

FISH DIVERSITY IN RELATION TO FISH ECONOMICS OF BENETURA RESERVOIR FROM MURUM DIST. OSMANABAD (MAHARASHTRA), INDIA***S.S. DANGE, K.H. RAJPUT AND M. G. BABARE¹**Department of Zoology,
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Received : 13.03.2017; Accepted : 01.05.2017**ABSTRACT**

An attempt was made to study the fish diversity and analysis of fish economics of Benetura Reservoir from Murum, Dist. Osmanabad in Marathwada region. It is a perennial water body resource for human consumption and agriculture. There is no report on the biodiversity of Benetura Reservoir with special reference to fish diversity and fish economics. In present investigation about 11 species of fish were identified among them 8 abundant, 1 moderate and 2 rare. The importance of fish economics in fish production and analysis of data were also studied.

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KEY WORDS : Benetura Reservoir, Diversity, Fish Economics, Murum

Introduction

Fish fauna of a reservoir basically represents the fish diversity and their abundance. Indian reservoirs preserve a rich variety of fish species, which support to the commercial fisheries and fish production. The Indian National Biological Diversity Act, 2002 defines biological diversity as "the variability among living organism from all sources and the ecological complexes of which they are part and includes diversity with species or between species and a ecosystem." Reservoir present a good opportunity of studying the effect of scale on the relative importance of factors that determine diversity. This diversity is on decline and few species have been lost from the fresh water ecosystem of India and some are under endemic, endangered and threatened category. The fresh water have been viewed from a single perspective that of economic production. Fishery plays an important role in Indian economy and it help to elevate the economic conditions of common fisherman. Fish form a rich source of food and nutrition, serving as an important

item of food. It is a natural source of protein, fat and vitamin A and D providing certain other useful byproducts. Inland fishery in India has great potential of contributing to the food security of the country. Fish faunal diversity is a major aspect for its development and management for developing fishery, it is necessary to understand their population dynamic show fast they grow and reduce the size and age at which they spawn their mortality rates and it causes on what they prey upon along with other biological processes. Fishes of the fresh or inland water bodies of the Indian sub-continent have been subject of study since last century^{5,6,7,10,11}.

The Benetura Reservoir as a rich source of water supply for agriculture, fish culture, drinking and industrial purposes. In the present investigation fish diversity in relation to fish economics of Benetura Reservoir were studied during the year June 2013 to May 2014. Benetura Dam is located in 2 k.m. from Murum, 26 k.m. away from Omerga. The scientific data on the fishes of Benetura Dam was not available hence present work was

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TABLE-1 : Fish Diversity of Benetura Reservoir, Murum

SR.No.	SCIENTIFIC NAME	ORDER	FAMILY	STATUS
1.	<i>Labeo rohita</i>	Cypriniforms	Cyprinidae	A
2.	<i>Catla catla</i>	Cypriniforms	Cyprinidae	A
3.	<i>Wallago attu</i>	Siluriformes	Bagridae	A
4.	<i>Mystus seenghala</i>	Siluriformes	Bagridae	A
5.	<i>Cirrhina mrigala</i>	Cypriniformes	Cyprinidae	A
6.	<i>Clarias batrachus</i>	Siluriformes	Clariidae	R
7.	<i>Heteropneustes fossilis</i>	Siluriformes	Heteropneustidae	R
8.	<i>Anabas testudineus</i>	Stromateoidei	Anabantidae	M
9.	<i>Channa punctatus</i>	Perciformes	Channidae	A
10.	<i>Notopterus notopterus</i>	Clupciformes	Notopteridae	A
11.	<i>Cyprinus carpio</i>	Cypriniformes	Cyprinidae	A

* A-Abundance M-Moderate R-Rare

undertaken to enlighten the diversity of fishes and its importance.

Material and Methods

Fishes were collected from different sites of Benetura Reservoir with the help of local fishermen and preserved in 4% formalin for identification. This work was conducted during the month of June 2013 to May 2014. Fishes were identified^{6,8,9,10}. Traditional fish culture method used in BeneturaReservoir ,co-operative society purchased fish seed from Government and private sector and selling to farmers.

Result and Discussion

During the study period 11 fish species belonging to five orders and seven families were recorded from the site of BeneturaReservoir.The member of order Cypriniformes and Siluriformes were dominated by each 4 species followed by Stromateoides, Perciformes and Clupeiformes.

These 11 species of fishes viz., *Labeo rohita*, *Catla catla*, *Wallago attu*, *Mystus seenghala*, *Cirrhina mrigala*, *Channa punctatus*, *Notopterus notopterus*, *Cyprinus carpio*, in most abundance while *Anabas testudineus* found in moderate and *Clarias batrachus* and *Heteropneustes fossilis* found

