A Study on Ichthyofaunal Diversity and Fishing Gears Used in the Wetlands Areas Nearby Nimati Ghat, Jorhat, Assam

Gayotree Agni Borah¹, Somim Nasreen²* and Prasanna Kumar Dutta¹

¹Department of Zoology, Bahona College, Jorhat, India.
²Department of Life Sciences, Dibrugarh University, Dibrugarh, India.

https://dx.doi.org/10.13005/bbra/3152

(Received: 01 March 2023; accepted: 10 June 2023)

The North East of India is rich in biodiversity. There are various species of fish found in the rivers, lakes and ponds of the region. Different ethnic groups from this region use different types of techniques to catch these fish. To study different aspects of fish, the study of fishing gears is prerequisite. People of Assam use different types of indigenous fishing gears to catch fish. Most of these fishing gears are made of bamboo. In the current study, attempts were made to analyse the ichthyofaunal biodiversity along with indigenous tools used to catch fish in the wetlands areas nearby Nimati Ghat in Jorhat. A study was conducted to record the traditional fishing techniques used in these places, and it had been discovered that there were ten various kinds of traps, nets, and hooks used for fishing. Many synthetic nets replace the traditional fishing gears. During the study, different kinds of fish were recorded from the study areas.

Keywords: Diversity; Fish; Fishing gears; Jorhat; Wetland.

North East India is one of the hotspots of freshwater fish biodiversity in the world.¹ The number of fishes reported from this area has varied greatly, ranging from 172 to 267.²³ Assam is home to about 1.03 lakh hectares of lentic natural water bodies, including wetlands connected to the Brahmaputra, Barak, and their tributaries. Wetlands, which make up approximately 6% of the earth’s surface and are the most significant ecosystem, are a crucial component of both the terrestrial and aquatic ecosystems. Fish diversity is rich in the wetland ecosystems.⁴⁻⁹ Studies have recorded the presence of 217 different fish species in different wetlands of Assam.¹⁰

The effectiveness of the materials used, the availability of fish, the choice of location, the timing, and other factors all affect how well a fishing approach works. Traditional, non-mechanized, and primarily locally made are the fishing equipment and crafts used in Assam. In Assam, methods such as grappling and the use of enormous, locally built nets are used to catch various types of fish due to the widely diversified natural water regions of the state.

The choice of equipment may vary according to the time of year, the body of water, the kind of fish targeted, and the efficiency of the equipment based on certain accepted standards.
Numerous works have been carried out on the fishing gears, practices and cultural aspects of fisher folk by different authors across India; some authors have studied various aspects of fishing gears in different parts of Assam. Different workers have studied the community fishing and economic aspects of fishermen communities in Assam. A thorough survey was conducted to focus on the various types of fishing equipment used for fishing in Borsola beel with all of these factors in mind. Objectives of this current study were to catalogue the various fishing techniques employed by the Kaibarta population in Borsola beel and to investigate the frequency of occurrence of different fish species there.

MATERIALS AND METHODS

The Borsola wetland (Open beel), which is about 5 kilometres to the northeast of Jorhat town in Assam, is situated in the geographic coordinates 26.048 N-26.049 N and 94.008 E-94.010 E. Fishermen collected the fish samples from the study area from 2021 to 2022. Moreover, fish were gathered from the fish landing spots. For further research, collected specimens were stored in a 5% formaldehyde solution. The fish species were identified in accordance with accepted literature. Fishermen were asked about the features of the gears they used, their mode of operation and the kinds of fish they catch.

RESULTS AND DISCUSSION

This study found the presence of 60 fish species from 20 families in different wetlands of Nimati, Jorhat, Assam. Several different types of gears to catch fish have been documented during the research period. Different indigenous fishing gears, their characteristics and type of fish they catch etc. are mentioned in Table 1. Scientific name, local name, family and their conservation status are mentioned in Table 2.

