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Availability of fish species at the cinema hall fish market in Dumki, Patuakhali

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Abstract

The present study was carried out on the fish species availability in the cinema hall fish market at Dumki Upazilla in Patuakhali district from August, 2015 to November, 2015. A total of 67 inland and marine water fish and crustacean species were observed. Out of 67 fish species, 64 species belongs to finfish and rest 3 species to crustacean. Amongst the fin fish species, 41 were freshwater, 8 exotic and 15 marine water species. It was observed from the studies that 36% of fish supplied in the markets were Ilish, 11.33% Catfishes, 6% Prawn and Shrimp, 15.33% small indigenous species, 6% Marine fish, 11.33% Carps, 6.66% Thai pangas, 5% Tilapia and 2.33% Thai koi. Virtually most of the fish (80%) are brought from different rivers and ponds of the Patuakhali region and the remaining (20%) from Jessore and Satkhira region. The most abundant freshwater fish species were *Gibelion catla*, *Labeo rohita*, *Clarias batrachus*, *Cirrhinus cirrhosus*, *Channa punctatus* and marine fishes were *Lates calcarifer*, *Thunnus albacores*, *Johnius argentatus*, *Polynemus indicus* were most abundant. Nine species were detected critically or somewhat endangered. Various recommendations and measures have been suggested to improve the fish market.

Keywords: Fish market, Fish species, exotic fish, endangered fish, crustacean species

1. Introduction

Bangladesh is fortunate enough having extensive and huge water resources scattered all over the country in the form of river and canals. It is also resourceful in fish biodiversity; there are 260 indigenous freshwater species and 475 species of marine water fishes recorded (DoF, 2013) [7]. Fisheries sector has an important and potential contribution in the agro based economic development 3.69% in GDP, poverty elevation, employment, supplying animal protein 60% and earning the foreign currency (DoF, 2014) [6]. Patuakhali region is recognized as the fisheries zone of our country. It is close to Bay of Bengal. Dumki is one of the important upazila of Patuakhali district. A number of fish markets are situated around the upazila and among them cinema hall fish market is biggest. The fishes are regularly coming in this market from different localities of the country for consumption of the upazila dwellers and other people. Almost all varieties of fishes, both inland (fresh and brackish) and marine water fish species are available in the market. But up to now no work has been done on the species availability in the cinema hall fish market of Dumki upazila though it is important for the consumers. The present work was therefore undertaken to know the availability of species in fish market which give a rough knowledge about fish fauna available in this region. It also helps to analysis the real picture of species abundance of an area and to take the necessary measures if required.

2. Materials and methods

2.1 Study area: The study was conducted around cinema hall fish market range at latitude 22° 26' N and 90° 22' N under Dumki upazilla in Barisal division from August 2015 to November, 2015. Information was collected by direct survey using a structural questionnaire and observation method. Total 40 fish retailers were selected for questionnaire interview from this market. Several visits were made to the study area to collect accurate data.

2.2 Data processing and analysis

After collection of data, these were edited and coded. All the collected data were summarized

carefully and recorded. Finally relevant tables were prepared in accordance with the objectives of the study. Data presented in tabular form because it is simple in calculation, widely used and easy to understand. After data collection, these were verified to eliminate errors and inconsistencies. Any kind of inconsistencies in collected data were searched and discarded from the data. Data were processed and finally analyzed using tabular method.

3. Results and Discussion

3.1 Supply of fish in market

Virtually most of the fish (80%) are brought from different rivers and ponds of the Patuakhali region and the remaining (20%) from Jessore and Satkhira (especially Thai pangus and

tilapia). From the observation of availability of fishes in Mymensing fish market, it was found that 84.6% of the total fish were transported to Mymensingh town from Mymensingh region and other 15.4% from outside of Mymensingh region (Chandra, 2011).

