

Specification of Fish Species available at Bilimora fish market, Gujarat, India

BENGANI Ranjana¹

**Department of Aquatic Biology
Veer Narmad South Gujarat University, Surat
ranjanajain27@yahoo.com**

VARSANI Alpa²

**Department of Aquatic Biology
Veer Narmad South Gujarat University, Surat
alpamanoj87@gmail.com, avvarsani@vnsgu.ac.in**

MENON Kapila Manoj³

**Department of Aquatic Biology
Veer Narmad South Gujarat University, Surat
kapilamanojee@yahoo.com**

LAD Jeny⁴

**Department of Aquatic Biology
Veer Narmad South Gujarat University, Surat
jenylad1999@gmail.com**

Abstract:

For the economic growth of the country aquaculture is one of the important sectors where activities undertaken are for regulation of fish production and consumption through sale. Fish market is a major place where the fish and fish products of commercial importance are laid open for sale. Survey of Bilimora fish market was done each day for a period of one month during January 2021-February 2021. The working condition of the fish markets was accessed and found poor in hygienic and infrastructure built up. A total of 28 fish species belonging to eleven orders including nineteen families were recorded during the present study. Perciformes was the most dominate order followed by Siluriformes and Cypriniformes. Other recorded orders contributed equally in proportion.

Key words: Fish, market, Survey, Species diversity, Bilimora.

1. Introduction

A fish can be defined as an aquatic creature, which is a cold-blooded vertebrate and has gills throughout life and limbs if any are in form of fins. Fishes are well known for their nutrients and taste. Fishes are good source of proteins and minerals and fatty materials including 3-omega and 6-omega fatty acids which are known for having anticancer and other properties. The nutrient values of fish however vary from one species and one individual to another depending upon the age, sex, environment and season. Fish market is a place where the fishes and fish products of commercial importance are subjected to sale. Fish marketing can be dedicated to wholesale trade between fishermen and fish merchants or the sale of seafood to individual consumers.

Market infrastructure includes wholesale market, retail market and fish retail outlets. In wholesale markets, large quantities of fishes are collected from the surrounding places sold to other wholesalers and Retailers. Biswas [1] reported that demand and consumption patterns of fish are determined by geography, feeding habits of the locality, traditional and nutritional standards. Demand of fish may be either domestic or for export purpose. The growth of fish production as well as development of fishery sector in terms of economy and infrastructure is highly dependent on an efficient fish marketing system [2]. India has 7,517 km of marine coastline with 3,827 fishing villages and 1,914 traditional fish landing centers. India's fresh water resources consist of 195,210 km of rivers and canals, 2.9 million ha of minor and major reservoirs, 2.4 million ha of ponds and lakes and about 0.8 million ha of flood plain wetlands and water bodies [3]. South Gujarat has 300 km coastline constituting 19% of Gujarat coastline. South Gujarat has lots of potential production. Bilimora is a city situated on the banks of the river Ambika, in Gandevi taluka and Navsari district of Gujarat state in India. In Bilimora there are two fish markets, one is wholesale fish market and the other is retail fish market. The wholesale fish market is located at Bunder road, Navapura area of Bilimora city and retail fish market is situated near railway station of Bilimora City. Trucks loaded with fishes are brought every day to the market early in the morning without cooling facility. The aim of the present work was to access the present status of fish market of Bilimora and the Specification of Fish Species available at Bilimora fish market. Present work would provide current scenario of fish markets of Bilimora city.

2. Materials and Methods

2.1 Study area

Bilimora city is roughly 70 kilometers south of the city of Surat and is the southernmost point of the Surat Metropolitan Region and the Metropolis of Surat. The city is supposed to have been surrounded by three rivers: Bilimora is a city situated on the bank of the river Ambika in Gandevi taluka and Navasri district of Gujarat state, in India.



FIGURE 1 MAP OF GUJARAT

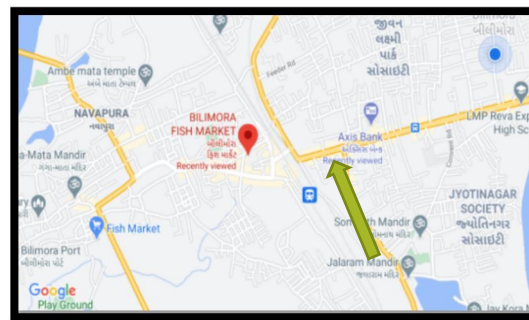


FIGURE 2 MAP SHOWING BILIMORA FISH MARKET

2.2 Primary data collection

Personal visit was made to wholesale and retail markets of Bilimora city located at Bunder road, Navapura area and near Railway station of Bilimora respectively. The monthly data were collected from both the selected markets. A scheduled questionnaire was constructed for the purposed study. Questions were kept self-explanatory assuming that fish traders are illiterate/less educated and are deprived of technical knowledge. Questions were asked in non-formal way so that fish traders can easily respond even if they do not have specific scientific knowledge of the field. Collection of data was carried out during the period from 19th January 2021 to 17th February 2021.