**BERJAL**

It is a big rectangular seine net, and the term “tanaber” also refers to the surrounding net. The net is closed in a semicircle, using the coast as its foundation, and is slowly pulled in at each end.
<table>
<thead>
<tr>
<th>Name of Gear</th>
<th>Description</th>
<th>Catches</th>
<th>Individuals</th>
<th>Production required (Rs)</th>
<th>Operational time (days)</th>
<th>Captured fish size (kg)</th>
<th>Captured fish price (Rs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Berjal</td>
<td>It is a big rectangular seine net. Now-a-days mosquito net is also used using plastic nets.</td>
<td>All fishes are caught indiscriminately</td>
<td>7-10</td>
<td>6000-10000</td>
<td>1-3 days</td>
<td>Up to 400-500</td>
<td></td>
</tr>
<tr>
<td>Phansi jal</td>
<td>It is made up of delicate nylon fibre of different mesh sizes with floats and sinks. It is made of bamboo sticks and placed with baits of different sizes for different fish species.</td>
<td>Different fishes are caught</td>
<td>1-2</td>
<td>500-1000</td>
<td>6-7 hours</td>
<td>1-5</td>
<td></td>
</tr>
<tr>
<td>Cast net (Khewali Jal)</td>
<td>Made with synthetic small gaps in it.</td>
<td>Catches all fishes according to type of net and mesh size.</td>
<td>1</td>
<td>2000-5000</td>
<td>5-10 minutes each</td>
<td>4-6</td>
<td></td>
</tr>
<tr>
<td>Polo jal</td>
<td>Made up of triangular net fitted in a bamboo frame.</td>
<td>Large sized fish of the species Labeo, Channa mauralius, etc. are caught.</td>
<td>1</td>
<td>8-1000</td>
<td>15-30 minutes</td>
<td>1-10</td>
<td></td>
</tr>
<tr>
<td>Ghat jal</td>
<td>Made up of large triangular net fitted in a bamboo frame in large numbers.</td>
<td>Small and medium sized fishes are caught.</td>
<td>1</td>
<td>5000-10000</td>
<td>2-5 minutes</td>
<td>1-100</td>
<td></td>
</tr>
<tr>
<td>Sip Boroshi, Nal Boroshi, Dham Boroshi</td>
<td>Made of Thin Bamboo sticks and a thread bind Walagoo, Channa Dham Boroshi in the anterior end of the stick and hooks at the end of the thread.</td>
<td>Carnivorous fishes like Clarias are caught.</td>
<td>1</td>
<td>50-100</td>
<td>30-60 minutes</td>
<td>50-4</td>
<td></td>
</tr>
</tbody>
</table>

**Table 1.** Types of fish caught by the gears and the production price

<table>
<thead>
<tr>
<th>Name of Gear</th>
<th>Description</th>
<th>Catches</th>
<th>Individuals</th>
<th>Production required (Rs)</th>
<th>Operational time (days)</th>
<th>Captured fish size (kg)</th>
<th>Captured fish price (Rs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Berjal</td>
<td>It is a big rectangular seine net. Now-a-days mosquito net is also used using plastic nets.</td>
<td>All fishes are caught indiscriminately</td>
<td>7-10</td>
<td>6000-10000</td>
<td>1-3 days</td>
<td>Up to 400-500</td>
<td></td>
</tr>
<tr>
<td>Phansi jal</td>
<td>It is made up of delicate nylon fibre of different mesh sizes with floats and sinks. It is made of bamboo sticks and placed with baits of different sizes for different fish species.</td>
<td>Different fishes are caught</td>
<td>1-2</td>
<td>500-1000</td>
<td>6-7 hours</td>
<td>1-5</td>
<td></td>
</tr>
<tr>
<td>Cast net (Khewali Jal)</td>
<td>Made with synthetic small gaps in it.</td>
<td>Catches all fishes according to type of net and mesh size.</td>
<td>1</td>
<td>2000-5000</td>
<td>5-10 minutes each</td>
<td>4-6</td>
<td></td>
</tr>
<tr>
<td>Polo jal</td>
<td>Made up of triangular net fitted in a bamboo frame.</td>
<td>Large sized fish of the species Labeo, Channa mauralius, etc. are caught.</td>
<td>1</td>
<td>8-1000</td>
<td>15-30 minutes</td>
<td>1-10</td>
<td></td>
</tr>
<tr>
<td>Ghat jal</td>
<td>Made up of large triangular net fitted in a bamboo frame in large numbers.</td>
<td>Small and medium sized fishes are caught.</td>
<td>1</td>
<td>5000-10000</td>
<td>2-5 minutes</td>
<td>1-100</td>
<td></td>
</tr>
<tr>
<td>Sip Boroshi, Nal Boroshi, Dham Boroshi</td>
<td>Made of Thin Bamboo sticks and a thread bind Walagoo, Channa Dham Boroshi in the anterior end of the stick and hooks at the end of the thread.</td>
<td>Carnivorous fishes like Clarias are caught.</td>
<td>1</td>
<td>50-100</td>
<td>30-60 minutes</td>
<td>50-4</td>
<td></td>
</tr>
</tbody>
</table>

