fish

LOCATION
Dhubri - River and beels
Pre monsoon



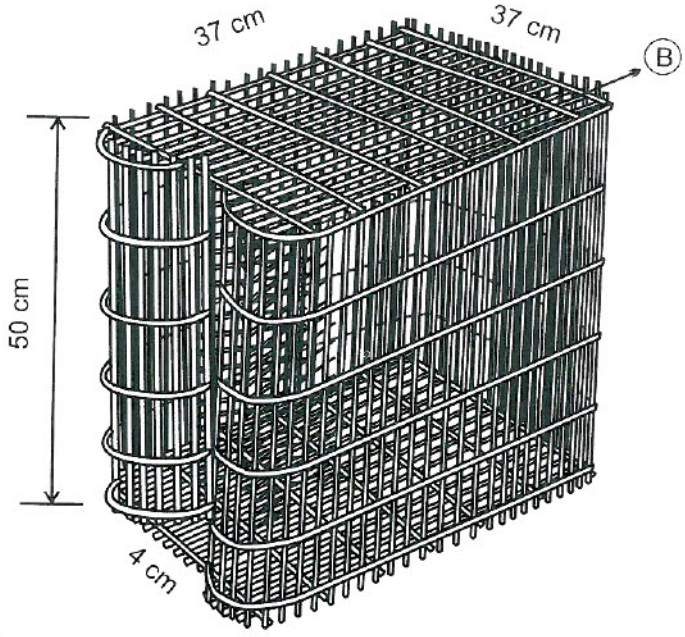
TRAP
Box
Ghoni
Mystus spp, *Puntius* spp

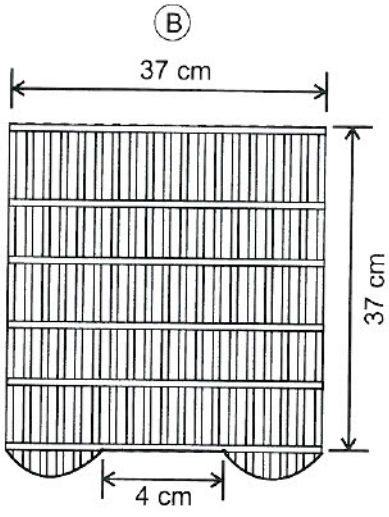
LOCATION
Jaluaghat, Sonitpur- Rivers and beels
Pre and post monsoon

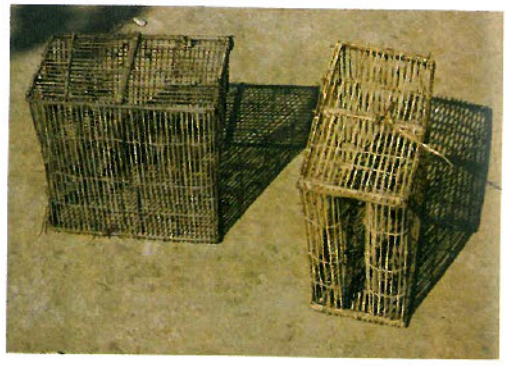


TRAP
Box
Ghoni
Mystus spp, *Puntius* spp

LOCATION
Jaluaghat, Sonitpur- Rivers and beels
Pre and post monsoon

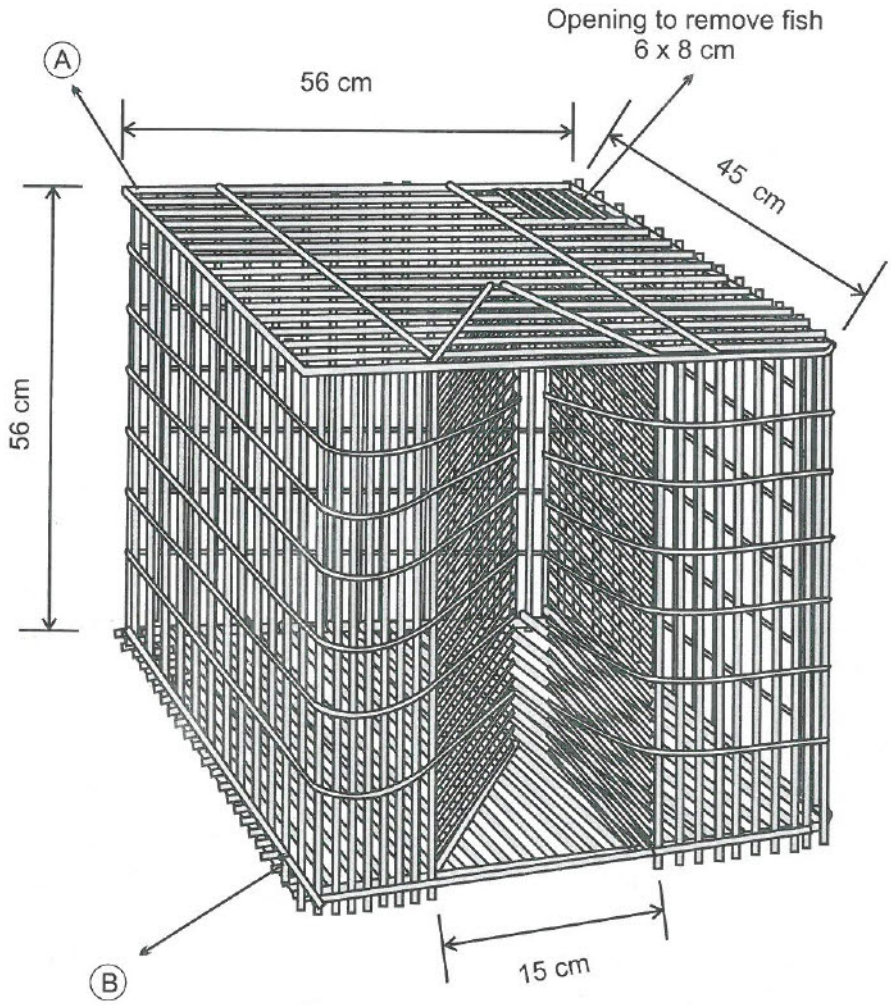






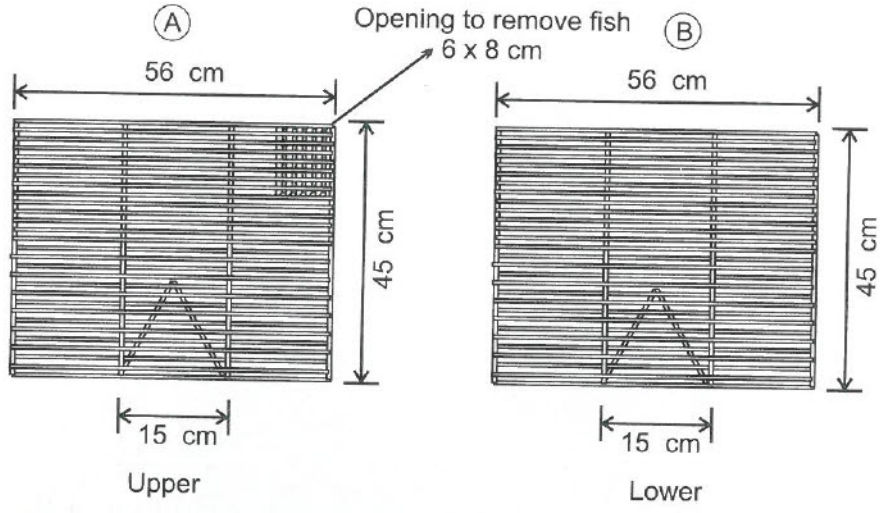
TRAP
Box
Ghoni
Miscellaneous fish

LOCATION
Morigaon - River and beels
Pre and post monsoon



TRAP
Box
Ghoni
Miscellaneous fish

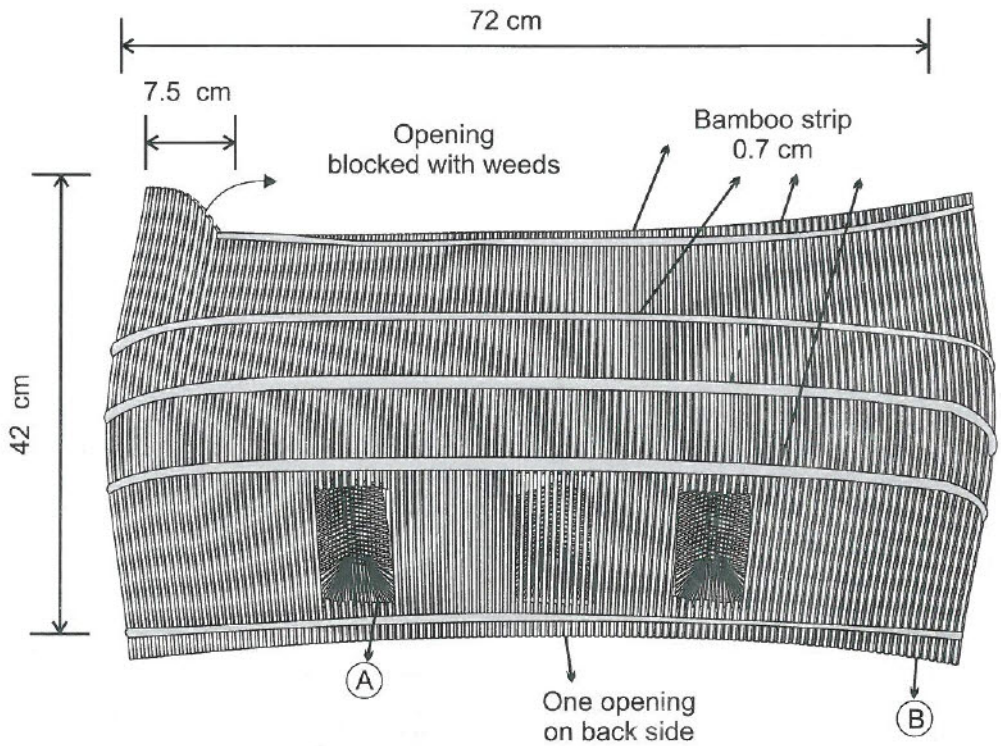
LOCATION
Morigaon - River and beels
Pre and post monsoon



Operation of *Ghoni* in beels

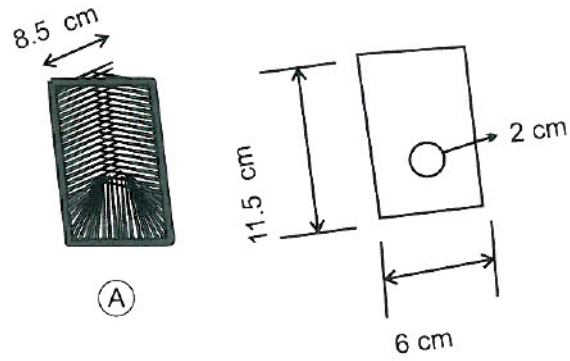
TRAP
Box
Darki
Mystus, spp, Eel

LOCATION
Somkuchi, Barpeta - Rivers and beels
Onset of monsoon



TRAP
Box
Darki
Mystus, spp, Eel

LOCATION
Somkuchi, Barpeta - Rivers and beels
Onset of monsoon

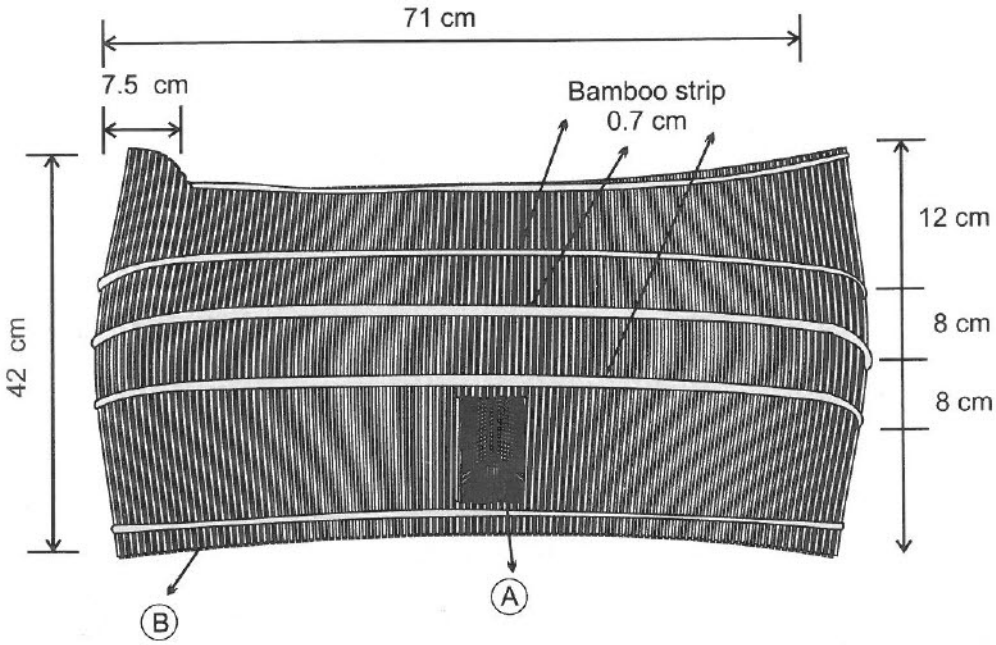


A

B

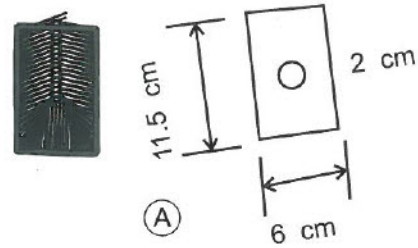
TRAP
Box
Darki
Prawn, *Mystus*, spp, Eel