It was estimated that a major portion of the fish (37%) found in this market was Ilish (*Tenualosa ilisha*). The availability of riverine fish such as ilish, prawn, small indigenous species and marine fish is higher in August, September and October months. Hossain (2009) had reported that 29% of fish supplied in the mymensingh fish market were carps, 28% SIS, 2% hilsa, 24% catfish, 4% prawn/shrimp, 3% tilapia, 2% koi, and 8% others.

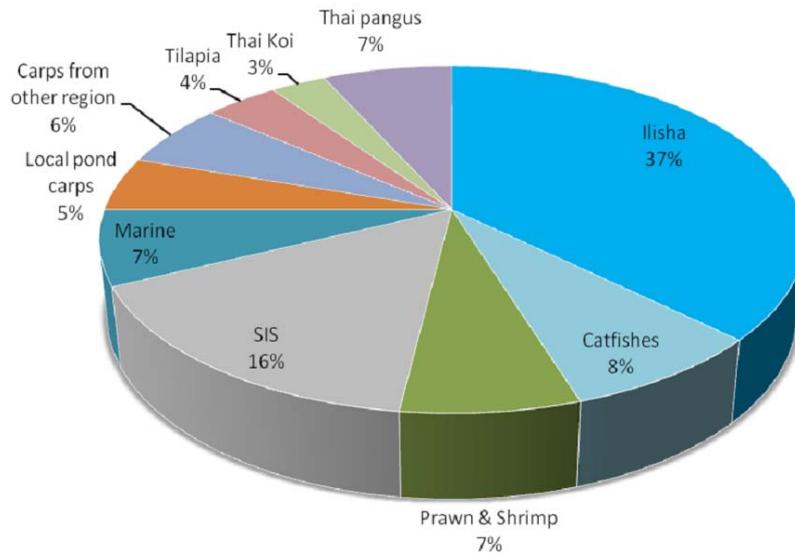


Fig 1: Main fish species composition in Cinema Hall fish market at Dumki of Patuakhali district.

3.2 Species composition

Fresh, brackish and marine water species were found in the cinema hall fish market at Dumki Upazila. A total of 67 freshwater Fresh, brackish and marine water were available. Among fin fishes, 41 were freshwater fish species, 8 exotic species, 15 marine fish species and 3 were prawn and shrimp

species. Chowdhury and Iqbal (2007) [5] have carried out an investigation on the fish species availability in the fish landing centers of Dhaka. They observed a total of 98 inland and marine water fish and crustacean species and out of 98, 87 species belonged to fin fish. Among the finfish species, 52 were fresh water species.

Table 1: Inland water fish species available in Cinema hall fish market

| SL No. | Local name | English name | Scientific name |
|--------|---------------|-----------------------|--------------------------------|
| 1 | Bhetki/ Korol | Barramundi/seabass | <i>Lates calcarifer</i> |
| 2 | Tengra | Striped dwarf catfish | <i>Mystus vittatus</i> |
| 3 | Rui | Indian major carp | <i>Labeo rohita</i> |
| 4 | Catla | Catla | <i>Gebelion catla</i> |
| 5 | Baim/Guchi | Striped spiny eel | <i>Macragnathus pancalus</i> |
| 6 | Bele | Tank goby | <i>Glossogobius giuris</i> |
| 7 | Pabda | Pabda catfish | <i>Ompok pabda</i> |
| 8 | Koi | Climbing perch | <i>Anabas testudineus</i> |
| 9 | Shol | Banded snakehead | <i>Channa striata</i> |
| 10 | Taki | Spotted snakehead | <i>Channa punctata</i> |
| 11 | Bheda/Meni | Mud perch | <i>Nandus nandus</i> |
| 12 | Foli | Grey featherback | <i>Notopterus notopterus</i> |
| 13 | Chital | Humped featherback | <i>Chitala chitala</i> |
| 14 | Ilish | Hilsa | <i>Tenualosa ilisha</i> |
| 15 | Tit punti | Ticto barb | <i>Puntius ticto</i> |
| 16 | Sarpunti | Olive barb | <i>Puntius sarana</i> |
| 17 | Shing | Stinging cat fish | <i>Heteropneustes fossilis</i> |
| 18 | Chapila | Indian river shad | <i>Gudusia chapra</i> |