2.3 Identification of fishes

The fishes were identified by their common name collected from the local fisherman. The fishes were identified by the common name and with fish characters such as body shape, length, depth, mouth and nature of fish spines, scales, etc. following standard books [4,5,6].

3. Result and discussion

3.1 Description of Bilimora fish market

The wholesale fish market was constructed in 1900 by Bilimora Nager palika. Total 22 traders were enrolled and allotted fixed place by SMC for fish trading from 4:00 a.m. to 10:00 a.m. The market was dominated by women wholesalers. It was observed that approximately 30 tons of fishes were marketed daily by wholesalers of Bilimora fish market. Live fishes were brought to the market in drums while dead fishes were packed in thermocol boxes. Fishes were sorted according to the species and size and sold in the market. Fish distribution was at local and district level. Traders of Navapura wholesale fish market sold their fishes to retailers of various local fish markets, fish markets of Valsad, Navsari, Amalsad, Bigri, Devdha, retail outlets, vendors, also to hotels and restaurants of Bilimora city. It was observed that wholesalers earned commission from traders who sent their fishes from different parts of Gujarat to Navapura wholesale fish market. They also got profit by selling fishes to retailers. Fishes brought from other near city fetched higher price compared to the local one due to quality and demand.

During study it was observed that hygienic conditions of wholesale market were very poor. Most of the fish merchants did not used ice or any chilling facilities while very few of them used meager amount of crushed ice during selling the fishes. Even there was no proper building for marketing. Only small platform was constructed in the market but wholesalers did not use it for fish selling.

Fishes were brought to retail markets from wholesale fish market of Bilimora city. Retail fish market was located near Raliway station of Bilimora city. Fishes were sold in retail markets from 8:00 a.m. to 10:00 a.m. in the morning and 4:00 p.m. to 8:00 p.m. in the evening. Infrastructure of retail fish markets was very poor. Lack of proper building and flooring, facility of electricity, water drainage and storage room were not seen in the market.

There was no lavatory and washing facilities. Hygienic conditions were very poor. Retailers sold their fishes on the roadside without maintaining the quality of fish. There was no Government organised shop or outlet found from the study area.

3.2 Fish fauna of Bilimora fish market

Varieties of fishes were found to be sold in the wholesale fish market. The checklist of fishes along with scientific name, order and families sold in the Bilimora fish market is depicted in Table 1. The percentage composition of different orders of fishes is shown in fig.3. Total 28 species of fish were reported during the present study. The order wise observations of finfish represent Perciformes the most abundant with 29% contribution, which was further followed by Cypriniformes (17%), Siliuriformes (13%), Mugiliformes (9%), Scombriformes (8%), Gobifomes, Crangiformes, Clupeiformes, Anguilliformes, Beloniformes and Characiformes (4%) (Fig 3). The same varieties of fishes found in wholesale market were noted in retail fish market (Table 1).

Upadhyay [7] studied two wholesale fish markets in the state viz., Battala in West Tripura district and Udaipur in South Tripura district and two retail markets viz., Lake Chowmuhani and Lembucerra fish markets. He observed that the fish markets were poorly endowed with basic infrastructure and services has been supported by Flowera et al. [8]. According to Deshmukh and Jawale [9] fish marketing faced many problem such as highly perishable nature of fish, too many species, difficulties in supply and demand for transportation of fish, supply of electricity, inadequate supply of cold storage facilities, display of stall and in fish markets. Similar results were found in present study showing poor infrastructure and less developed wholesale and retail markets. Lawal and Idega [10] found that 90% of women participated in fish marketing in Benue state. Similar observations were made in the current study. Wholesale and retail fish markets of Bilimora city were dominated by women indicated active participation of women in fishing sector.

Table 1: Fish fauna of Bilimora fish market

SN.	Vernacular Name	Scientific name	Order	Family
1	Bangda	<i>Rastrelliger kanagurta</i>	Scombriformes	Scombrinae
2	Gilli	<i>Synchirus gilli</i>	Scombriformes	Cottidae
3	Godra	<i>Epinephelus chlorostigma</i>	Perciformes	Serranidae
4	Paplet	<i>Pampus argenteus</i>	Perciformes	Bramidae
5	Gariyu	<i>Lates calcarife</i>	Perciformes	Latidae
6	Bhalvo	<i>oreocheomis niloticus</i>	Perciformes	Cichlidae
7	Rawas/Dara	<i>Eleutheronema tetradactylum</i>	Perciformes	Polynemidae
8	Rani fish	<i>perca flavescens</i>	Perciformes	Percidae
9	Kaska	<i>Lethrinus nebulosus</i>	Perciformes	Lethrinidae
10	Vam	<i>Anguilla bengalensis</i>	Anguilliformes	Auguillidae
11	Catla	<i>Catla catla</i>	Cypriniformes	Cyprinidae
12	Rohu	<i>Labeo rohita</i>	Cypriniformes	Cyprinidae
13	Marigal	<i>Cirrhinus cirrhinus</i>	Cypriniformes	Cyprinidae
14	Silver carp	<i>Hypophthalmichthys molitrix</i>	Cypriniformes	Cyprinidae