**Table 1.** Types of fish caught by the gears and the production price
<table>
<thead>
<tr>
<th>No.</th>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Family</th>
<th>Frequency</th>
<th>Conservation status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><em>Chitala chitala</em> (Ham)</td>
<td>Chital</td>
<td>Notopteridae</td>
<td>Common</td>
<td>EX-NA</td>
</tr>
<tr>
<td>2</td>
<td><em>Notopterus notopterus</em> (Pallas)</td>
<td>Kandhuli</td>
<td>Notopteridae</td>
<td>Very common</td>
<td>LC</td>
</tr>
<tr>
<td>3</td>
<td><em>Gudusia chapra</em> (Ham)</td>
<td>Koroti</td>
<td>Clupeidae</td>
<td>Common during Summer</td>
<td>EX-NA</td>
</tr>
<tr>
<td>4</td>
<td><em>Hilsa ilisha</em> (Ham)</td>
<td>Ilish</td>
<td>Clupeidae</td>
<td>Common</td>
<td>EX-NA</td>
</tr>
<tr>
<td>5</td>
<td><em>Amblypharyngodon mola</em> (Ham)</td>
<td>Mowa</td>
<td>Cyprinidae</td>
<td>Very common</td>
<td>LC</td>
</tr>
<tr>
<td>6</td>
<td><em>Pseudotropius atherinoides</em></td>
<td>Bordua</td>
<td>Cyprinidae</td>
<td>Common</td>
<td>LC</td>
</tr>
<tr>
<td>7</td>
<td><em>Aspidoparia morar</em> (Ham)</td>
<td>Boriala</td>
<td>Cyprinidae</td>
<td>Occasional</td>
<td>EX-NA/DD</td>
</tr>
<tr>
<td>8</td>
<td><em>Catla catla</em> (Ham)</td>
<td>Bahu</td>
<td>Cyprinidae</td>
<td>Common</td>
<td>LC</td>
</tr>
<tr>
<td>9</td>
<td><em>Chela atper</em> (Ham)</td>
<td>Selkona</td>
<td>Cyprinidae</td>
<td>Common</td>
<td>EX-NA</td>
</tr>
<tr>
<td>10</td>
<td><em>Cirrhinus mrigala</em> (Ham)</td>
<td>Mirika</td>
<td>Cyprinidae</td>
<td>Very common</td>
<td>LC</td>
</tr>
<tr>
<td>11</td>
<td><em>Cirrhinus reba</em> (Ham)</td>
<td>Bhangun</td>
<td>Cyprinidae</td>
<td>Common</td>
<td>LC</td>
</tr>
<tr>
<td>12</td>
<td><em>Esonus denricus</em> (Ham)</td>
<td>Dorikona</td>
<td>Cyprinidae</td>
<td>Very common</td>
<td>EX-NA</td>
</tr>
<tr>
<td>13</td>
<td><em>Labeo rohita</em> (Ham)</td>
<td>Rahu</td>
<td>Cyprinidae</td>
<td>Very common</td>
<td>EX-NA</td>
</tr>
<tr>
<td>14</td>
<td><em>Labeo beta</em> (Ham)</td>
<td>Bhangon</td>
<td>Cyprinidae</td>
<td>Common</td>
<td>EX-NA</td>
</tr>
<tr>
<td>15</td>
<td><em>Labeo bogar</em> (Ham)</td>
<td>Bogabata</td>
<td>Cyprinidae</td>
<td>Common</td>
<td>EX-NA</td>
</tr>
<tr>
<td>16</td>
<td><em>Labeo calbasu</em> (Ham)</td>
<td>Mali</td>
<td>Cyprinidae</td>
<td>Common</td>
<td>EX-NA</td>
</tr>
<tr>
<td>17</td>
<td><em>Labeo gonius</em> (Ham)</td>
<td>Kunhi</td>
<td>Cyprinidae</td>
<td>Very common</td>
<td>EX-NA</td>
</tr>
<tr>
<td>18</td>
<td><em>Punctius chola</em> (Ham)</td>
<td>Cheni puthi</td>
<td>Cyprinidae</td>
<td>Common</td>
<td>EX-NA</td>
</tr>
<tr>
<td>19</td>
<td><em>Punctius phutunio</em> (Ham)</td>
<td>Chokori puthi</td>
<td>Cyprinidae</td>
<td>Very common</td>
<td>EX-NA</td>
</tr>
<tr>
<td>20</td>