LOCATION
Somkuchi, Barpeta - Ponds
Pre monsoon



TRAP
Box
Darki
Prawn, *Mystus*, spp, Eel

LOCATION
Somkuchi, Barpeta - Ponds
Pre monsoon

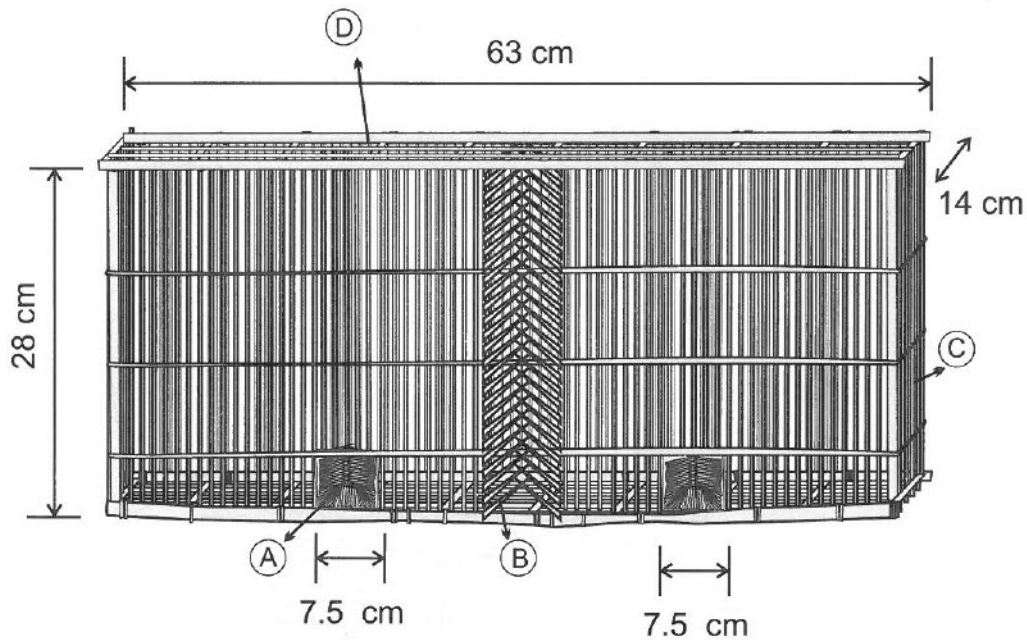


Bottom

Operation of *Darki* in ponds

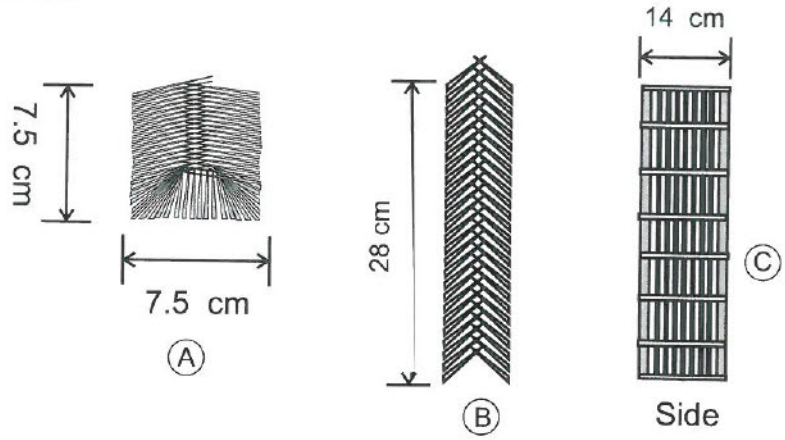
TRAP
Box
Darki
Miscellaneous fish

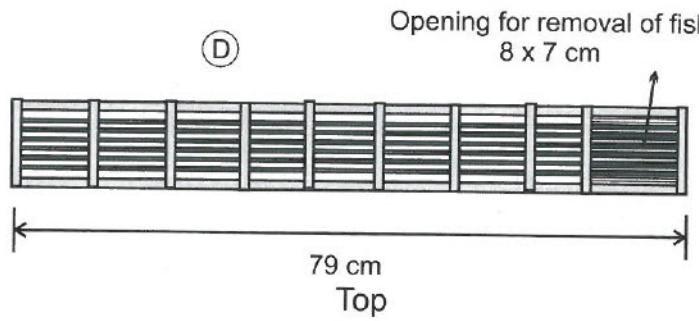
LOCATION
Somkuchi, Barpeta - Beels
Pre monsoon

