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Diversity and Distribution of Marketed Fish Species in Bhokar Region Nanded District, Maharashtra

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Abstract:

The present study assesses the ichthyofaunal diversity available in the local fish markets of Bhokar, Maharashtra, with the aim of documenting commercially important species and understanding their sources of origin. A total of 17 species belonging to various taxonomic orders—including Cypriniformes, Siluriformes, Perciformes, Channiformes, Osteoglossiformes, Synbranchiformes, and Decapoda—were recorded during the survey. Cypriniformes represented the highest species richness, primarily due to the dominance of carp varieties commonly supplied through aquaculture and capture fisheries. Several species were sourced from wild habitats, while others originated from aquaculture units or nearby regions such as Telangana and Vijayawada. The presence of both native and non-native species highlights the influence of market demand, aquaculture practices, and regional trade networks on local fish availability. This assessment provides baseline information useful for biodiversity monitoring, sustainable fishery management, and understanding the ecological and economic significance of marketed fish species in the Bhokar region.

Keywords: Ichthyofaunal diversity, biodiversity monitoring, sustainable fishery management, economic significance.

Introduction

Fishes are cold-blooded aquatic animals and are widely recognized as rich sources of protein, vitamins, minerals, and essential oils. A fish market serves as a commercial hub where fish and fish-based products are traded, and the overall process of production, distribution, and sale is collectively known as fish marketing (Shammi & Bhatnagar, 2002). According to Biswas (2006), the demand and consumption of fish in any region are shaped largely by the dietary habits of the local population. Bankole (2012) further emphasized that fish marketing and distribution typically operate through multiple channels.

In Maharashtra, the Marathwada region is endowed with abundant aquatic resources. Major tributaries of the Godavari river such as the Purna, Painganga, Asna and Dudhna along with numerous reservoirs and lakes, contribute significantly to the region's potential for fisheries development.

During the present survey of local fish markets (Table 1), notable variation was observed in the size and condition of fishes available for sale. While some specimens appeared fresh and healthy, others were in comparatively poor condition. The surveyed teleost fauna included both scaly species and scaleless forms such as *Wallago attu*, *Mystus seenghala*, and *Clarias gariepinus*. In total, 15 fish species were recorded. Additionally, one freshwater prawn species, *Macrobrachium rosenbergii*, and one freshwater crab species, *Barytelphusa cunicularis*, were also documented in the markets.

Material and Methods

The data were collected through a survey of the local fish market using an observation-based questionnaire and interview techniques. In Bhokar city, a single weekly market operates every Thursday. The fishes sold in this market are sourced from various local water bodies,

including Sudha Prakalp, Talyachi Wadi, Dhanora Pond, and several nearby ponds in the Bhokar region. In addition to local catches, some fish are procured from neighboring states such as Telangana and Andhra Pradesh.

The study was conducted from June 2024 to May 2025. Data were gathered through direct observation and oral interviews with fish sellers and traders in the local market.

Identification

The identification of fish species was carried out using standard ichthyological literature, including Day (1981), Talwar and Jhingran (1991), and Jayaram K.C. (1999).

Results and Discussion

A total of 15 fish species belonging to 6 orders, 9 families were recorded in the surveyed markets. Cypriniformes represents the largest proportion, followed by Siluriformes, while other orders such as Perciformes, Channiformes, Osteoglossiformes, Synbranchiformes. Species varied in their size, availability, and condition. Both wild-caught and aquaculture sources contributed to the market supply. Scaleless species such as *Wallago attu, Mystus seenghala*, and *Clarias gariepinus* were commonly observed alongside cyprinid fishes. Additionally, one prawn species (*Macrobrachium rosenbergii*) and one freshwater crab species (*Barytelphusa cunicularis*) were documented.

As Bhokar is a tribal taluka most of the population of this taluka having ST people. They usually prefer fishes in their diet for the health concern.

Bhokar is a tribal-dominated taluka, with a significant proportion of its population belonging to Scheduled Tribes (ST). The socio-cultural traditions of these communities place strong emphasis on natural food resources, and fish has long been an integral part of their dietary

habits. For many tribal households, fish is not only a preferred food item but also an affordable and accessible source of high-quality nutrition. Its richness in protein, essential fatty acids, vitamins, and minerals makes it particularly valuable for maintaining good health, especially in rural and economically vulnerable populations.

In addition to its nutritional importance, fish consumption is closely linked with the lifestyle and livelihood patterns of the local people. Many families rely on nearby ponds, reservoirs, and rivers for daily or seasonal fish availability, making fish a routine component of their meals. Thus, the preference for fish among the tribal population of Bhokar is shaped by a combination of cultural heritage, nutritional awareness, and easy accessibility to aquatic resources.

Overall, the findings of this study highlight the interconnectedness of ecological resources, market dynamics, and socio-cultural factors in shaping fish availability and consumption in the Bhokar region. Strengthening cold-chain infrastructure, improving handling practices, and promoting sustainable fisheries management could further enhance the quality and diversity of fish available in the market.

Another important observation made during the study was the substantial amount of fish waste generated in the local markets. If this waste is systematically collected and utilized for the preparation of organic fertilizer, it could provide significant benefits to both fishermen and the local community. Fish-based fertilizers are rich in essential nutrients and can be easily prepared and used at the household or community level, promoting waste recycling and sustainable resource use (Balkhande and Azzem, 2024).

Future studies may focus on seasonal variations, economic analysis of fish trade, and consumer preference patterns to provide a more comprehensive understanding of the fisheries sector in Marathwada.

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Table 1. Fish Species Recorded in Bhokar Market

Sr. No.	Order	Family	Species	Common Name	Source
1	Cypriniformes	Cyprinidae	*Labeo rohita*	Rohu	Aquaculture/Wild
2			*Catla catla*	Catla	Aquaculture
3			*Cirrhinus mrigala*	Mrigal	Aquaculture
4			*Labeo calbasu*	Calbasu	Wild
5			*Pethia ticto*	Ticto barb	Wild
6			*Cyprinus carpio*	super	Aquaculture/Wild
7	Perciformes	Cichlidae	*Oreochromis mossambicus*	Tilapia	Wild
8		Anabantidae	*Anabas testudineus*	Climbing perch	Wild
9	Channiformes	Channidae	*Channa punctata*	Spotted snakehead	Wild
10			*Channa striata*	Striped snakehead	Wild
11	Osteoglossiformes	Notopteridae	*Notopterus notopterus*	Featherback	Wild
12	Synbranchiformes	Mastaceambelidae	*Mastacembelus armatus*	Eel	Wild
13	Siluriformes	Clariidae	*Clarias gariepinus*	African cat fish	Telangana

14		Bagridae	*Mystus seenghala*	Catarna	Wild
15		Pangasiidae	*Pangasius pangasius*	Pangas	Vijaywada
16	Decapoda	Palaemonidae	*Macrobrachium rosenbergii*	God Zhinga	Wild
17		Gecarcinucidae	*Barytelphusa cunicularis*	Khekda	Wild

Graph: 1 Species distribution by taxonomic order.