



International Journal of Fisheries and Aquatic Studies

ISSN: 2347-5129

(ICV-Poland) Impact Value: 5.62

(GIF) Impact Factor: 0.352

IJFAS 2016; 4(3): 339-342

© 2016 IJFAS

www.fisheriesjournal.com

Received: 03-03-2016

Accepted: 04-04-2016

Md. Jahangir Alam

Assistant Professor, Department of Fisheries Management, Faculty of Fisheries, Patuakhali Science and Technology University, Dumki, Patuakhali-8602, Bangladesh.

Sharmin Akter

Department of Aquaculture, Faculty of Fisheries, Bangladesh Agricultural University, Mymensingh.

Suprakash Chakma

Assistant Professor, Department of Fisheries Technology, Faculty of Fisheries, Patuakhali Science and Technology University, Dumki, Patuakhali-8602, Bangladesh.

Md. Waheduzzaman

Lecturer, Department of Fisheries Biology and Genetics, Faculty of Fisheries, Patuakhali Science and Technology University, Dumki, Patuakhali-8602, Bangladesh.

Sharmin Akter Maghna

Department of Aquaculture, Faculty of Fisheries, Bangladesh Agricultural University, Mymensingh.

Correspondence

Md. Jahangir Alam

Assistant Professor, Department of Fisheries Management, Faculty of Fisheries, Patuakhali Science and Technology University, Dumki, Patuakhali-8602, Bangladesh.

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

Md Jahangir Alam, Sharmin Akter, Suprakash Chakma, Md Waheduzzaman, Sharmin Akter Maghna

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.

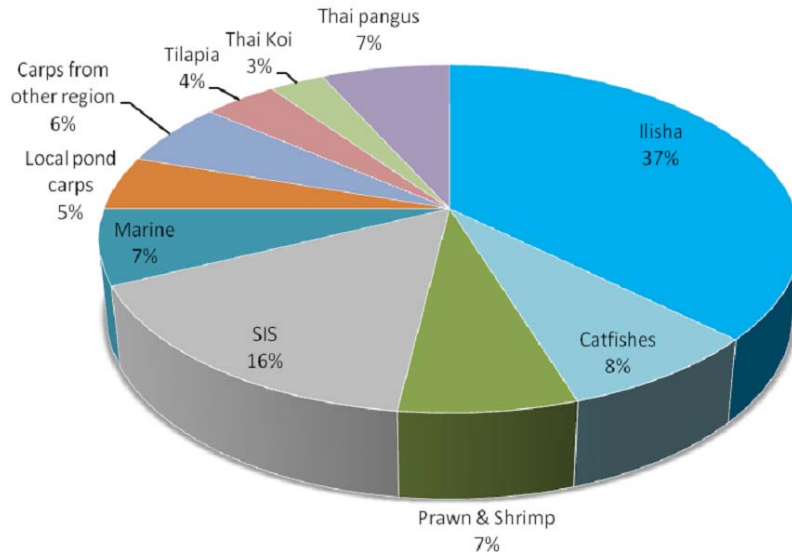


Fig 1: Main fish species composition in Cinema Hall fish market at Dumki of Patuakhali district.

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 Iqubal (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

Sl 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.

References

1. Ali MY, Salim GM, Mannan MA, Rahman MM, Sabbir W, Murshida A. Fish species availability observed in the fish landing centers of Khulna district in Bangladesh. *J of Bio. Sci.* 2004; 4(5):575-580.
2. BFDC. Role of fish landing center in Bangladesh. In: Saronika of Matchya Pakkha. Ministry of Fisheries and Livestock. Government of Peoples Republic of Bangladesh, 2001.
3. BOBP (Bay of Bengal Programme). Marine small scale fisheries of Bangladesh, A general description. Development of small scale fisheries in the Bay of Bengal. Madras, India, 1985, 4-59.
4. Chandra KJ, Basak SS, Hasan M. Landing centers and availability of fish species in fish markets of Mymensingh town. *J Bangladesh Agril. Univ.* 2011; 9(2):311-318.
5. Chowdhury MM, Iqbal KF. A survey on the availability of fish species in the landing centers of Dhaka city in Bangladesh. *Bangladesh J Zool.* 2007; 35(2):259-267.
6. DoF. Jatio Mothsya Soptaho. Department of Fisheries. Ministry of Fisheries and Livestock. Government of the People's Republic of Bangladesh, Dhaka, 2013-2014.
7. DoF. Jatio Mothsya Soptaho. Department of Fisheries. Ministry of Fisheries and Livestock. Government of the People's Republic of Bangladesh, Dhaka, 2012-2013.
8. FAO. Fresh water prawn farming. A manual for the culture of *Macrobrachium rosenbergii*, 1985.
9. Hossain M. A preliminary survey on the fisheries and socio-economic conditions of fishermen of the Old Brahmaputra River, MS Thesis, Department of Fisheries Management, BAU, Mymensingh, 1998, 95.
10. Hossain MAR. Fish biodiversity in rivers of Bangladesh. In: Saronika of Matchya Saptaho (P-35). Ministry of Fisheries and Livestock. Government of Peoples Republic of Bangladesh, 2012.
11. Hossain MF. Abundance of fish and shellfish species in some Mymensingh markets. MS thesis, Department of Aquaculture, Bangladesh Agricultural University, Mymensingh, 2009, 54.
12. IUCN Bangladesh. Red book of threatened fishes of Bangladesh. The world conservation union, Bangladesh, 2000.
13. Mia GMF. A study of production and marketing of culture fishes by the selected pond owners in Mymensingh district. MS Thesis, Department of Co-operation and Marketing, Bangladesh Agricultural University, Mymensingh, 1996, 119.
14. Rahman AKA. Freshwater Fishes of Bangladesh. The Zoological Society of Bangladesh, Department of Zoology, University of Dhaka, 1989, 364.