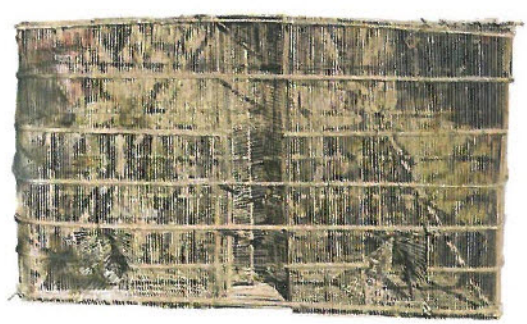


TRAP
Box
Darki
Miscellaneous fish

LOCATION
Somkuchi, Barpeta - Beels
Pre monsoon

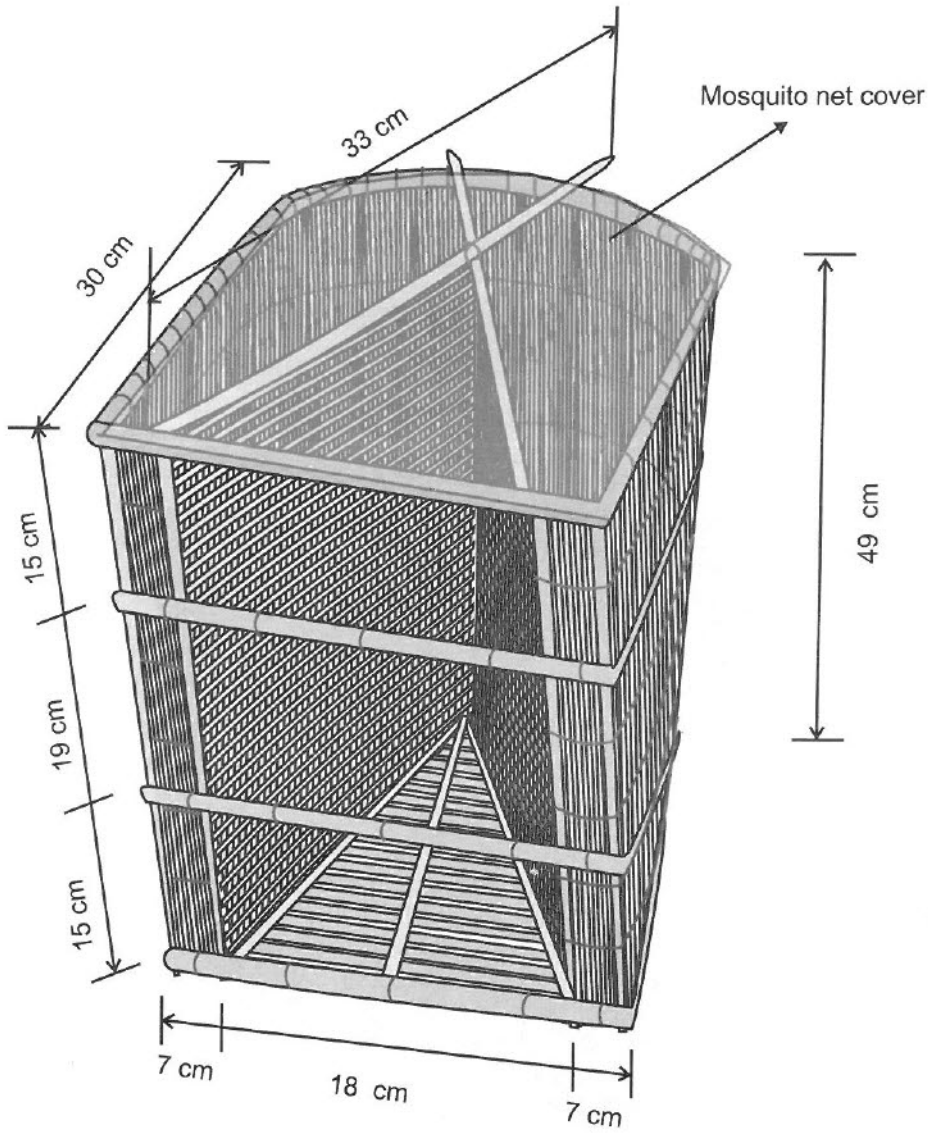






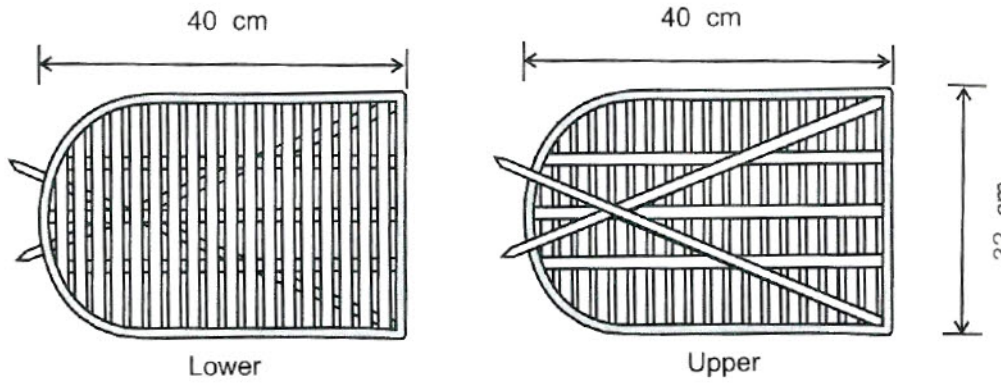
TRAP
Box
Dori
Prawn, *Puntius* spp

LOCATION
Bihara, Cachar - Rivers and beels
Pre and post monsoon



TRAP
Box
Dori
Prawn, *Puntius* spp

LOCATION
Bihara, Cachar - Rivers and beels
Pre and post monsoon



TRAP

Box

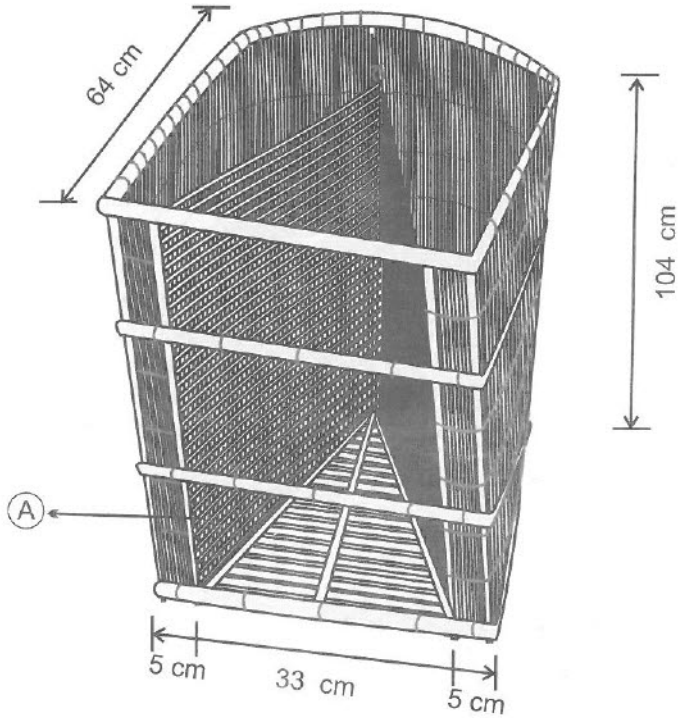
Dori

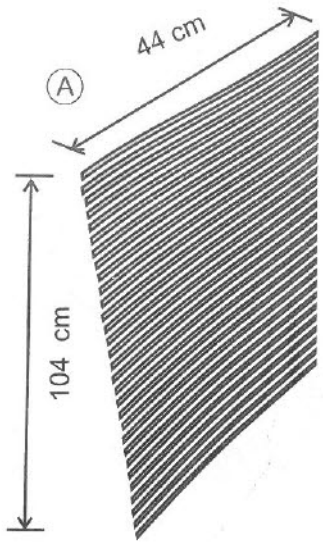
Prawn, *Puntius* spp

LOCATION

Bihara, Cachar - Rivers and beels

Pre and post monsoon





TRAP

Box

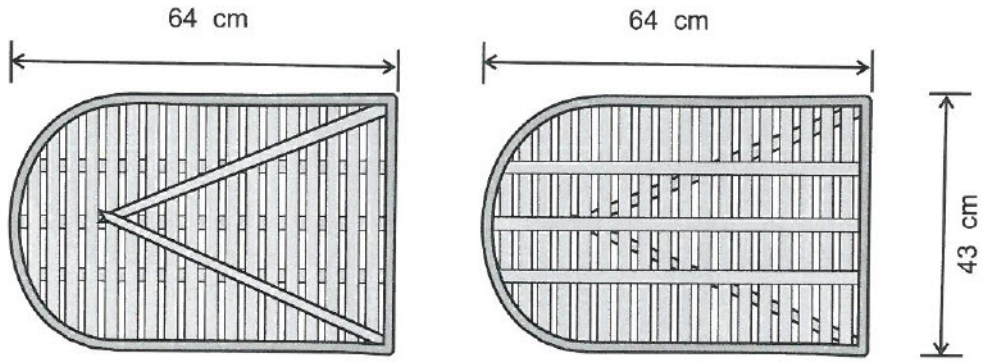
Dori

Prawn, *Puntius* spp

LOCATION

Bihara, Cachar - Rivers and beels

Pre and post monsoon



Upper Lower

Operation of *Dori*

TRAP

Box

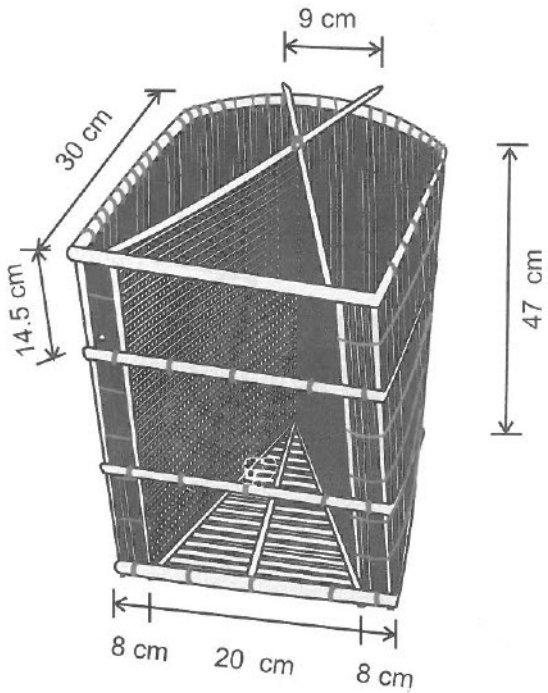
Dori

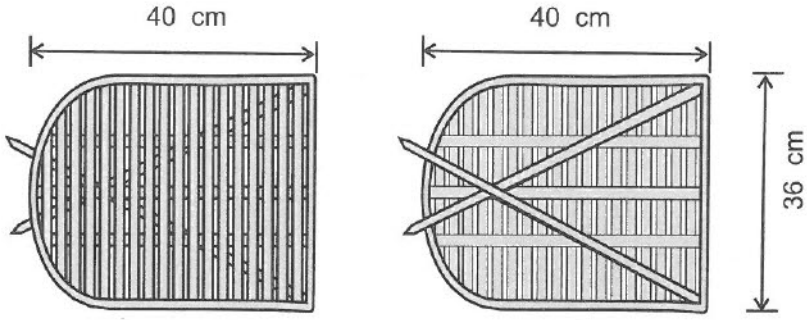
Prawn, *Puntius* spp

LOCATION

Morigaon - River and beels

Pre and post monsoon





Lower Upper

TRAP

Box

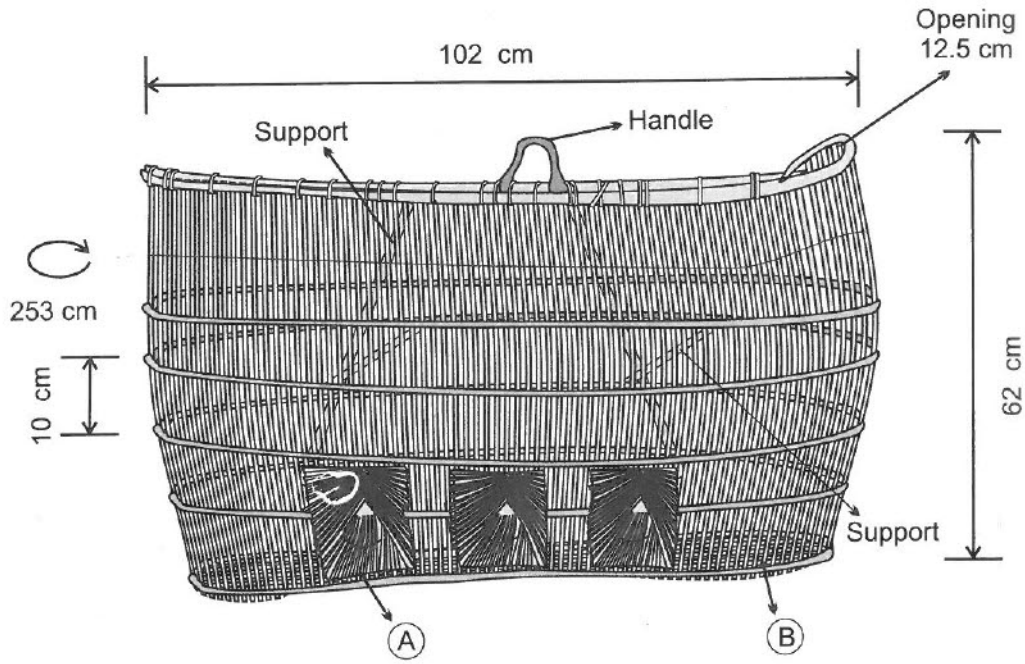
Diar

Prawn , Eel, *Mystus,* spp

LOCATION

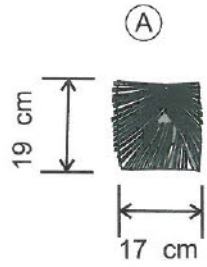
New Ghat, Dhubri - Rivers and beels

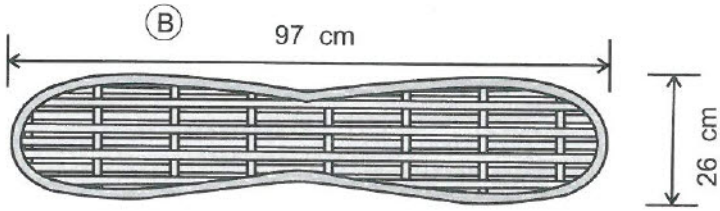
Pre monsoon



TRAP
Box
Diar
Prawn , Eel, *Mystus,* spp

LOCATION
New Ghat, Dhubri - Rivers and beels
Pre monsoon

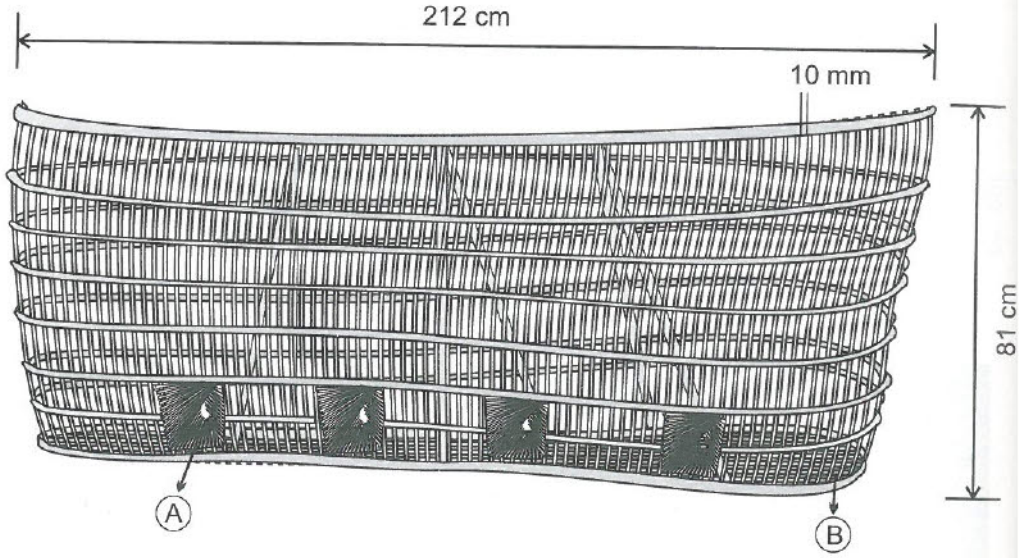




Bottom

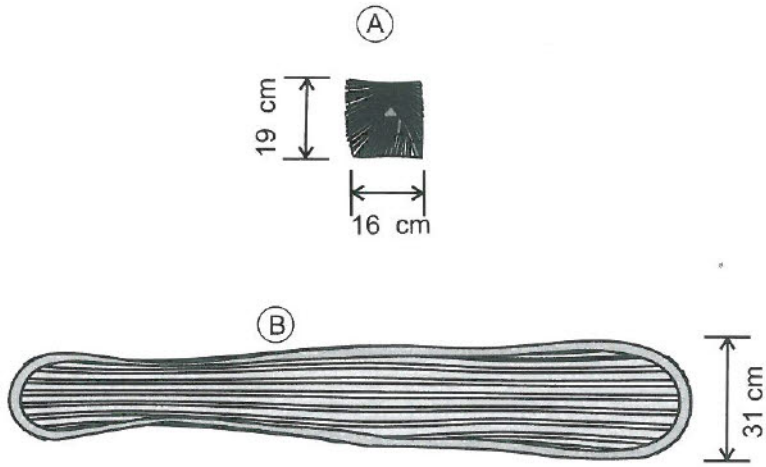
TRAP
Box
Bosna
Miscellaneous fish

LOCATION
New Ghat, Dhubri - River
Pre monsoon

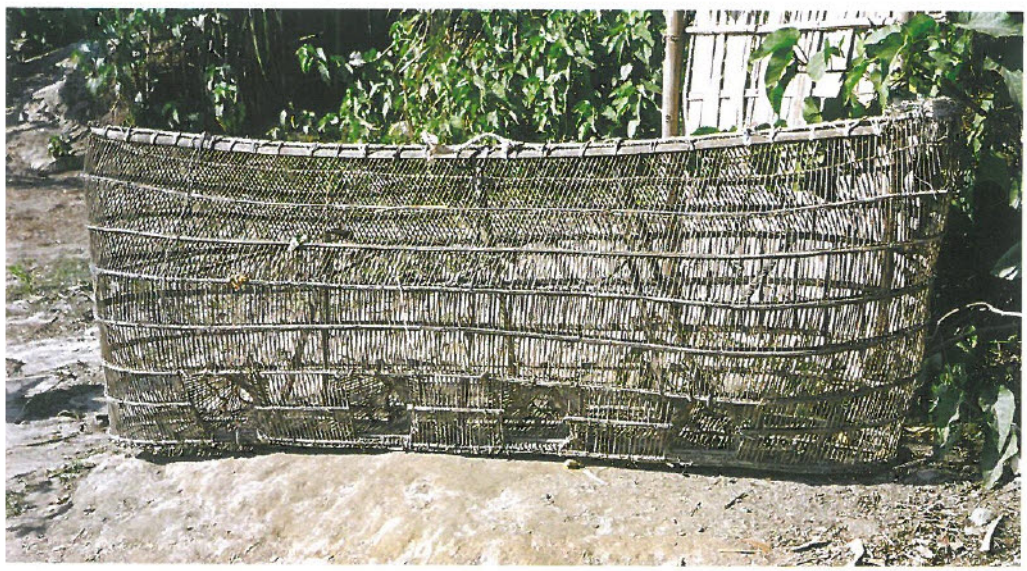


TRAP
Box
Bosna
Miscellaneous fish

LOCATION
New Ghat, Dhubri - River
Pre monsoon



Bottom



TRAP

Box

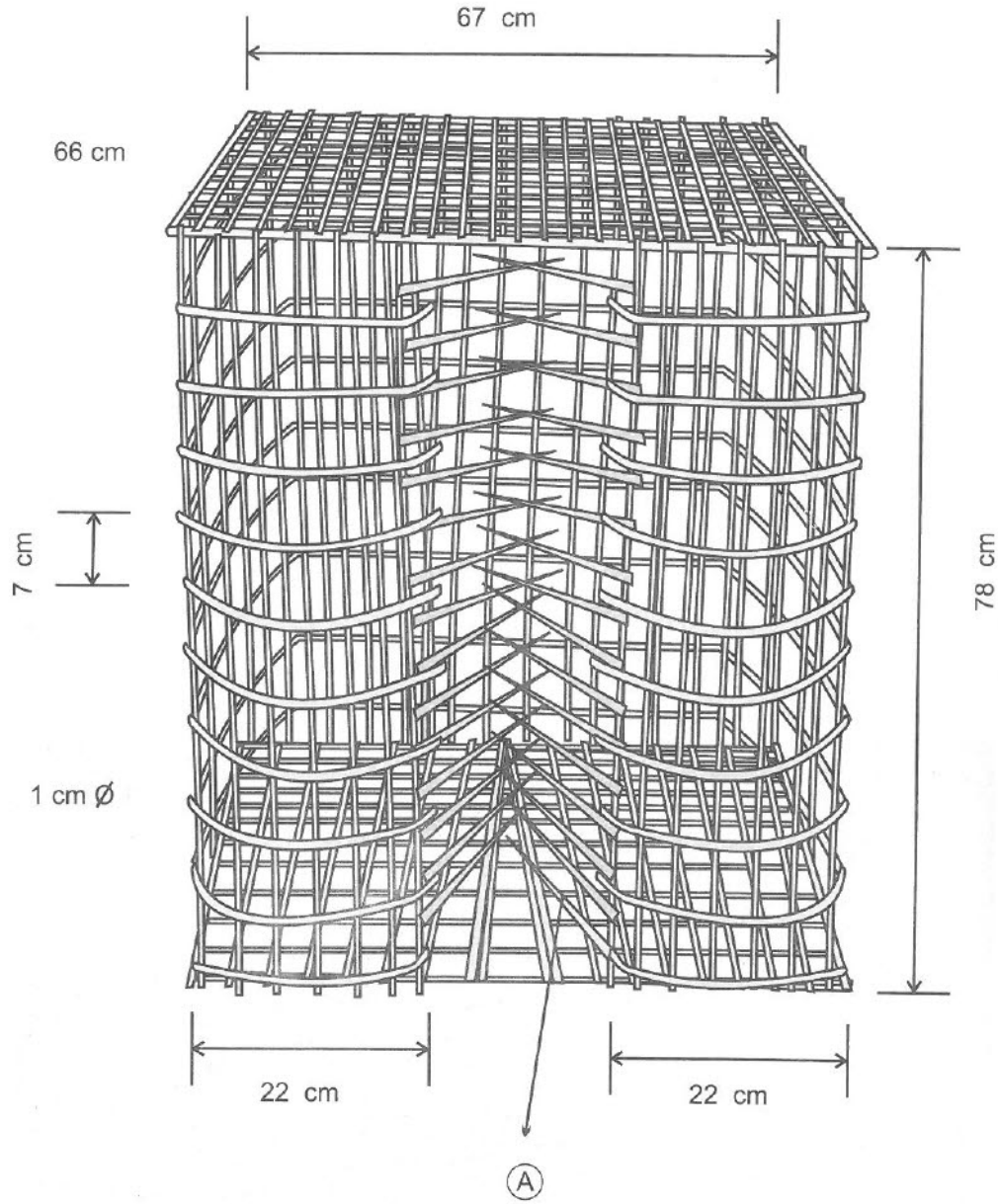
Gui

Miscellaneous fish

LOCATION

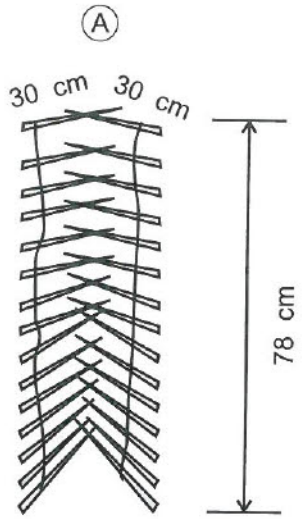
Karkari, Kalain, Cachar - Rivers and beels