15	Bombayduck/ Bumla	<i>Harpadon nehereus</i>	Mugiliformes	Synodontidae
16	Boi	<i>Mugil cephalus</i>	Mugiliformes	Mugilidae
17	Mudskipper	<i>Boleophthalmus</i>	Gobiiformes	Oxudercidae
18	Basa fish	<i>Pangasius bocourti</i>	Siliuriformes	Pangasiidae
19	Catfish	<i>Clarias batrachus</i>	Siliuriformes	Clariidae
20	Singhadaa	<i>Sperata seenghala</i>	Siliuriformes	Bagridae
21	Halwa	<i>Parastromateus niger</i>	Carangiformes	Carangidae
22	Chaklii	<i>Cypselurus oligolepis</i>	Beloniformes	Exocoetidae
23	Rup Chandan	<i>Piaractus brachypomus</i>	Characiformes	Serrasalminidae
24	Kati	<i>Stolephorus indicus</i>	Clupeiformes	Engraulidae

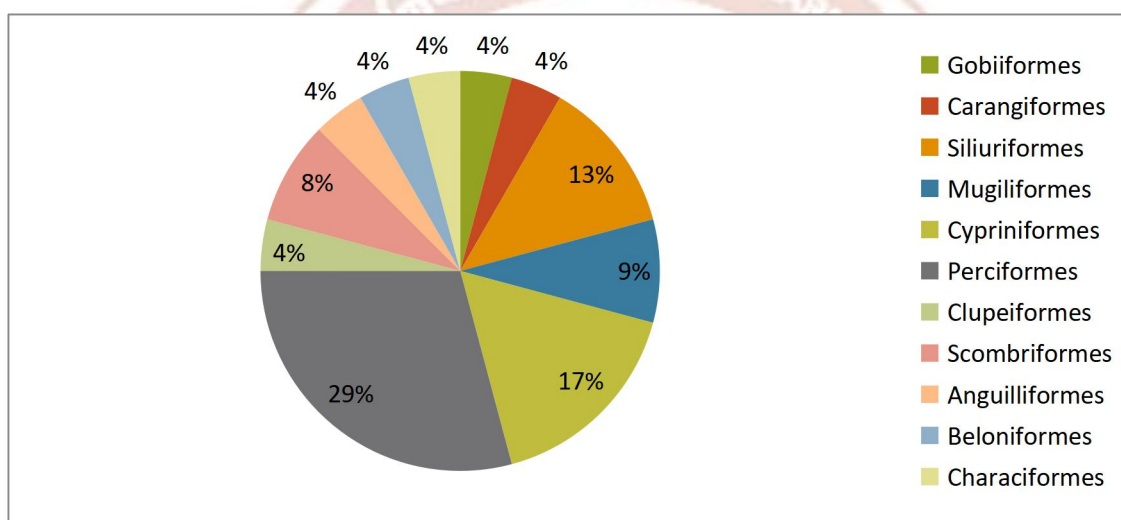


FIGURE 3 ORDER CONTRIBUTION OF FISH SPECIES

4. References

- [1] K.P. Biswas, Economics in commercial fisheries, Daya publishing house, Delhi pp. 286, 2006.
- [2] P. Chourey, D. Meena, A. Varma, G. Saxena, Fish marketing system in Bhopal (M.P.), BiologicalForum – An International Journal. 6 (2014):19-21.
- [3] G.B. Kumar, K.K. Datta, P.K. Joshi, P.K. Katiha, R. Suresh, , T. Ravisankar, , K. Ravindranath, and M. Menon, Domestic fish marketing in India-Changing structure, conduct, performance and policies, Journal of Agricultural Economics Research Review, 21(2008):345-354.
- [4] F. Day, The fishes of India being a natural history of the fishes known to inhabit the seas and freshwater of India, Burma and Ceylon, Vol. I & II, William Dawson and Sons Ltd., London, pp. 20- 778, 1978.
- [5] P.K. Talwar and A.K. Jhingran, Inland fishes of India and adjacent countries. Vol. 1. A.A. Balkema/Rotterdam. pp1177, 1992.
- [6] K.C. Jayaram, The freshwater fishes of the Indian region, Narendra Publishing House, 1999.

- [7] A. D. Upadhyay, Economic analysis of fish marketing in Tripura, Journal of Fisheries Economics and Development, 9 (2):12-20, 2008.
- [8] F. A. Flowra, K. Bashir, S. N. Jahan, M. A. Samad and A. Sen, Fish marketing system and socio economic status of commission agents (aratdars) in Natore and Rajshahi, Bangladesh, Trends in Fisheries Research, 1(2):27-33, 2012.
- [9] D. R. Deshmukh and C. S. Jawale, Study of fish market in Paithan, Dist. Aurangabad, Maharashtra, Trends in Fisheries Research, 3(3):5-6, 2014.
- [10] W. L. Lawal and E. O. Idega, Analysis of fish marketing in Benue State. Annual conference of association of agricultural economists, A.B.U. Zaria: 3-5, 2004.