| | | | |
|----|--------------|--------------------------|------------------------------|
| 19 | Mola | Indian carplet | <i>Amblypharyngodon mola</i> |
| 20 | Chaka | Squarehead catfish | <i>Chaca chaca</i> |
| 21 | Silong | Silond catfish | <i>Silonia silondia</i> |
| 22 | Kachki | Ganga river spart | <i>Corica soborna</i> |
| 23 | Phasa | Gangetic hairfin anchovy | <i>Setipinna phasa</i> |
| 24 | Bata | Bata labeo | <i>Labeo bata</i> |
| 25 | Rita | Rita | <i>Rita rita</i> |
| 26 | Ghagra | Gagora catfish | <i>Arius gagora</i> |
| 27 | Kuchia | Eel | <i>Monopterus cuchia</i> |
| 29 | Tapasi | Paradise threadfin | <i>Polynemus paradiseus</i> |
| 30 | Kakila | Nedle fish | <i>Xenentodon cancila</i> |
| 31 | Kalo bujuri | Tengra mystus | <i>Mystus tengra</i> |
| 32 | Gulsa tengra | Gangetic tengra | <i>Mystus cavasius</i> |
| 33 | Mrigal | Mrigal | <i>Cirrhinus cirrhosus</i> |
| 34 | Magur | Air breathing catfish | <i>Clarias batrachus</i> |
| 35 | Cheng | Asiatic snakehead | <i>Channa orientalis</i> |
| 36 | Jat puti | spotfin swamp barb | <i>Puntius sophore</i> |
| 37 | khalisa | striped gourami | <i>Colisa fasciata</i> |
| 38 | kalibaus | black gourami | <i>Labeo calbasu</i> |
| 39 | darkina | rasbora | <i>Rasbora rasbora</i> |
| 40 | pangas | river pangas | <i>Pangasius pangasius</i> |
| 41 | Sal baim | zig zag eel | <i>Mastacembelus armatus</i> |

3.3 Exotic species

Eight exotic fish species were found in the cinema hall fish market of Dumki Upazila. There are 12 exotic species available in our country and cultured in the closed water bodies as a result exotic species are found all the year round and they have a good market demand in this region.

Table 2: Exotic fish available in the Cinema Hall fish market

| Sl No. | Local name | Scientific name |
|--------|---------------|------------------------------------|
| 1 | Grass carp | <i>Ctenopharyngodon idella</i> |
| 2 | Common carp | <i>Cyprinus carpio</i> |
| 3 | Silver carp | <i>Hypophthalmichthys molitrix</i> |
| 4 | Thai sarpunti | <i>Banbonymus gonionotus</i> |
| 5 | Tilapia | <i>Oreochromis mossambica</i> |
| 6 | Nilotica | <i>Oreochromis niloticus</i> |
| 7 | Mirror carp | <i>Cyprinus carpio</i> |
| 8 | Black carp | <i>Mylopharyngodon piceus</i> |

3.4 Marine fishes

Brackish and marine water species were abundant in Patuakhali district because it is close to the Bay of Bengal. Very few numbers of marine species were found in the fish market in Dumki Upazila of Patuakhali district because consumer preference is lower. Ali (2004) ^[1] had recorded that 99 marine water fish species are available in fish landing center in Khulna region.