<td><em>Punctius sarana</em> (Ham)</td>
<td>Kani puthi</td>
<td>Cyprinidae</td>
<td>Common</td>
<td>EX-NA</td>
</tr>
<tr>
<td>21</td>
<td><em>Punctius sophore</em> (Ham)</td>
<td>Puthi</td>
<td>Cyprinidae</td>
<td>Very common</td>
<td>EX-NA</td>
</tr>
<tr>
<td>22</td>
<td><em>Punctius ticto</em> (Ham)</td>
<td>Henduri puthi</td>
<td>Cyprinidae</td>
<td>Common</td>
<td>EX-NA</td>
</tr>
<tr>
<td>23</td>
<td><em>Rasbora daniconius</em> (Ham)</td>
<td>Dorikona</td>
<td>Cyprinidae</td>
<td>Common</td>
<td>EX-NA</td>
</tr>
<tr>
<td>24</td>
<td><em>Ctenopharyngodon idella</em> (Valenciennes)</td>
<td>Common carp</td>
<td>Cyprinidae</td>
<td>Common</td>
<td>LC</td>
</tr>
<tr>
<td>25</td>
<td><em>Cyprinus carpio communis</em> (Linn)</td>
<td>Silver carp</td>
<td>Cyprinidae</td>
<td>Common</td>
<td>VU</td>
</tr>
<tr>
<td>26</td>
<td><em>Botia dario</em> (Ham)</td>
<td>Gethu</td>
<td>Cobitidae</td>
<td>Common</td>
<td>LC</td>
</tr>
<tr>
<td>27</td>
<td><em>Aorichthys aor</em> (Ham)</td>
<td>Ari</td>
<td>Bagridae</td>
<td>Common</td>
<td>LC</td>
</tr>
<tr>
<td>28</td>
<td><em>Mystus bleeki</em> (Ham)</td>
<td>Singara</td>
<td>Bagridae</td>
<td>Common</td>
<td>LC</td>
</tr>
<tr>
<td>29</td>
<td><em>Mystus cavasius</em> (Ham)</td>
<td>Lalua singara</td>
<td>Bagridae</td>
<td>Very common</td>
<td>LC</td>
</tr>
<tr>
<td>30</td>
<td><em>Mystus tengra</em> (Ham)</td>
<td>Singara</td>
<td>Bagridae</td>
<td>Common</td>
<td>LC</td>
</tr>
<tr>
<td>31</td>
<td><em>Mystus vittatus</em> (Bloch)</td>
<td>Singara</td>
<td>Bagridae</td>
<td>Common</td>
<td>LC</td>
</tr>
<tr>
<td>32</td>
<td><em>Rita rita</em> (Ham)</td>
<td>Ritha</td>
<td>Bagridae</td>
<td>Common</td>
<td>LC</td>
</tr>
<tr>
<td>33</td>
<td><em>Ompok bimaculatus</em> (Bloch)</td>
<td>Bami</td>
<td>Siluridae</td>
<td>Common</td>
<td>NT</td>
</tr>
<tr>
<td>34</td>
<td><em>Ompok pabda</em> (Ham)</td>
<td>Pavo</td>
<td>Siluridae</td>
<td>Common</td>
<td>NT</td>
</tr>
<tr>
<td>35</td>
<td><em>Ompok pabo</em> (Ham)</td>
<td>Pavo</td>
<td>Siluridae</td>
<td>Common</td>
<td>NT</td>
</tr>
<tr>
<td>36</td>
<td><em>Wallago attu</em> (Schneider)</td>
<td>Borali</td>
<td>Siluridae</td>
<td>Common</td>
<td>VU</td>
</tr>
<tr>
<td>37</td>
<td><em>Alia colia</em> (Ham)</td>
<td>Kokila</td>
<td>Schilbeidae</td>
<td>Common</td>
<td>EX-NA/DD</td>
</tr>
<tr>
<td>38</td>
<td><em>Dario dario</em> (Ham)</td>
<td>Gatho</td>
<td>Badidae</td>
<td>Common</td>
<td>DD</td>
</tr>
<tr>
<td>39</td>
<td><em>Monopterus cuchia</em> (Ham)</td>
<td>Cuchia</td>
<td>Symbranchidae</td>
<td>Common</td>
<td>LC</td>
</tr>
<tr>
<td>40</td>
<td><em>Heteropneustes fossilis</em> (Bloch)</td>
<td>Singi</td>
<td>Heteropneustidae</td>
<td>Common</td>
<td>EX-NA/DD</td>
</tr>
<tr>
<td>No.</td>
<td>Species</td>
<td>Common Name</td>
<td>Family</td>