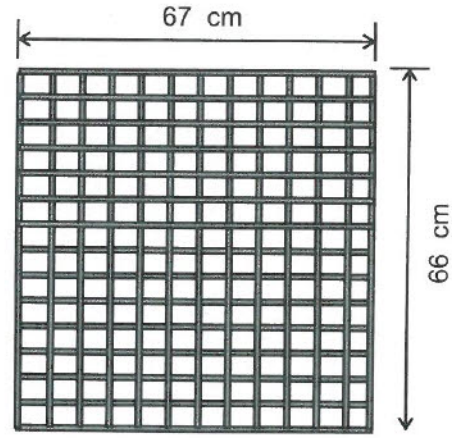
Pre and post monsoon



TRAP
Box
Gui
Miscellaneous fish

LOCATION
Karkari, Kalain, Cachar - Rivers and beels
Pre and post monsoon

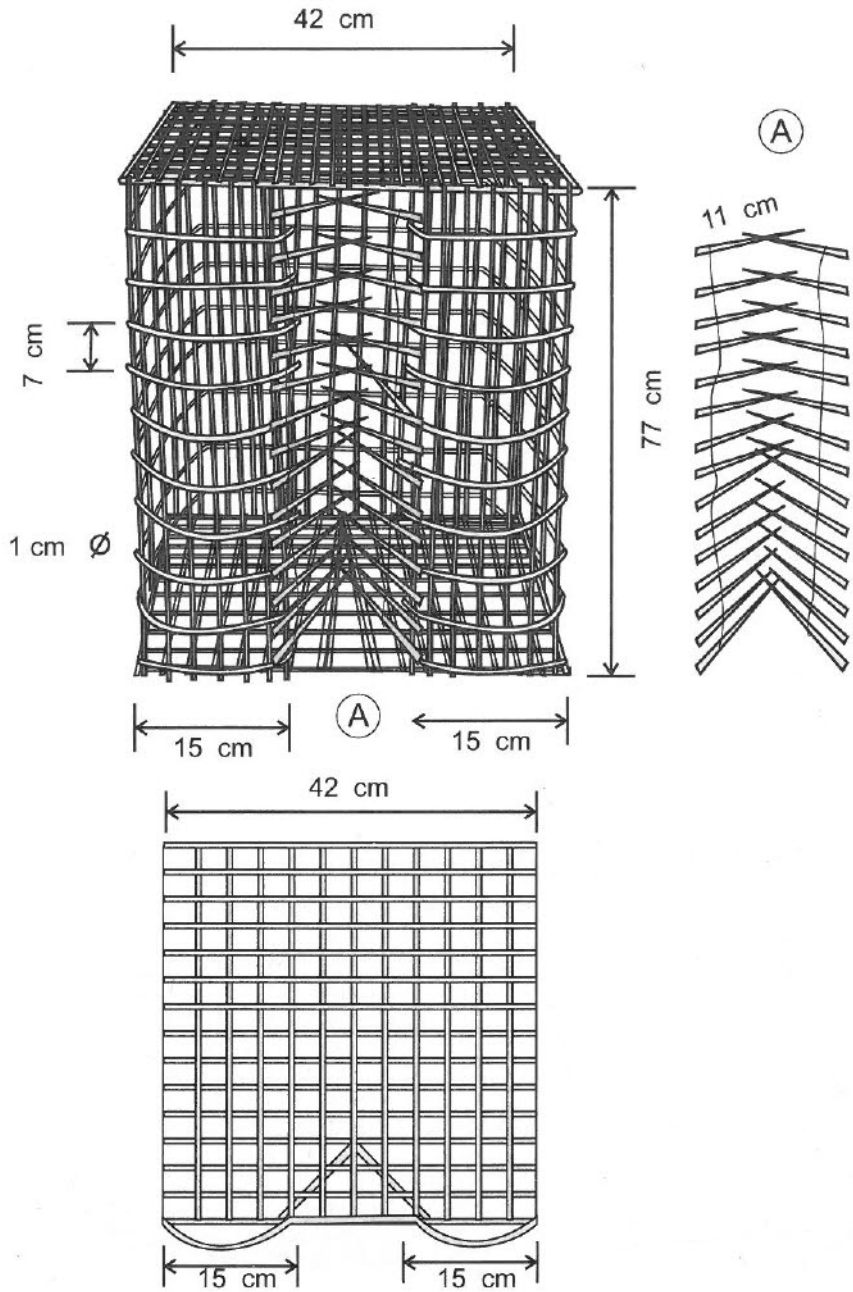




Operation of *Gui* in river

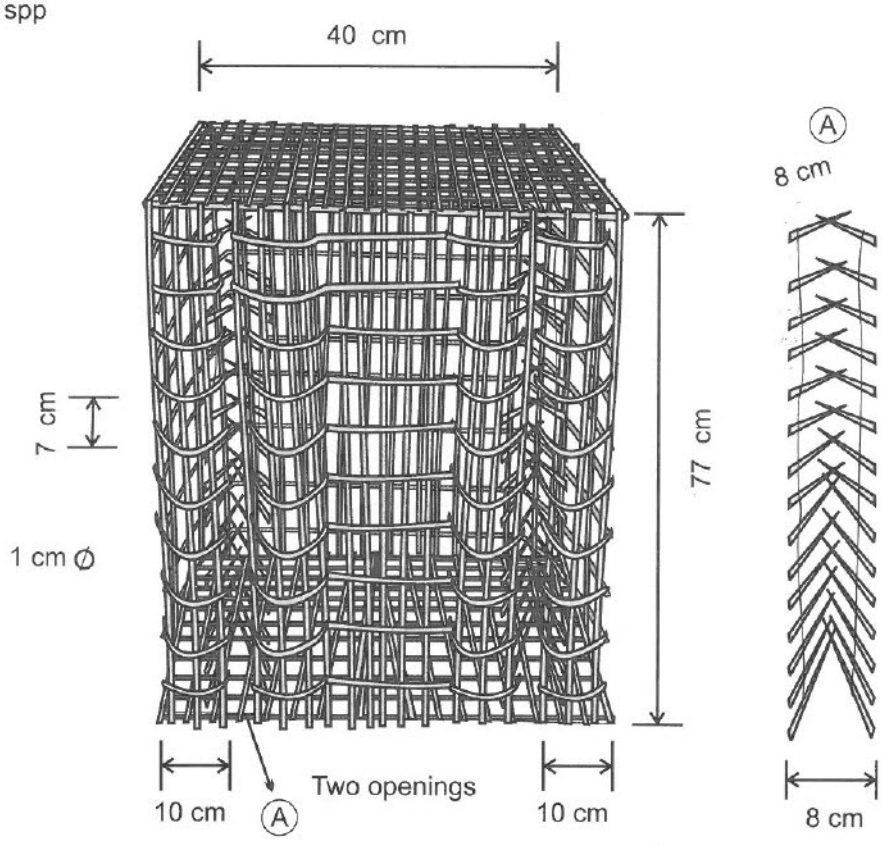
TRAP
Box
Gui
Miscellaneous fish

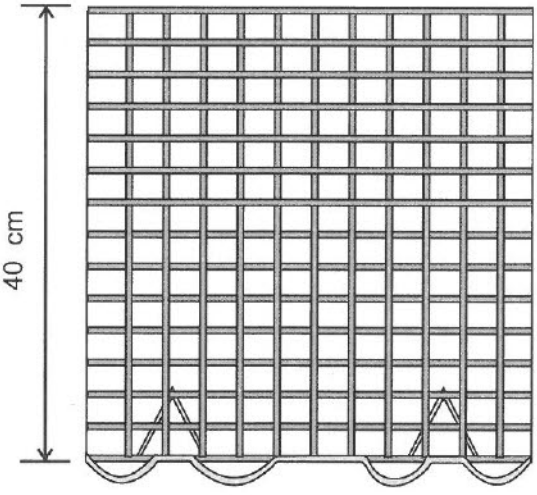
LOCATION
Majuli- Paddy fields
Pre and post monsoon