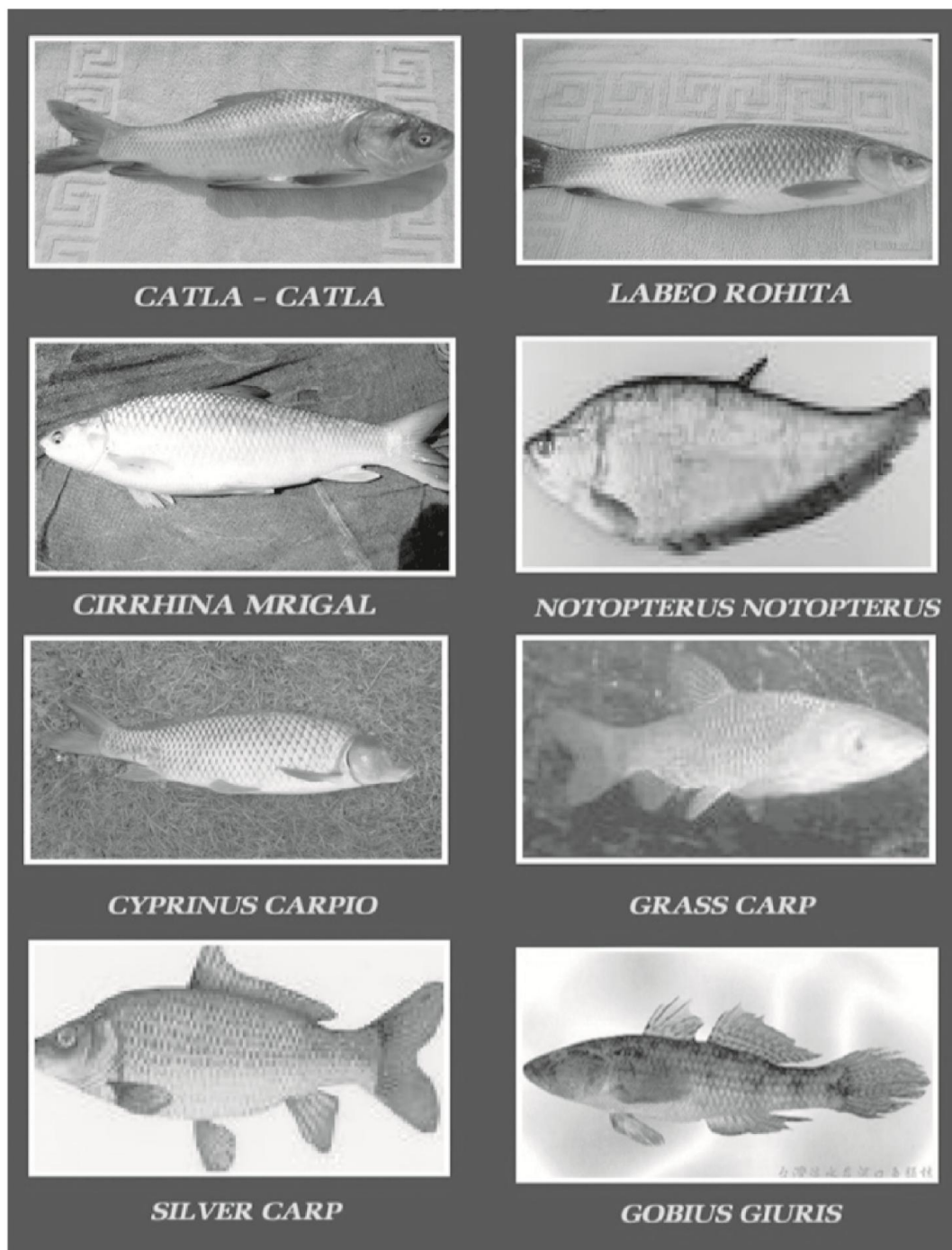


Fig. 1 : Fishes of Benetura Reservoir

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very rare.

Maharashtra fish marketing is a flourishing trade in the economy of Maharashtra as fish is preferred food item of 95% state population. The present study highlights the prevailing marketing system, market channels, market availability and the market related constraints in the growth of fish marketing in the state.

In Benetura dam, total fish culture 306 hector area used. Mainly major carp, common carp and silver carp fish seed stocked in Benetura dam. Co-operative society purchased fish seed from Government and private sector and selling to fish farmers.

Approximately 500 fish seed stocking per hector area production is not much higher than intensive culture method, during the culture period fish seed 40% mortality occur. Near about 20% losses of fish seeds in rainy season. The total fish production in Benetura reservoir is 22950 tonne/

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year per hector production is 70-75 kg/year, fish certain size 0.75 kg in a year. Dominant *Catla catla* fish seed is stocked than other carps. Total income of Benetura Reservoir is 918000 Rs and per hector of income is 3000 Rs. Total profit of fish production of Benetura Reservoir is 672500 Rs and per hector profit is 2197 Rs.

Conclusion

The present work was under taken to study the fish diversity and fish economics of Benetura Reservoir.

The study concludes that the fish productions of Benetura reservoir during June 2013 to May 2014 was found very low due to non-scientific fish culture. It is observed that the reservoir is very useful, productive and the number of biological complexes occur. Finally it conclude that the reservoir has a self sustained ecosystem and it is productive and economically very useful.

TABLE-2 : Economic status detail of Benetura Reservoir (June 2013 to May 2014)

Sr. No.	Particulars	Traditional method used in fish farming
1.	Rental basis of Dam (one year)	35,000/-
2.	Culture period	One year
3.	Stocking rate of fish seed	500/hect
4.	Cost of fish seed	76,5000/-
5.	Artificial seed and fertilizers	5000/-
6.	Fish harvesting	28,000/-
7.	Security charges	84,000/-
8.	Transportation	17,000/-
9.	Total Expenditure	2,45,000/-
10.	Total income	9,18000/-
11.	Profit	6,72500/-

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