<td>Status</td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>--------------------------------</td>
<td>-------------</td>
<td>-------------</td>
<td>----------</td>
<td></td>
</tr>
<tr>
<td>41</td>
<td><em>Chaca chaca</em> (Ham)</td>
<td>Kurkuri</td>
<td>Chacidae</td>
<td>Common</td>
<td></td>
</tr>
<tr>
<td>42</td>
<td><em>Xenentodon cancila</em> (Ham)</td>
<td>Kokila</td>
<td>Belonidae</td>
<td>Common</td>
<td></td>
</tr>
<tr>
<td>43</td>
<td><em>Chanda nama</em> (Ham)</td>
<td>Chanda</td>
<td>Chandidae</td>
<td>Common</td>
<td></td>
</tr>
<tr>
<td>44</td>
<td><em>Parambasis ranga</em> (Ham)</td>
<td>Chanda</td>
<td>Chandidae</td>
<td>Very Common</td>
<td></td>
</tr>
<tr>
<td>45</td>
<td><em>Parambasis baculis</em> (Ham)</td>
<td>Chanda</td>
<td>Chandidae</td>
<td>Common</td>
<td></td>
</tr>
<tr>
<td>46</td>
<td><em>Nandus nandus</em> (Ham)</td>
<td>Gagedi</td>
<td>Nandidae</td>
<td>Common</td>
<td></td>
</tr>
<tr>
<td>47</td>
<td><em>Glossogobius giuris</em> (Ham)</td>
<td>Patimutura</td>
<td>Gobiidae</td>
<td>Common</td>
<td></td>
</tr>
<tr>
<td>48</td>
<td><em>Anabas testudinious</em> (Ham)</td>
<td>Kawai</td>
<td>Anabantidae</td>
<td>Very common</td>
<td></td>
</tr>
<tr>
<td>49</td>
<td><em>Colisa fasciata</em> (Schneider)</td>
<td>Kholihona</td>
<td>Belontidae</td>
<td>Very common</td>
<td></td>
</tr>
<tr>
<td>50</td>
<td><em>Colisa lalia</em> (Ham)</td>
<td>Kholihona</td>
<td>Belontidae</td>
<td>Common</td>
<td></td>
</tr>
<tr>
<td>51</td>
<td><em>Channa barca</em> (Ham)</td>
<td>Futuki senga</td>
<td>Chandidae</td>
<td>Common</td>
<td></td>
</tr>
<tr>
<td>52</td>
<td><em>Colisa gachua</em> (Ham-Bloch)</td>
<td>Sengali</td>
<td>Channidae</td>
<td>Very common</td>
<td></td>
</tr>
<tr>
<td>53</td>
<td><em>Colisa marulius</em> (Ham)</td>
<td>Saal</td>
<td>Channidae</td>
<td>Common</td>
<td></td>
</tr>
<tr>
<td>54</td>
<td><em>Colisa punctatus</em> (playfair)</td>
<td>Gori</td>
<td>Channidae</td>
<td>Common</td>
<td></td>
</tr>
<tr>
<td>55</td>
<td><em>Colia stewarti</em> (playfair)</td>
<td>Sol</td>
<td>Channidae</td>
<td>Common</td>
<td></td>
</tr>
<tr>
<td>56</td>
<td><em>Colisa straitus</em> (Bloch)</td>
<td>Sal</td>
<td>Channidae</td>
<td>Common</td>
<td></td>
</tr>
<tr>
<td>57</td>
<td><em>Macrognathus aculeatus</em> (Bloch)</td>
<td>Tora</td>
<td>Mastacembelidae</td>
<td>Common</td>
<td></td>
</tr>
<tr>
<td>58</td>
<td><em>Macrognathus punculus</em> (Ham)</td>
<td>Jati tora</td>
<td>Mastacembelidae</td>
<td>Common</td>
<td></td>
</tr>
<tr>
<td>59</td>
<td><em>Macrognathus astacambelus aral</em></td>
<td>Tora</td>
<td>Mastacembelidae</td>
<td>Common</td>
<td></td>
</tr>
<tr>
<td>60</td>
<td><em>Tetrodon cutcutia</em> (Ham)</td>
<td>Gangatup</td>
<td>Tetrodentidae</td>
<td>Common</td>
<td></td>
</tr>
</tbody>
</table>