TRAP
Box
Gui
Mystus spp

LOCATION
Majuli - Paddy fields
Pre and post monsoon





TRAP

Box

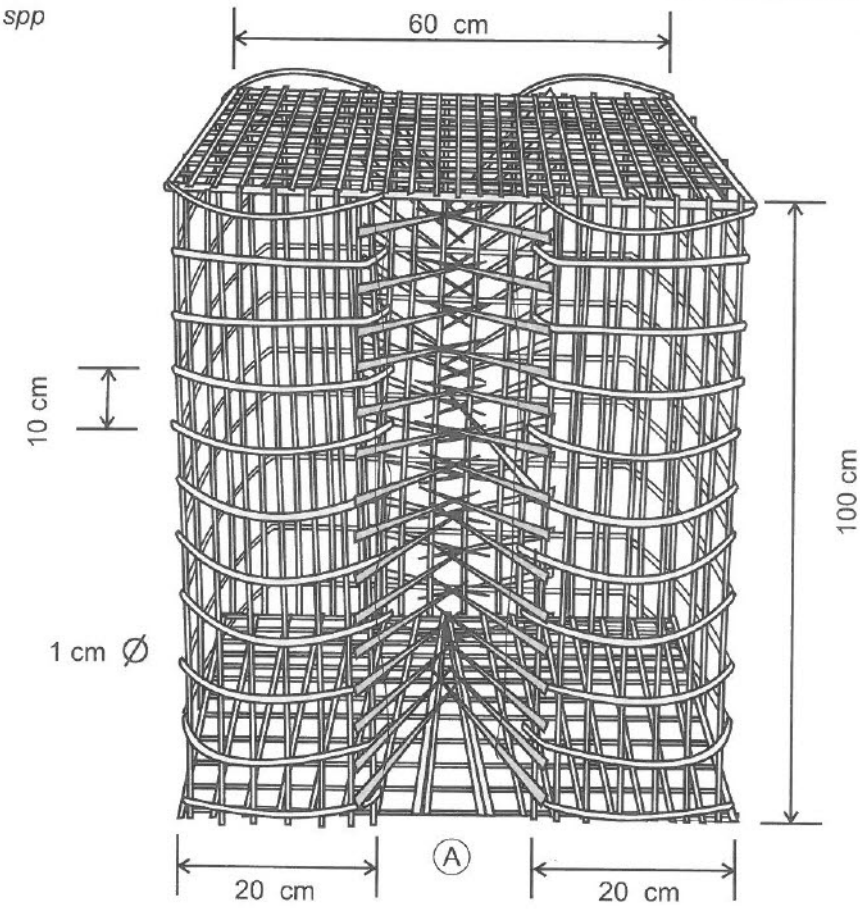
Gui

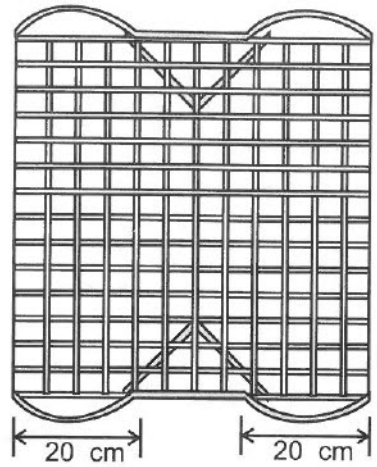
Clarius *spp*

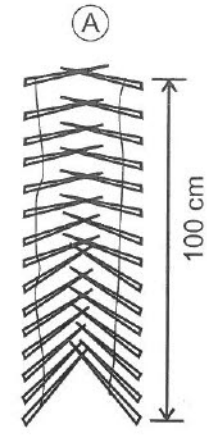
LOCATION

Lakhimpur - Paddy fields

Pre and post monsoon

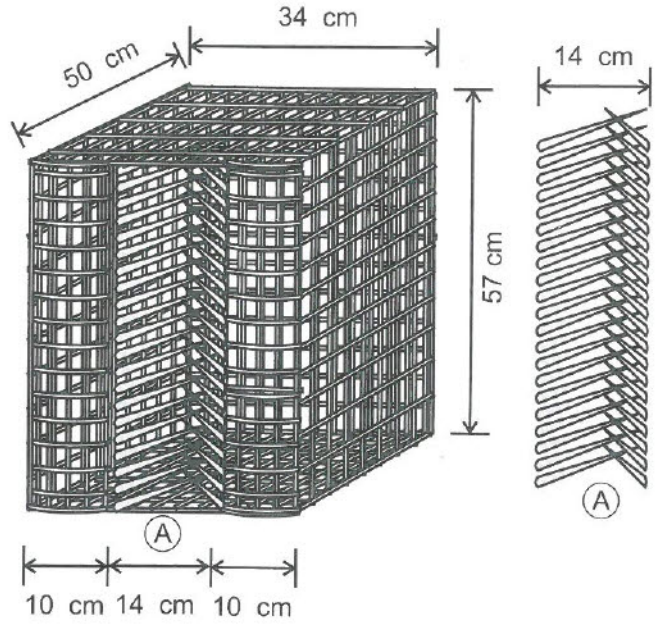


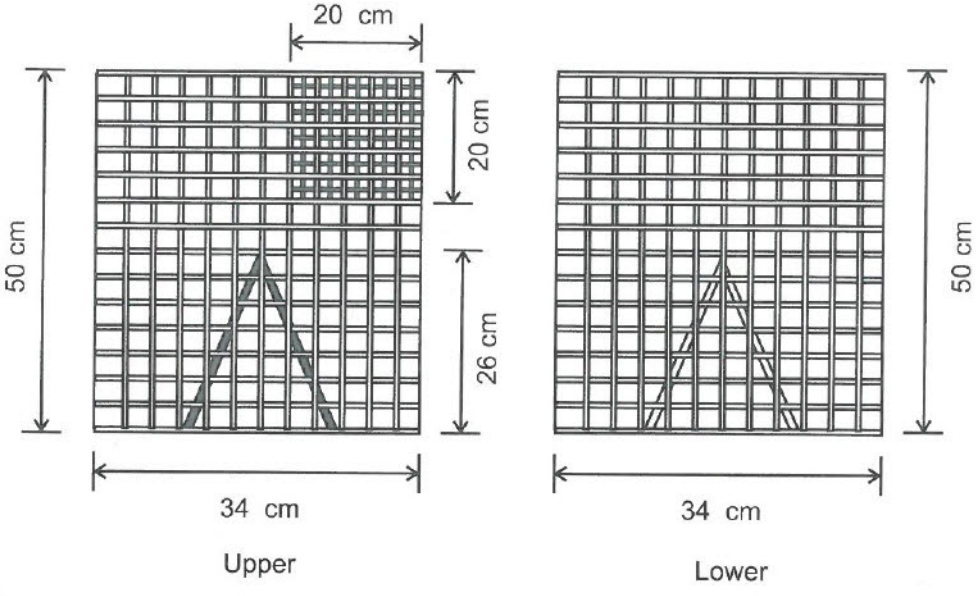




TRAP
Box
Koliha
Murrels, *Notopterus* spp

LOCATION
Karkari, Kalain, Cachar - Rivers and beels
Pre and post monsoon





TRAP

Box

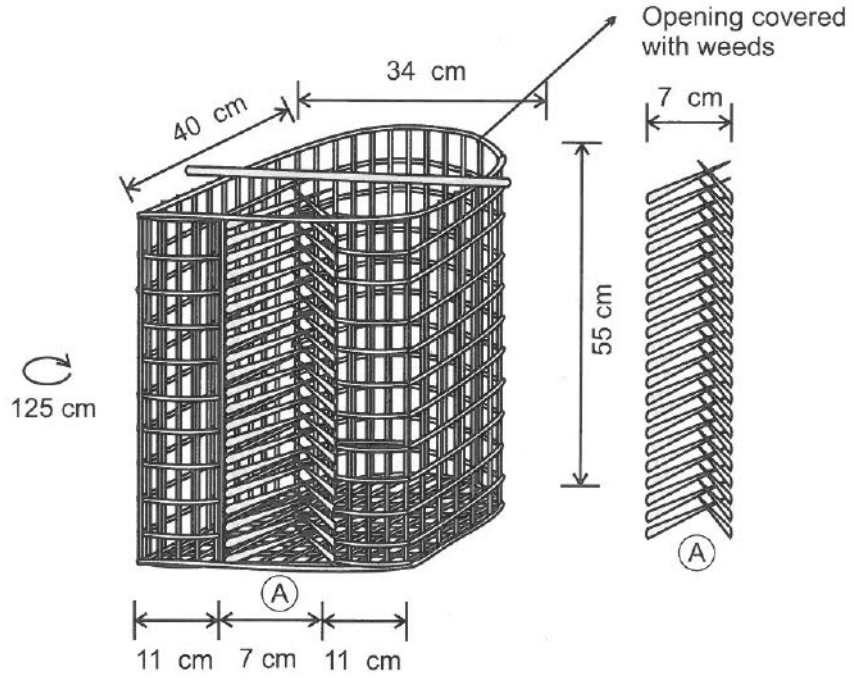
Tasung purang

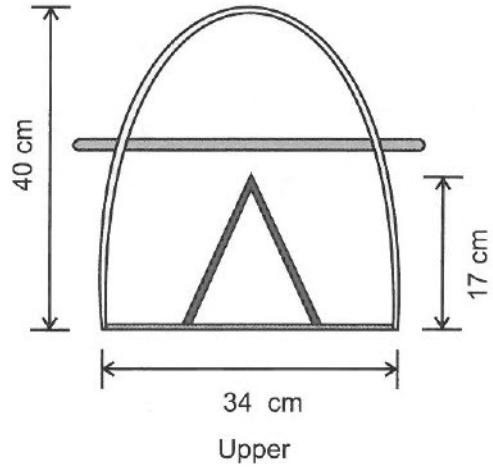
Prawns, Miscellaneous fish

LOCATION

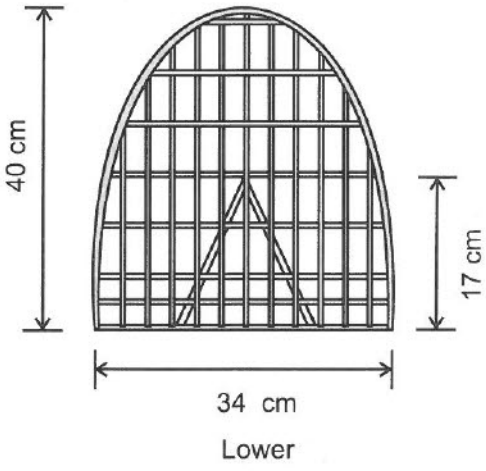
Tinsukia - Beels

Pre and post monsoon





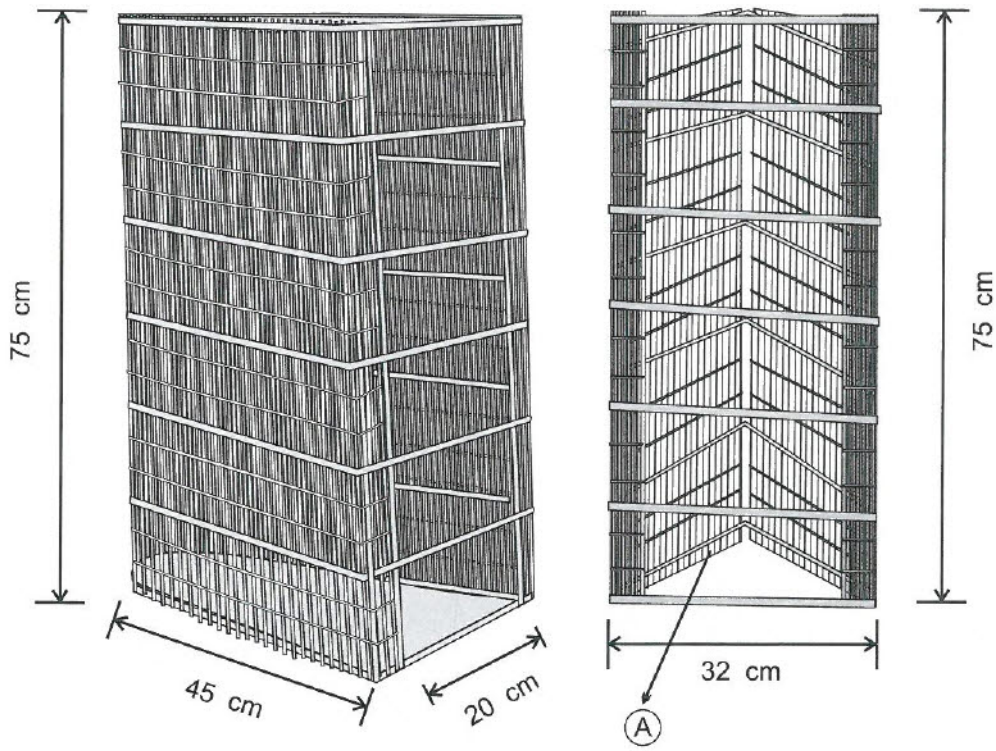
Upper



Lower

TRAP
Box
Dori
Prawns and miscellaneous fish

LOCATION
Dolatpur, Karimganj - Beels
Pre and post monsoon



TRAP

Box

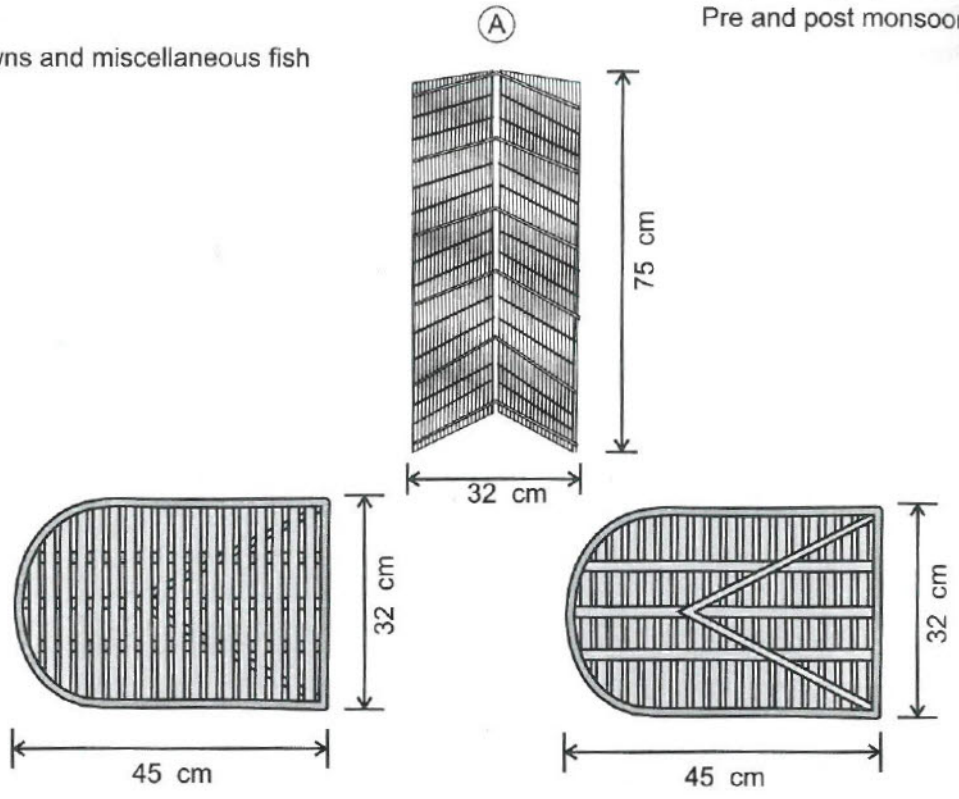
Dori

Prawns and miscellaneous fish

LOCATION

Dolatpur, Karimganj - Beels

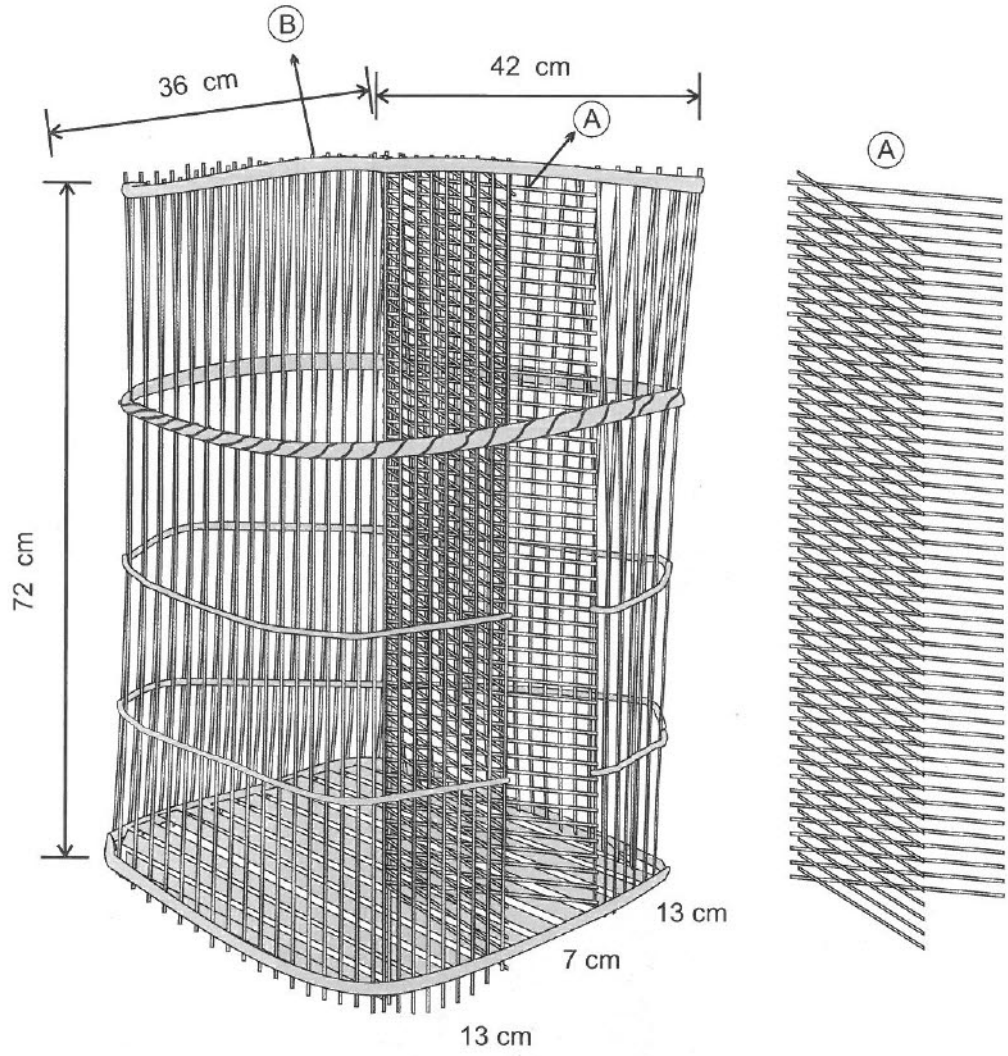
Pre and post monsoon



Operation of *Dori*

TRAP
Box
Ghoni
Puntius spp, miscellaneous fish

LOCATION
Majuli - Rivers and beels
Pre and post monsoon



TRAP

Box

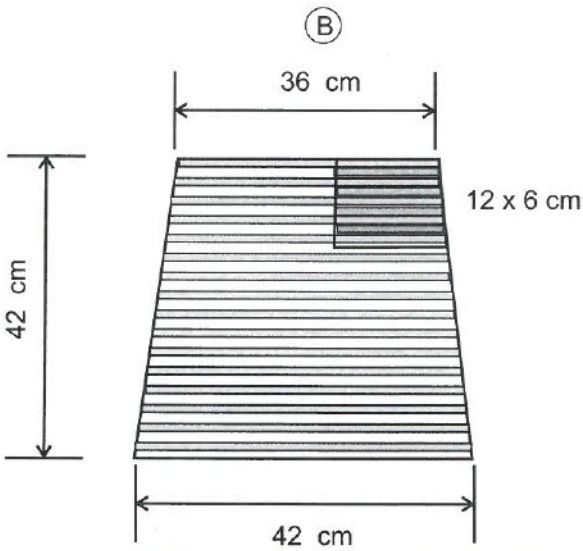
Ghoni

Puntius spp, miscellaneous fish

LOCATION

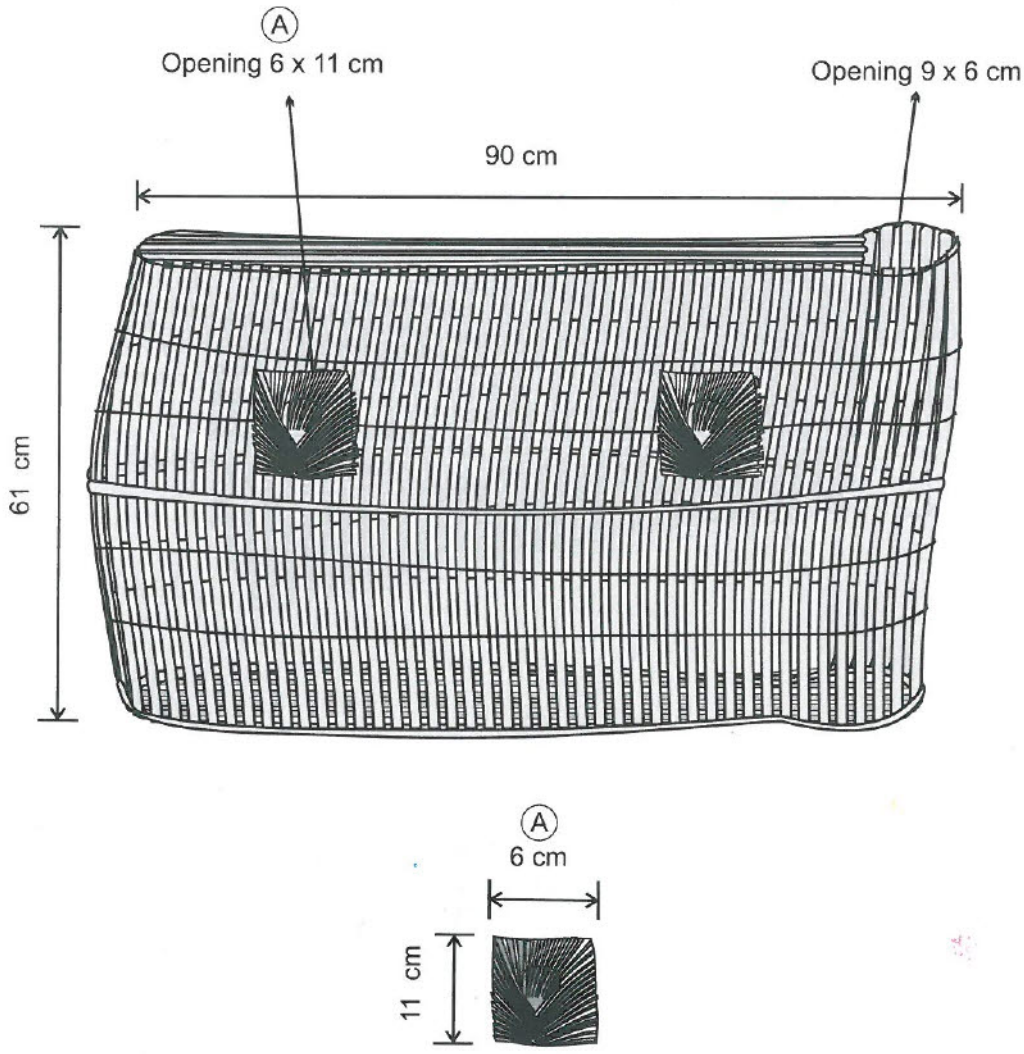
Majuli - Rivers and beels

Pre and post monsoon



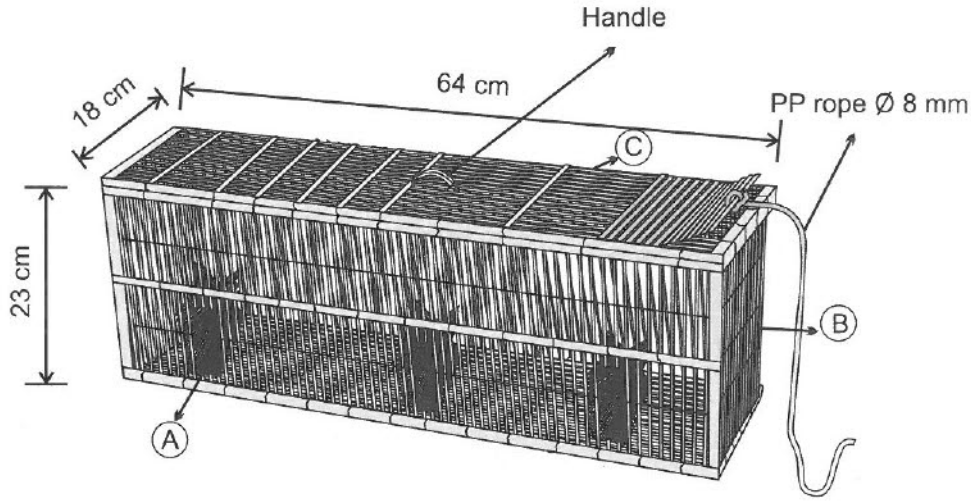
TRAP
Box
Temai
Putti, and miscellaneous fish