Table 4: Crustaceans available in the cinema hall fish market

| Sl No. | Local name | English name | Scientific name |
|--------|---------------|--------------------|----------------------------------|
| 1 | Golda chingri | Fresh water prawn | <i>Macrobrachium rosenbergii</i> |
| 2 | Gura chingri | Spider prawn | <i>Macrobrachium tenuipes</i> |
| 3 | Bagda chingri | Giant tiger shrimp | <i>Penaeus monodon</i> |

3.6 Endangered species

There are some species that were available at least 5-10 years ago but now they are endangered or about to extinct. According to the Red list of IUCN- Bangladesh (2000), 54 species are somewhat threatened (vulnerable, endangered and

Table 3: Marine water fish species available in Cinema hall fish market

| Sl No. | Local name | English name | Scientific name |
|--------|-------------|--------------------|-------------------------------|
| 1 | Tular dandi | Lady fish | <i>Sillago domina</i> |
| 2 | Lal poa | Silver jew | <i>Johnius argentatus</i> |
| 3 | Churi | Ribbon fish | <i>Trichiurus haumela</i> |
| 4 | Datina | Silver bream | <i>Pomadasys hasta</i> |
| 5 | Cheowa | torpedo trevally | <i>Taenoides anguillariss</i> |
| 6 | Loitta | Bombay duck | <i>Harpadon nehereus</i> |
| 7 | Lakhua | Indian salmon | <i>Polynemus indicus</i> |
| 8 | Ilish | Hilsa shad | <i>Tenuulosa ilisha</i> |
| 9 | Rupsha | Skipjack tuna | <i>Katsuwonus pelamis</i> |
| 10 | Tuna | Yellowfin tuna | <i>Thunnus albacores</i> |
| 11 | Med | Gaint sea cat fish | <i>Kategus typus</i> |
| 12 | Rup chanda | chinese pomfert | <i>Pampus chinensis</i> |
| 13 | Matiya | jack and pompanos | <i>Cybium guttatum</i> |
| 14 | Potka | - | <i>Chelonodon patoca</i> |
| 15 | khorsula | Corsula | <i>Rhinomugil corsula</i> |

3.5 Crustacean

A total of 3 crustacean species were found in the Cinema Hall fish market. Fresh water pleomonids are referred to as prawn and marine penaeids and pleomonids are called shrimp (FAO 1985). In Bangladesh, 36 shrimp species are available. From the economic point of view, bagda (*Penaeus monodon*) is the remarkable species which is now being cultured. In case of crab, there are 12 species available in coastal area and coastal mangrove forest. But crab is not found in this fish market.

critically endangered) though the list is 12 years old. Nine species were detected critically or somewhat endangered. It is very essential to conserve these species otherwise they will become completely extinct.

Table 5: Endangered species detected in the Cinema Hall fish market

| SI No. | Local name | English name | Scientific name |
|--------|------------|--------------------|------------------------------|
| 1 | Pabda | Pabdah catfish | <i>Ompok pabda</i> |
| 2 | Chital | Humped featherback | <i>Chitala chitala</i> |
| 3 | Bagha air | gangetic goonch | <i>Bagarius bagarius</i> |
| 4 | Boal | Freshwater shark | <i>Wallago attu</i> |
| 5 | Dhela | Cotio | <i>Osteobrama cotio</i> |
| 6 | Sarpunti | Olive barb | <i>Puntius sarana</i> |
| 7 | Meni | Mud perch | <i>Nandus nandus</i> |
| 8 | Foli | Grey featherback | <i>Notopterus notopterus</i> |
| 9 | Kalibaus | Black rohu | <i>Labeo calbasu</i> |

Conclusion

Varieties of fish species were observed in cinema hall fish market. A number of constraints for fish marketing were reported by retailer, including lack of storage facilities, poor supply of ice, exploitation by middlemen, lack of money and lack of infrastructure. According to the retailers, political disturbances also affect fish transportation as well as marketing. In spite of socio-economic constraints, most of the households of retailers (71%) have improved their status through fish marketing activities. However, concerns arise about the long term sustainability of the fish biodiversity due to poor institutional and organizational support. A noticeable number of fishes are critically endangered to extinct. The government, NGO, national and international donars should come forward for a wider study on the aquatic biodiversity of the markets.

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