**Fig. 5. Gheko**

**Fig. 6. Gheko**
to raise it onto the ground. After the boat detects the net, it travels towards coast. The catch is then gathered at the centre of the net once the net has been brought up. Berjal needs 10-15 persons and 7 to 4 boats to operate. The majority of the catch composition is made up of species such *Wallago attu*, *Rita rita* etc.

**Gheko**

It is a fishing device generally constructed in the outlet of the wetland to the nearby river. It is mainly made up of “banas” (bamboo). Before winter, fishes go out of the wetland through the feeding channel and they are caught while entering this device.

**Phansijal**

A typical gill net called a *phansijal* is smaller than a *langijal*. Additionally, it has a rectangular form and is composed of lightweight materials like nylon or hemp. This net is controlled by connecting it to a support (often bamboo) at one end of the river, and a rope is fastened to the other side.

**Cast Net (Khewali jal)**

Khewali jal, a cast net, is the most common type of gear in the study area. It is a conical cast net with an 8–15 mm mesh size, measuring 2–2.5 metres in length. The cone’s bottom circular border is doubled and ranges in height from 30 to 50 cm. The cone’s tip has a rope tied to it. The fisherman’s right hand held the folded net while his left held the rope’s end. Typically, all fish species are captured with this net.

**Ghat Jal**

It is made of triangular net fitted in a bamboo frame. The wide mouth side of the net is placed in the flowing water body opposite to water current. Fishes enter the net and they are caught in large number by dragging it up by weigh of the fisherman and kept alive in cage made by net.

**Line and Hooks**

Different types of lines and hooks are used to catch medium to big sized fishes which are as follows:

**Sip boroshi**

It is made of bamboo, which is frequently longer than 6 metres. A nylon line with a hook and a grasshopper or earthworm or small forage fish as bait is fastened to the tip of the bamboo. This type of hooks is used to catch small and indigenous fishes.

**Nal boroshi**

In this type a short line is attached with a floating piece of *Nal* (a hollow stem of riverine grass). In the other end a small live fish is attached to the hook and released to open lentic water bodies at night. Mostly *Channa* species are caught by this method.

**Dham boroshi**

Here many hooks with small pieces of lines are attached to a long rope and kept in suitable water bodies during night hours. Many fishes are hooked in this process.

**Uvoti**

It is constructed with thin bamboo sticks and placed with baits for trapping carnivorous Fishes. Mostly *clarius* species are caught in this process.

**Polojal**

Made up of triangular net fitted in a bamboo frame. Large sized fish of the species *Labeo*, *Channa mauralius* etc. are caught.

**CONCLUSION**

In the present study, it has been found that the quantity of fishes caught in every gear has been decreasing resulting over exploitation of wetlands. Indiscriminate catching of fishes violating fishing laws results in lesser production in the successive years. For conservation of indigenous fish species and the traditional gears indiscriminate fish catching during breeding season must be banned.

According to the current study, fish are caught in the study region using different types of fishing equipment. The majority of people living in the study region depend primarily on agriculture and fishing for their livelihood, and traditional fishing gear plays a significant role in preserving their way of life.

**ACKNOWLEDGEMENT**

Authors would like to thanks the fishermen of Borsola Beel, Jorhat for sharing their knowledge about the fishing gears and helping us in collecting different fish species.

**Conflict of Interest**

There is no conflict of interest.

**Funding Source**

There is no funding sources.
REFERENCES


12. SIFDS. Census of the Artisanal Marine Fishing Fleet of Kerala State. (South Indian Federation of Fishermen Societies, Thiruvananthapuram, India, 1992)