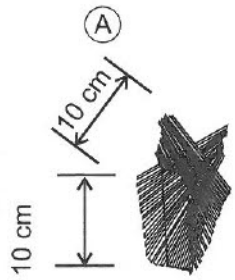
LOCATION
Dhubri - Rivers and beels
Pre and post monsoon



TRAP
Box
Sepa
Prawn

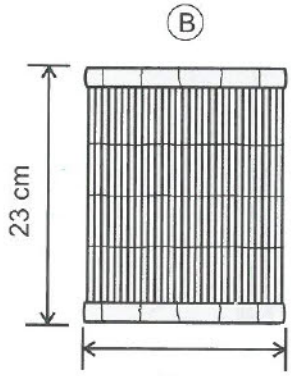
LOCATION
Amingaon, Kamrup - Rivers and beels
Pre- monsoon



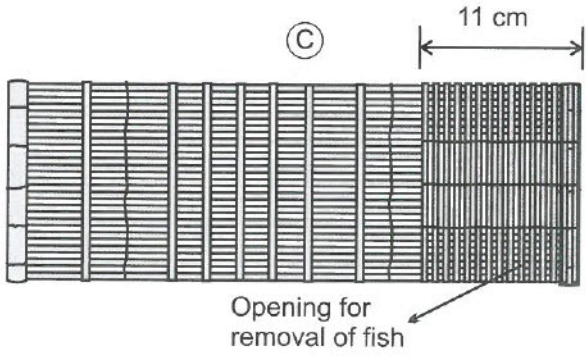


TRAP
Box
Sepa
Prawn

LOCATION
Amingaon, Kamrup - Rivers and beels
Pre- monsoon



Side



Top

TRAP

Box

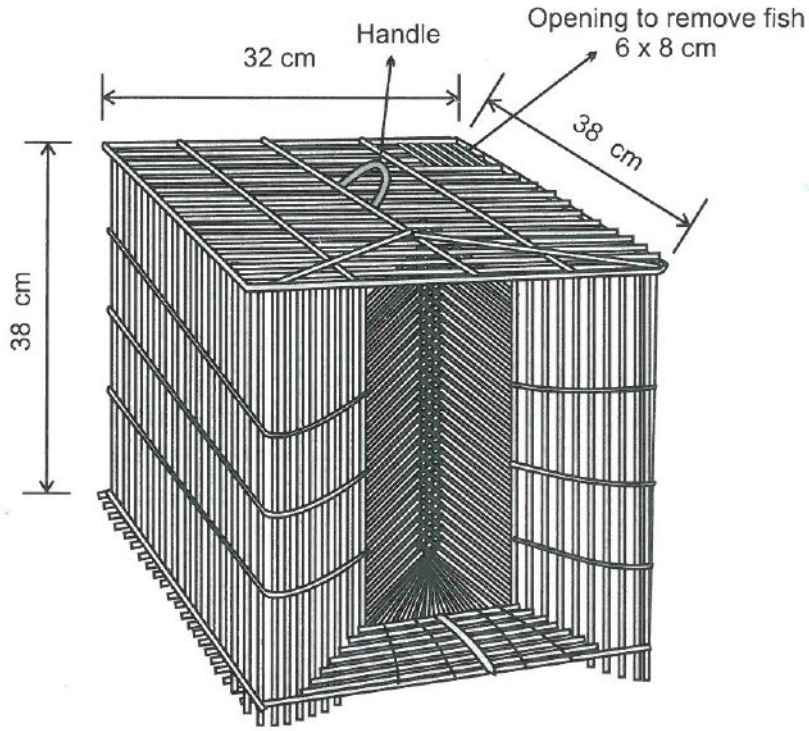
Boldha

Miscellaneous fish

LOCATION

Dhemaji - Rivers and beels

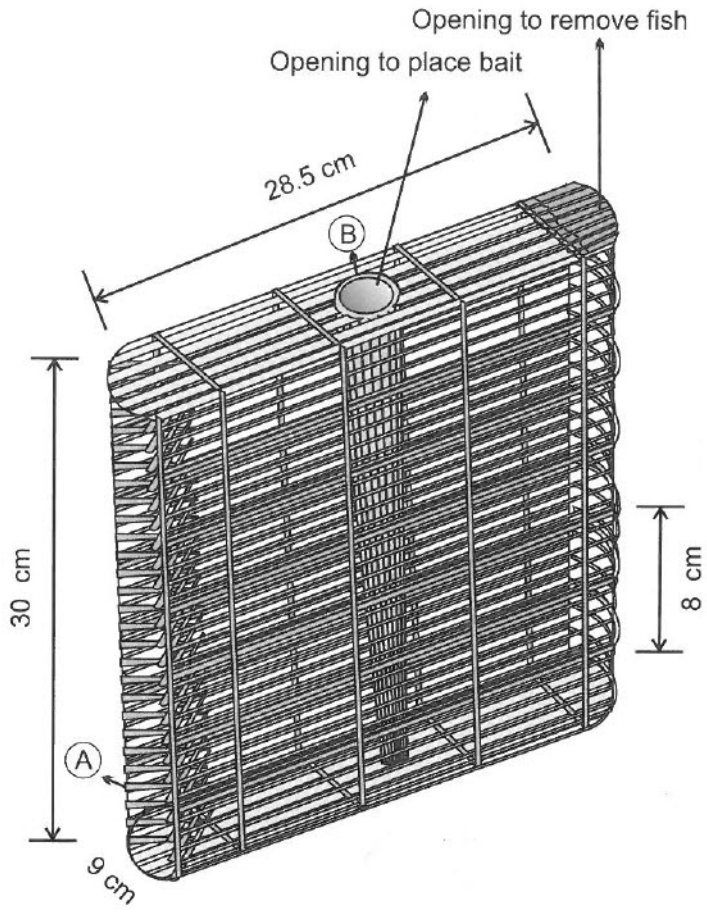
Pre and post monsoon

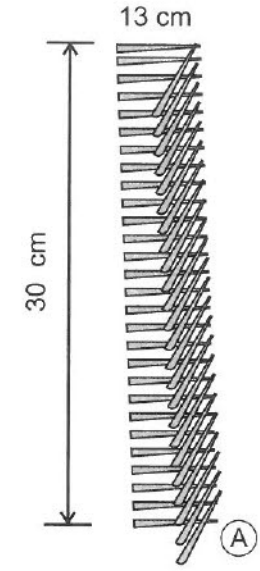


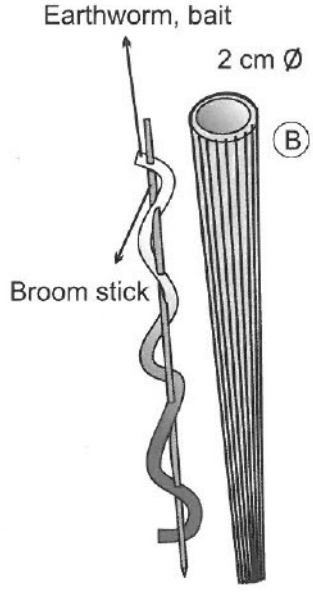
Operation of *Boldha*

TRAP
Box
Boldha
Eel, *Clarius* spp

LOCATION
Kamrup - Beldora beel
Monsoon







TRAP

Box

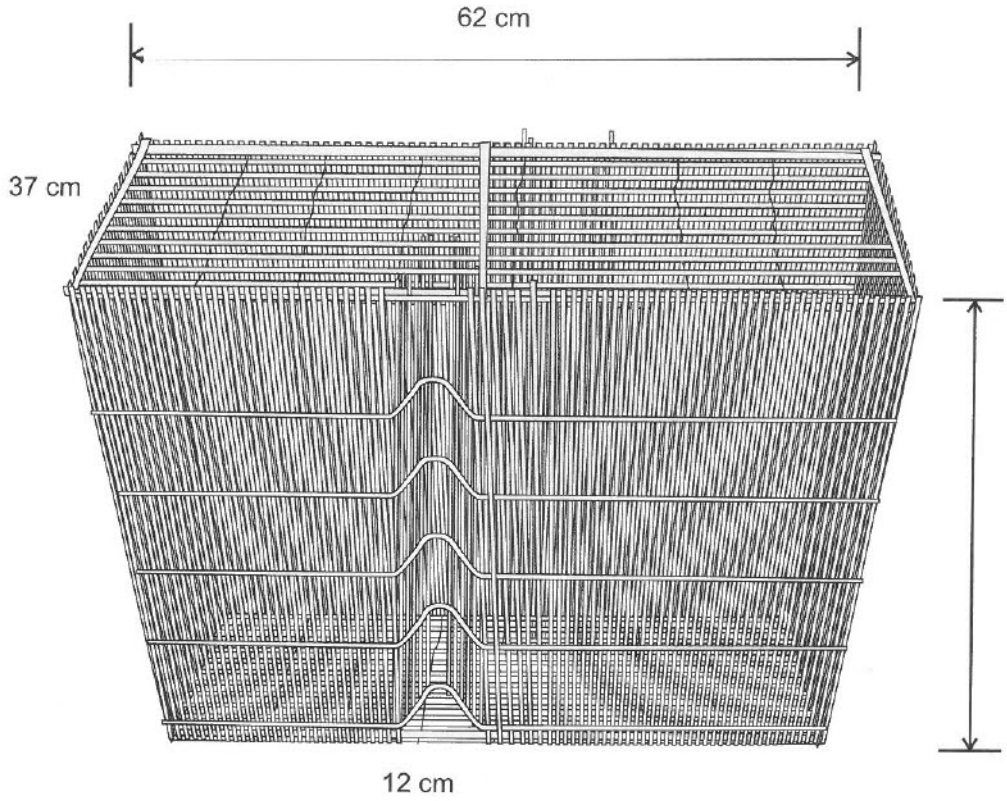
Dingori

Miscellaneous fish

LOCATION

Gujain ghat, Dibrugarh - Beels

Pre and post monsoon



TRAP

Box

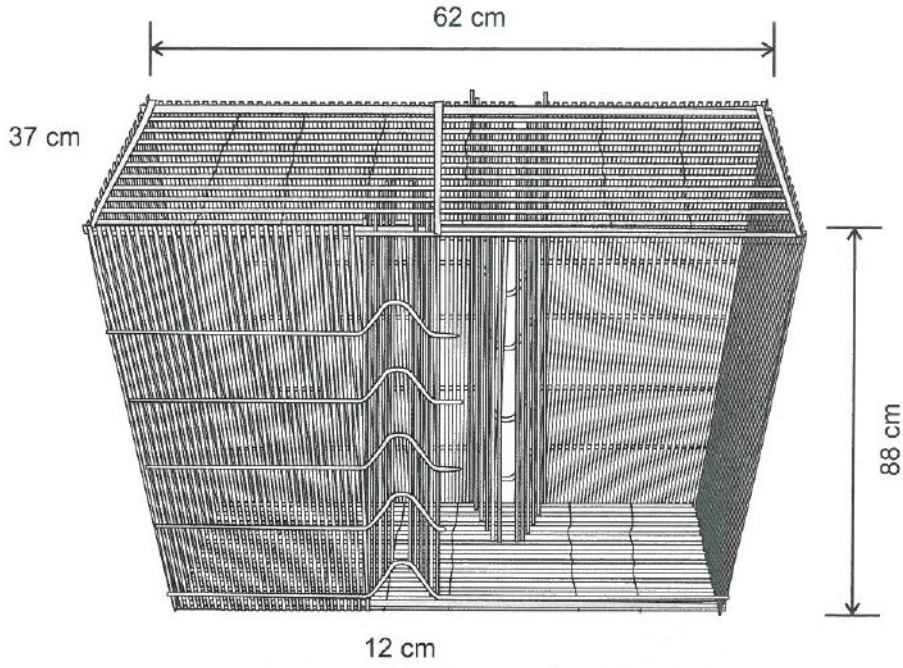
Dingori

Miscellaneous fish

LOCATION

Gujain ghat, Dibrugarh - Beels

Pre and post monsoon



TRAP

Box

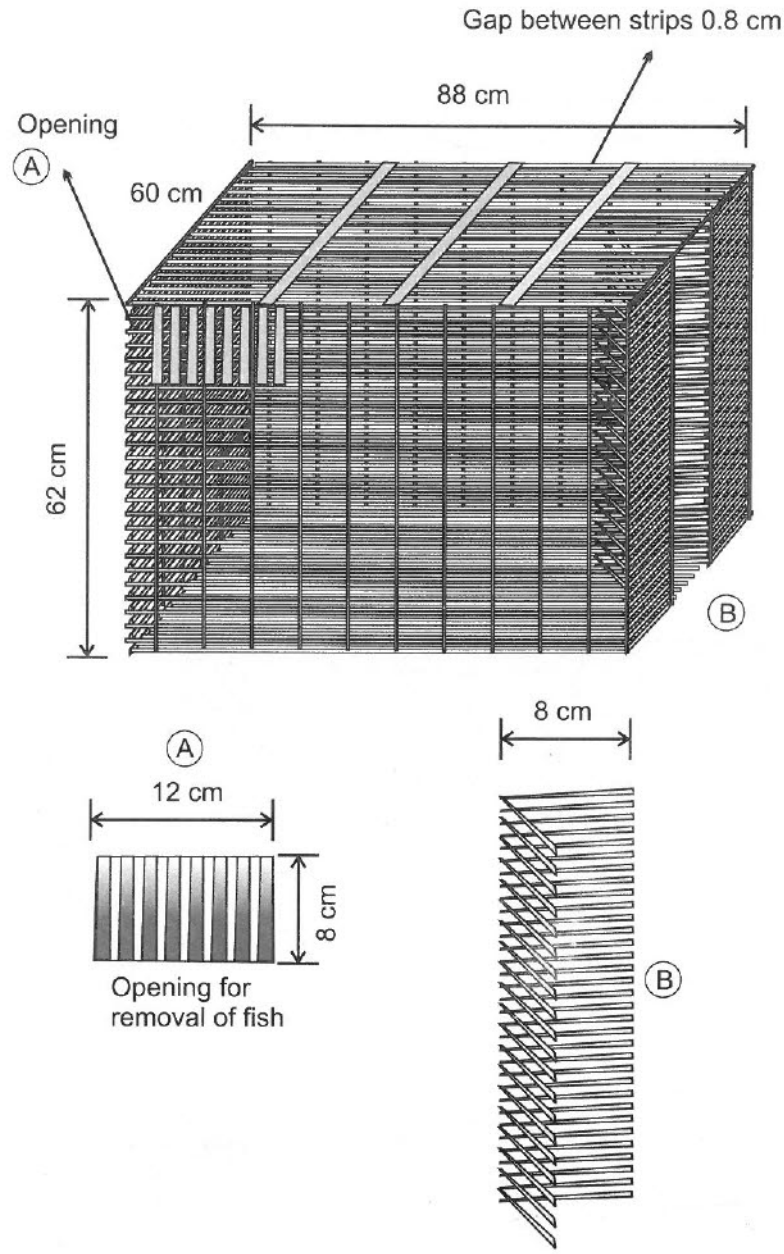
Ghani

Clarius spp, prawns, *Mystus* spp

LOCATION

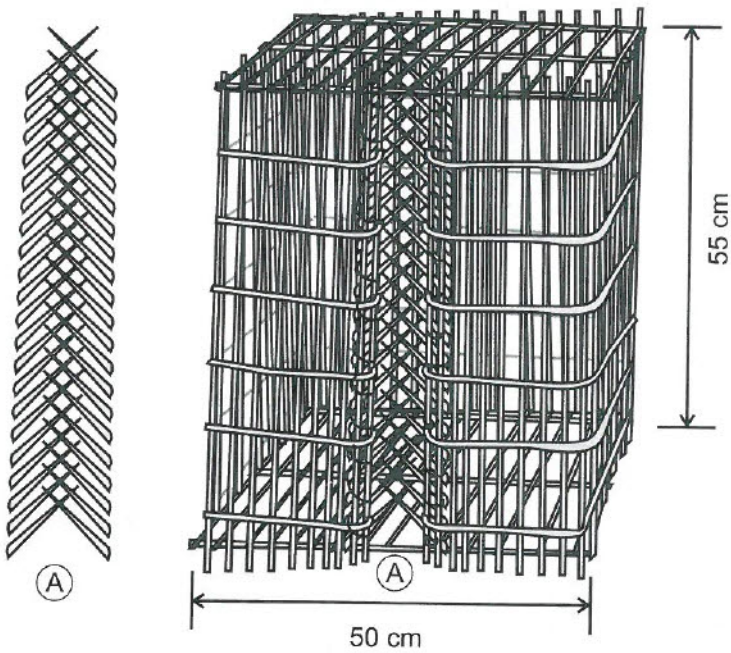
Sonitpur Biswanath chariali - Beel and paddy field

Pre and post monsoon



TRAP
Box
Haokuri
Miscellaneous fish

LOCATION
Chandrapur - River and beels
Pre and post monsoon



TRAP
Box
Haokuri
Miscellaneous fish

LOCATION
Chandrapur - River and beels
Pre and post monsoon

Operation of *Haokuri*

TRAP

Drop door trap

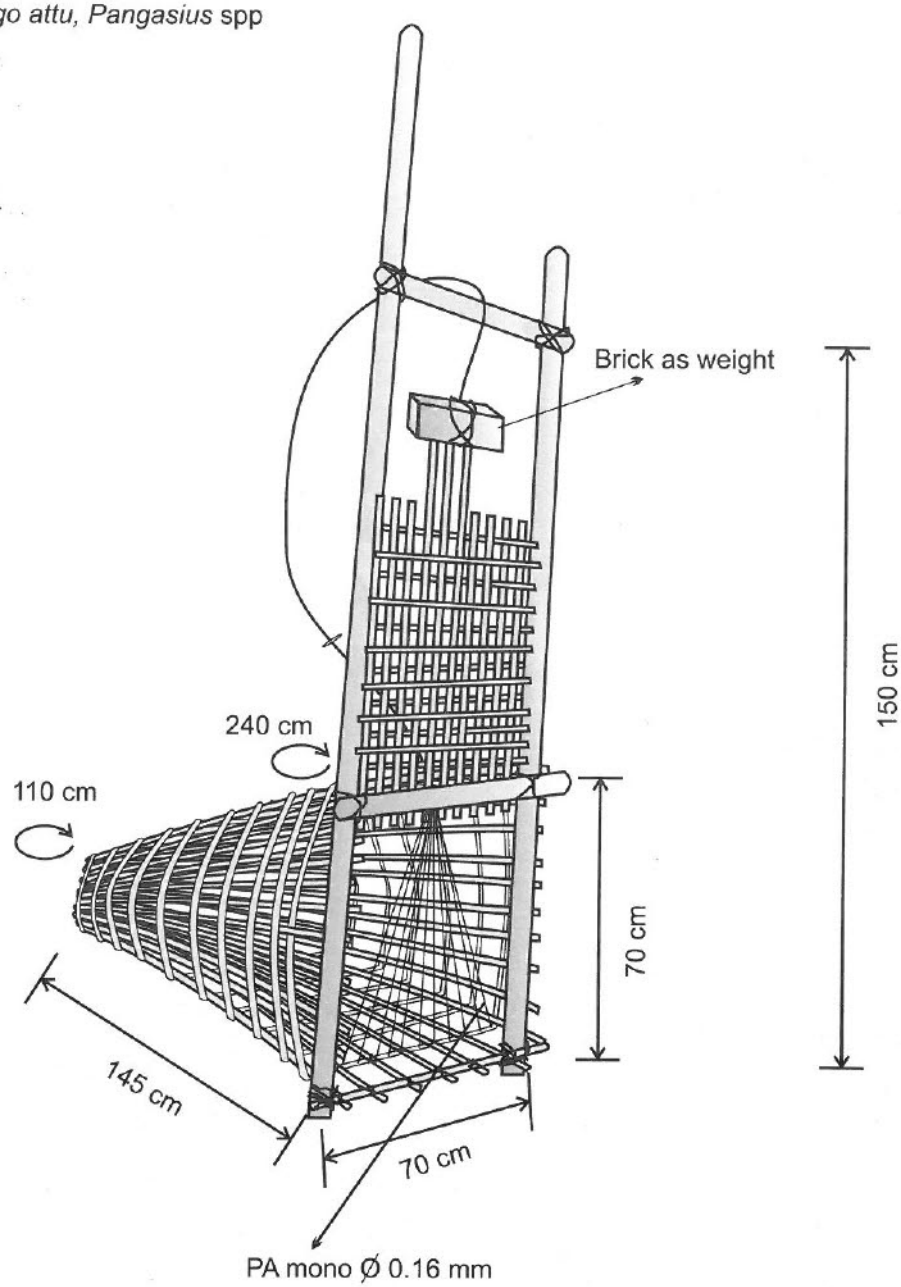
Borma / Mancheppa

Wallago attu, Pangasius spp

LOCATION

Tinsukia - Beels

Pre and post monsoon



TRAP

Drop door trap

Borma / Mancheppa

Wallago attu, Pangasius spp

LOCATION

Tinsukia - Beels

Pre and post monsoon

7 Aerial traps

7.0 Aerial traps

These are specialized traps to capture fishes that jump when faced with an obstacle. These fishes can be caught on the surface in boxes, rafts, boats and nets (*Verandah nets*). The fishes are enticed to jump out of water by placing obstacles and are caught in the air by special devices obstructing their jumps. Sometimes the fish are frightened to get them to jump out of the water. The following are commonly used in the Northeast.

7.1 Mud trench (Leti diya)

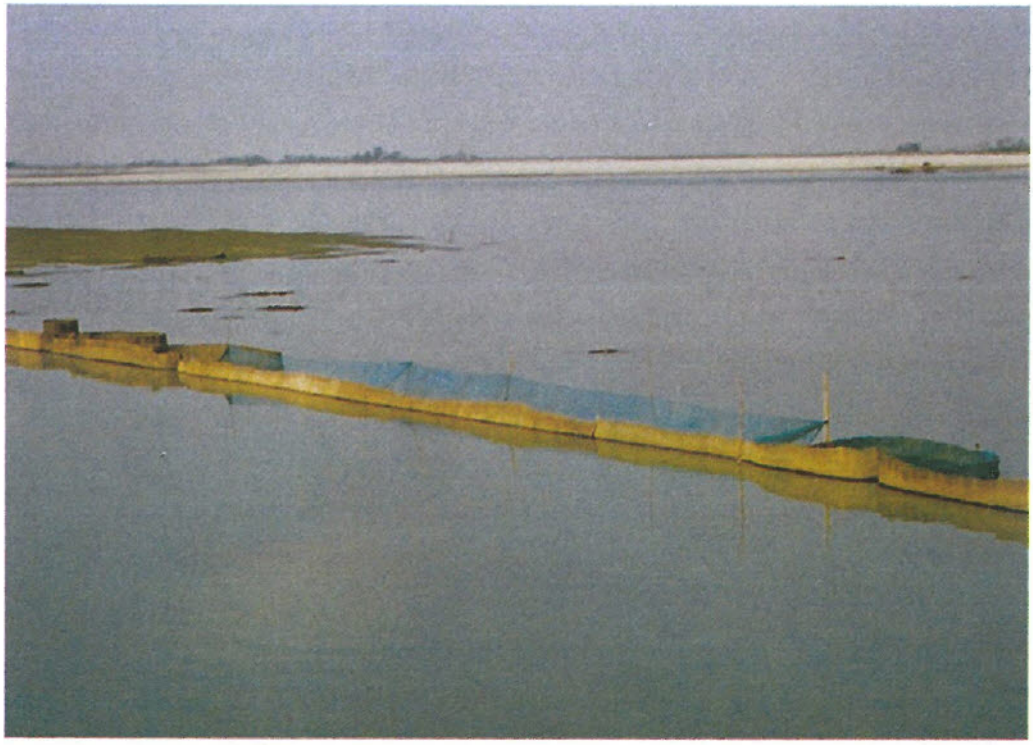
A mud trench is constructed in the water channel blocked the flow of water. The sides of the trench are elevated creating a muddy pit in between. When the fishes encounter the obstruction, they try to jump over the barrier and fall in the muddy pit and the fishes are collected by hand; *Channa* spp. and *Puntius* spp. are commonly caught. This type of fishing is carried out mainly during the post-rainy season when the fishes move from shallow to deeper waters.

7.2 Verandah net (Dolonga)

Split-bamboo screens (*Bana*) are erected across water currents. The upper end of the screen remains just above the water level. A piece of netting is loosely hung behind the screen with the help of bamboo poles. During spawning or feeding the fishes when come across the *Bana* jump the *Bana* and get trapped in the loosely hung net. Fishes like *Channa* spp., *Puntius* spp., etc. are usually caught in these traps.

TRAP
Aerial trap (Verandah net)
Dolonga
Channa spp

LOCATION
Morigaon - River
Post monsoon



8 Fyke net

8.0 Fyke nets

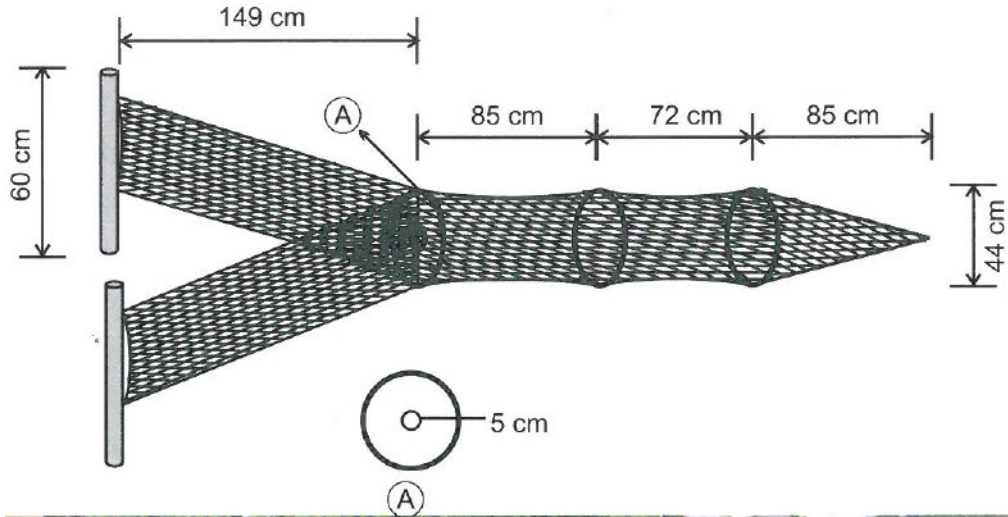
A fyke net consists of cylindrical or cone-shaped netting bags mounted on rings or other rigid structures. It has wings or leaders which guide the fish towards the entrance of the bags. The fyke nets are fixed on the bottom by anchors, ballast or stakes. The fish enters the net but is prevented to escape due to the non returnable 'valve'. Two varieties have been observed.

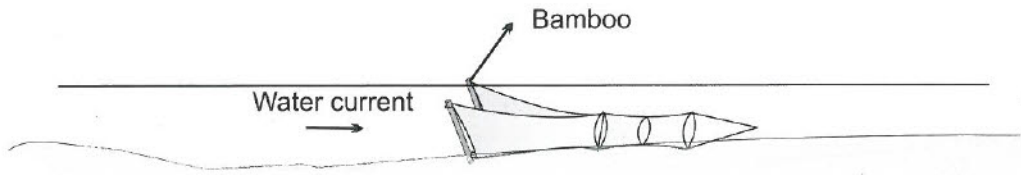
8.1 Goni rakshas

The fyke net consists of 2 to 3 ring shaped rigid structure that gives the trap a cylindrical shape. A cone shaped bag of mosquito netting is fixed inside, which also act as mouth. The net gradually tapers to give a conical shape at the cod end, which acts as the harvesting side. Two wings of 150 cm length and 48 to 60 cm widths are provided at either side of the mouth to lead the fish in. The net is fixed to the bottom by stakes and is operated separately or in series. The two wings are stretched aside by fixing to two bamboo poles. The net is placed with mouth facing against the current. The entire net is made of mosquito netting. Total length of the net varies from 3 to 4 m. The diameter of the ring varies from 44 to 48 cm. The distance between the 1st and 2nd ring is around 70 to 85 cm and the distance between the 2nd and 3rd is 70 to 85 cm. Rings are made of either iron or bamboo strips and 3 rings of equal diameter are used in the trap. The first ring has a small mouth opening of 5 cm diameter. *Gukuta dingora* has two rings and a mouth of 7 cm diameter at the center of the two rings. A webbing of mosquito net is attached from the first ring to the mouth, which gives a conical appearance. The net is operated in shallow region of river during rainy season. It is also operated in the rivulets of river Brahmaputra in the upper stretch. The trap is removed periodically to take out the catch. Catch mainly comprise of prawn and *Boriala* spp.

TRAP
Fyke net
Goni rakshas
Miscellaneous fish

LOCATION
Koilaghat, Dergaon, Golaghat - River
Monsoon





TRAP

Fyke net

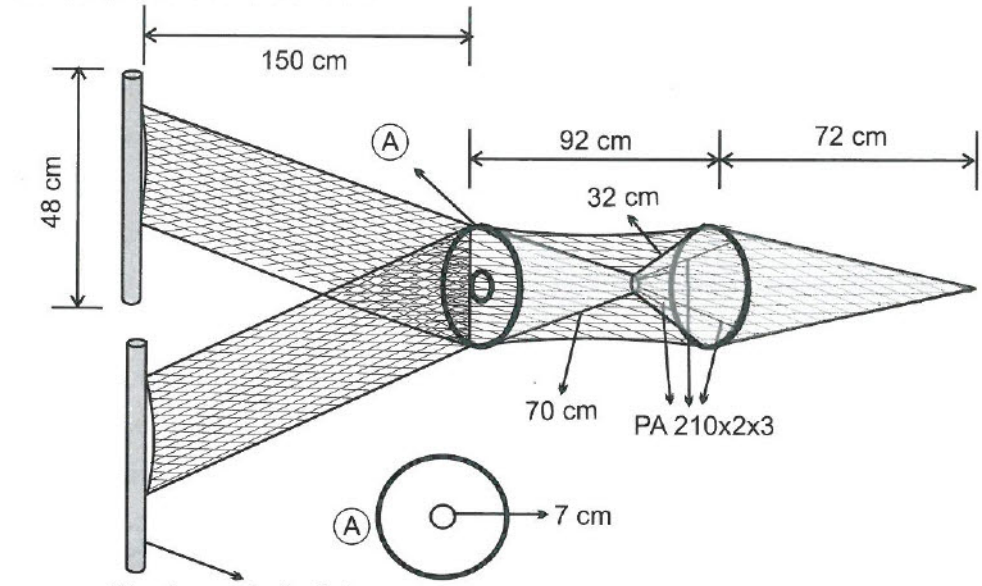
Gukuta dingora

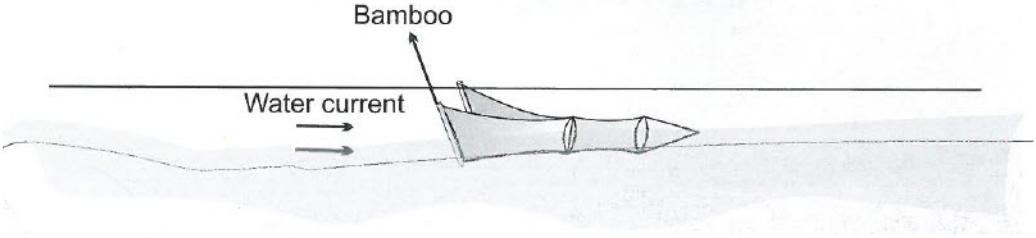
Cat fish and Miscellaneous fish

LOCATION

Dibrugarh - Rivers and beels

Monsoon and post monsoon





9 Bag net

9.0 Bag nets

9.1 Bagh jaal / Suthi jaal / Muna jaal / Soong jaal

The bag net is conical in shape similar to a trawl net. The net is made of HDPE ranging from 2 to 1.5 mm diameter with mesh size ranging from 100 mm in the mouth region reducing to 20 mm in the cod end. The mouth of the net is fastened to the opposite river banks against the current using 20 to 24 mm HDPE ropes. The mouth of the net is kept open with the help of bamboo poles fixed at both ends of the wing and near the bosom region of the net. The fishes are collected in the cod end as the current of water takes the fish inside the net. These nets are used only when there is sufficient flow of water.

Studies on the fishing gears in the North East Hill Region have not received adequate attention. There are a wide number of traditional fishing gears and methods used for harvesting the fishery resources of the state of Assam. Traps are unique in the sense that these are indigenously designed and fabricated by the traditional fishermen themselves, taking into consideration, the area, location and behaviour of the fishes. Most of the traps are made up of bamboo strips and are widely used throughout the state in the rivers, *Beels* and other wet land areas. They come in different shapes and sizes and are comparatively cheaper and efficient than other traditional fishing gears.

The traditional fishing gears of Assam, especially trap fishing continues to be one of the major fishing methods among the fishermen in spite of the technological developments and introduction of other fishing gears over time. 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.

TRAP

Bag net

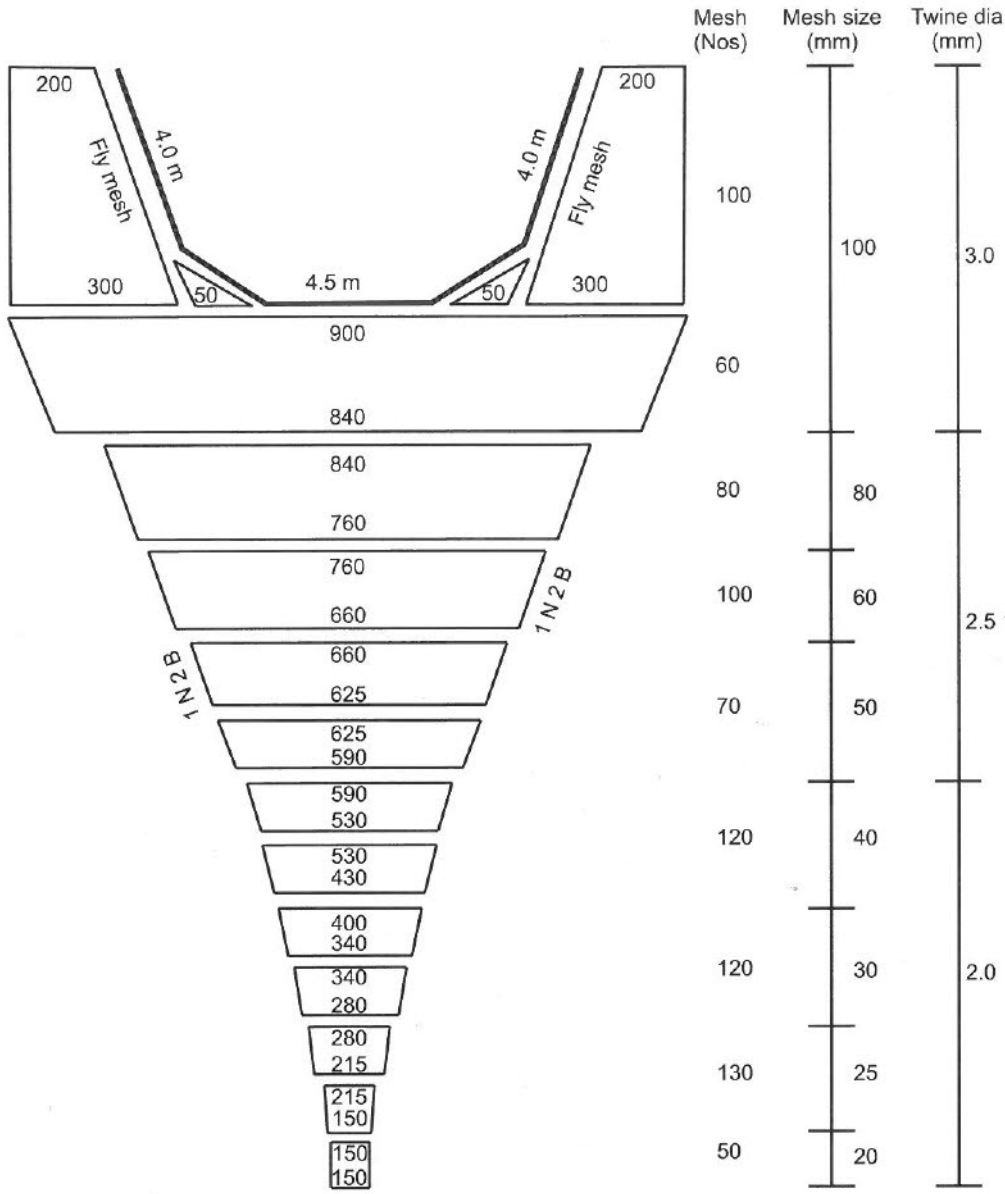
Bagh jaal / Soong jaal / Muna jaal / Suthi jaal

Miscellaneous fish

LOCATION

Nagaon, Morigaon - Rivers

Post monsoon



TRAP
Bag net
Bagh jaal / Soong jaal / Muna jaal / Suthi jaal
Miscellaneous fish

LOCATION
Nagaon, Morigaon - Rivers
Post monsoon

Operation of *Bagh jaal*

10 References

10.0 References

Bhagawati, A.K. and B. K. Kalita. 1987. Studies on the traditional fishing in some beels of Kamrup, Assam. In: Compedium *"Workshop on development of Beel fishery in Assam"*, 21-22 April, 1987, AAU, Khanapara, pp:150.

Bhattacharjya, B. K., R. K. Manna and M. Choudhury. 2004. Fishing crafts and gear of North Eastern India. Bulletin No. 142. Central Inland Fisheries Research Institute. 67p.

Choudhury, M. 1992. Fishing Methods in Flood Plain Lakes. In: Yadava, Y.S and Sugunan, V.V. (eds.) Compendium: *FAO Sponsored Training Programme on Flood Plain Fisheries Management*. 2: 163-166.

Choudhury, M. R., N. C. Gogoi, and A. Rajkhowa. 1996. Crafts and Gears used in Brahmaputra valley of Assam. *Project Dissertation*, Inland Fisheries Training Centre of Central Institute of Fisheries Education, Barrackpore, India.

Day, F. 1873. Report on the freshwater fish and fisheries of India and Burma, p23, 24 and 66.

Devasundaram, M.P. 1951. Fishing methods for Chilka mullets. *Indian Farming*.12 (1and2): 22-25.

George, V.C. 1971. An account of inland fishing gear and methods of India, Spl. bull. Central Institute of Fisheries Technology. 68 p.

Hickling, C.F. 1961. Tropical Inland Fisheries. Publ. Longman, Green and Co.Ltd.London. 287 p.

Hornell, J. 1924. The fishing methods of the Ganges. Mem. Asiat. Soc. Bengal 8(3): 197-237.

Hornell, J. 1938. Fishing Methods of Madras Presidency, Part II: The Malabar Coast, Madras Fish . Bull . 27, 1.

Jhingran, A.G. and A. V. Natarajan. 1969. Study of the fisheries and fish populations of the Chilka Lake during the period 1957-65. *J. inland Fish. Soc. India*. 1: 49-63.

John, C.C. 1936. Freshwater fishes and fisheries of Travancore. *J. Bombay Nat. Hist. Soc.* 38: 702-712.

Jones, S. and K. H. S. Singani. 1952. Notes on the crab fishery of Chilka lake. *J. Bombay Nat. Hist. Soc.* 51(1): 119-34.

Job, T.J and V. R. Pantelu. 1953. Fish trapping in India. *J. Asiatic. Soc. Sci.* 19(2): 175-196.

Kibria, M.G. and K. K. U. Ahmed. 2005. Diversity of selective and non-selective fishing gear and their impact on inland fisheries in Bangladesh. *NAGA, World Fish Centre Newsletter,* Vol.28 No. 1&2 : 43-48.

Kulshreshtha, S.D. 1986. Traditional inland fishing methods in Rajasthan, India. In: Maclean, J.L., Dizon, L. B. and Hosillos, L. V. (eds.) *Proc: First Asian Fish. Soc.*, Manila, Philippines: 413-416.

Kurup, B. M. & C. T. Samuel. 1985. Fishing gear and fishing methods in Vembanad Lake.

in Harvest and Post-harvest Technology of Fish, SOFT(I), Cochin p.232.

Kurup, B.M., M. J. Sebastian, T. M. Sankar, and P. Ravindranath. 1993. An account of Inland fishing gears and fishing methods of Kerala. *In: Low Energy Fishing, Fish. Technol.* (Special issue), Society of Fisheries Technologists (India), Cochin : 145-151.

Mitra, P.M., K. K. Ghosh., B. N. Saigal., N. D. Sarkar., A. K. Roy., N.C. Mondal and A. R. Paul. 1987. Fishing gears in the upper and middle Hooghly estuary. *Bull.* Central Inland Fisheries Research Institute, Barrackpore, No.49: 1-22.

Mohapatra, P. 1955. The *Thatta-Khonda* - a screen trap of Chilka lake. *J. Bombay Nat. Hist. Soc.* 53: 277-279.

Nair, P. R. 1993. Fishing with traps. In: *Low Energy Fishing. Fish. Technol.* (Special Issue) Society of Fisheries Technologists (India), Cochin: 207-209.

Nayak, A. K., S. K. Mukhi., B. K. Behera., C. K. Misra., B. R. Samantaray and M. P. S. Kohli. 2001. A survey on various gears, crafts and fishing methods adopted by the fishermen of Chilka Lake. *Appl. Fish. Aquacult.* 1(1): 91-93.

Prabhu, M.S. 1954. Trap fishing. *Indian. J. Fish.*1:94-129.

Mohanrajan, M. 1993. Fish trapping devices and methods of southern India, *Fish. Technol.* 36: 85-92.

Roy, B. and B. K. Banerjee. 1980. Fishing Methods of Chilka Lake (mimeo) *Summer Institute on Brackish Water Capture and Culture Fisheries*, CIFRI, Barrackpore

Saxena, R.K. 1964. The fishing nets and traps in a section of the middle reaches of Ganga river system in India. *Indo. Pac. Fish. Coun.* 11(11): 250-271.

Sharma, P., K. Kalita, B. Kalita. and O. K. Dutta. 1993. Low energy fishing techniques of the North eastern India. In: *Low Energy Fishing, Fish. Technol* (Special issue), Society of Fisheries Technologist (India), Cochin: 163-167.

Sharma, R. 2001. Traditional Fishing Methods and Fishing Gears of Assam. *Fishing Chimes* 20 (12): 23-26.

Sharma, P. and S. Ahamed, S. 1998. Relative efficiency of fish capturing devices in Kachodhara Beel of Morigaon dist, Assam. *Environ. Ecol.* 16(1): 123-126.

Sehgal, K.L., J. P. Shukla. and K. L. Shah. 1971. Observations on the fisheries of Kangra valley and adjacent areas with special references to Mahaseer and other indigenous fishers. *J. Inland Fish. Soc. India.*, 3: 63-71.

Sen, V. 1972. Methods of fishing in the Rarh region of Bengal. *Indian Museum Bulletin.* 37-52.

Singha, P.K. 2002. Cost effectiveness of fishing gears used in the Beel fisheries of Assam. Ph.D Thesis, Gauhati University, Assam, India.

Tandon, K.K. V. K. Sharma. 1984. An account of fishing methods in Kangra and Hamirpur districts of Himachal Pradesh. Journal of the Zoological Society of *India*. Calcutta. Vol. 36, 1-2 : 95-100.

Wilimovsky, N .J. and D. L. Alverson. 1971. *in* Modern Fishing Gear of the World Vol.3

(Kristjonsson, H., Ed .) Fishing News (Books) London. 509 p.

Yadava, Y.S., M. Choudhury. and V. Kolekar. 1981. Fishing methods of flood plain lakes in North Eastern Region. *J. Inland Fish. Soc. India*, 13(1): 82 p.

Yadava, Y.S. and M. Choudhury, M. 1986. Banas fishing in beels of Assam *J. Bombay Nat. Hist. Soc.* 83(2): 452 p.

Various interesting traditional fishing gears and methods are in use in the state of Assam. The book gives an exhaustive account of the different fishing traps used by the fishermen of Assam. These traps have stood the test of time due to the great fishing tradition and sound practical knowledge acquired through generations.

CENTRAL INSTITUTE OF FISHERIES TECHNOLOGY
(*Indian Council of Agricultural Research*)
Matsyapuri, P. O., Cochin - 682 029
Phone: 0484-2666845 Fax: 0484-2668212
E-mail.cift@ciftmail.org

Rs. 300/-