

Biodiversity Of Fish Fauna In Lakhapura Reservoir, Bhikangaon Tehsil, Khargone District, M.P.

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Abstract: Freshwater fish biodiversity of Lakhapura reservoir is poorly studied. There is no proper documentation on freshwater fish resources of Lakhapura reservoir of Bhikangaon Tehsil, Khargone District. This study aims to prepare database of fishes found in Bhikangaon town. Fishes are the unique creature of animal world. It is one of the good source of protein and is able to combat problem of malnutrition. Khargone district is basically a tribal district. This is the first study to catalogue species of fishes found in Lakhapura reservoir. Total 24 species from different sampling station were recorded.

Keywords: Fish diversity, Fish management, Fish conservation.

I. INTRODUCTION

The reservoir water is mostly used by local farmers during crop seasons. Although, the reservoir gets replenished from the local nala in monsoon season, the water level fluctuates remarkably from dry to wet seasons. The water level becomes very low during pre-monsoon and only covers its bottom which is mainly composed of soft substrates like mud, organic debris. In contrast, the water level is relatively higher during post-monsoon and reaches up to its dike which is composed of non-soft substrates like boulders, cobbles and stones. Additionally, it is subjected to various human use e.g. fishing, grazing, irrigation and fodder collection, domestic use, harvesting of wetland products, recreation and supply of water for irrigation. The Indian National Biological Diversity Act, 2002 defines biological diversity as 'the variability among living organisms from all sources and the ecological complexes of which they are part and includes diversity with species or between species and of eco system'

Fishes are the important vertebrate group of animal's world contributing to the biodiversity of animals. Primarily fishes are used as a food source. Many vital vitamins and fatty acids are found in fishes so sometimes it is referred by doctors as a good food source.

The study of fish and their stability is important because fish population of a water body may vary significantly from year to year. The fish fauna is an important aspect of fishery potential of a reservoir. They play an important role, as they are not only useful for food and recreation, but also act as a tool for biological control by feeding upon the planktonic population and aquatic vegetation in the reservoir. They are useful indicators of environmental quality and ecological integrity. More work has been carried out on fish fauna in different freshwater reservoir during the last few years.

This study is also aimed to suggest remedial measures for the development of fisheries resources and also to recommend some conservative measures so that the fish gene pool of this region may be protected and preserved for their conservation.

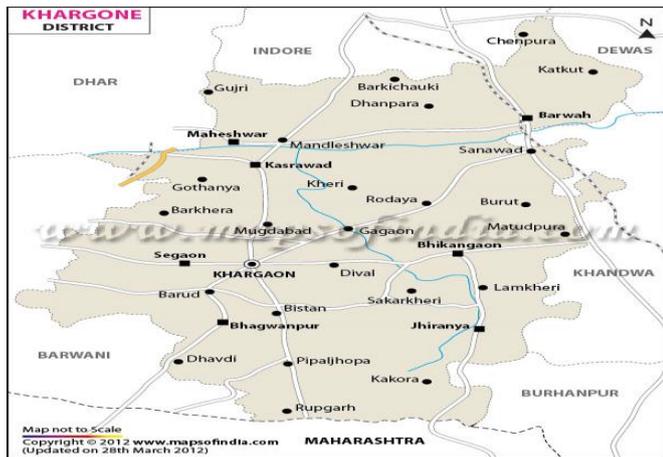


Figure 1: Map showing Bhikangaon (Tehsil), Kharagone (District), M.P.



Figure 2: Satellite map of Lakhapura reservoir, Bhikangaon (Tehsil), Kharagone (District) M.P.

II. MATERIAL AND METHODS

The fishes were collected from Lakhapura reservoir, Bhikangaon Tehsil, Kharagone District and from local fisherman. Fisherman generally uses many types of nets like gill nets, cast net, drag net etc. Fishes were preserved in 10 % formalin solution and identified with the help of standard keys and book. This study was conducted between June 2012 - May 2013. The fishes were identified with the help of Jhingran 1982, Day 1989, Gopalji, Shrivastava 1992 and Jayaram 1999 the checklist of identified fish species was prepared and presented in table-1.

III. RESULTS AND DISCUSSION

Class : Pisces
Subclass : Teleostei

SN	Order	Family	Genus	Species	Local name
1	Cypriniformes	Cyprinidae	Catla	<i>Catla catla</i>	Catla
2			Cirrhinus	<i>Cirrhinus mrigala</i>	Nain
3			Labeo	<i>Labeo rohita</i>	Rohu
4			Labeo	<i>Labeo calbasu</i>	Calbasu
5			Labeo	<i>Labeo bata</i>	Bata
6			Labeo	<i>Labeo gonius</i>	Kursi
7			Cyprinus	<i>Cyprinus carpio</i>	Common carp
8			Puntius	<i>Puntius ticto</i>	Sindhri
9			Rasbora	<i>Rasbora daniconius</i>	Dandua
10			Hypophthalmichthys	<i>Hypophthalmichthys molitrix</i>	Silver carp
11	Siluriformes	Bagridae	Mystus	<i>Mystus seenghala</i>	Tengar
12			Mystus	<i>Mystus cavasius</i>	SutahwaTengra
13		Siluridae	Wallago	<i>Wallago attu</i>	Padhani
14		Heteropneustidae	Heteropneustes	<i>Heteropneustes fossilis</i>	Singhi
15		Clariidae	Clarias	<i>Clarias batrachus</i>	Mangur
16			Rita	<i>Rita rita</i>	Doke
17	Perciformes	Cichlidae	Tilapia	<i>Tilapia mossambica</i>	Tilapia
18	Beloniformes	Belontiidae	Xenentodon	<i>Xenentodon cancilla</i>	Sua
19	Channiformes	Channidae	Channa	<i>Channa marulius</i>	Chanari
20			Channa	<i>Channa punctatus</i>	Girai
21			Channa	<i>Channa gachua</i>	Chanaga
22			Channa	<i>Channa striatus</i>	Sabal
23	Mastacembeliformes	Mastacembelidae	Mastacembelus	<i>Mastacembelus armatus</i>	Bam
24				<i>Mastacembelus pancalus</i>	Malga

Table 1: List of Fish Fauna Recorded from the Lakhapura reservoir with local name

Fisheries in India have great potential of contributing to the nutritive food security of the nation. Reservoirs are the main resources exploited for inland fisheries and understanding of fish faunal diversity is a major aspect for its development and the management. In present study 24 species were recorded similar work also done by many workers Venkateshwarlu et al., (2009) observed fish diversity of Sogane and Santhkadur tank of Shimoga Karnataka. And found that about 17 fish species were collected in these tanks, which are belongs to 4 orders, 11 families, 14 genera, the family Cyprinidae dominant the other group in the fish fauna in the both tank. Gosawami and Mankodi (2010) observed 15 fish species belongs to 12 genera and 6 families in 3 orders were characterized. Among the 6 families the Cyprinidae family was most dominated.

SN.	Order	Number of Fish Species
1	Cypriniformes	10
2	Siluriformes	06
3	Perciformes	01
4	Beloniformes	01
5	Channiformes	04
6	Mastacembeliformes	02
Total	06	24

Table 2: Order wise Fish Species in Lakhapura reservoir

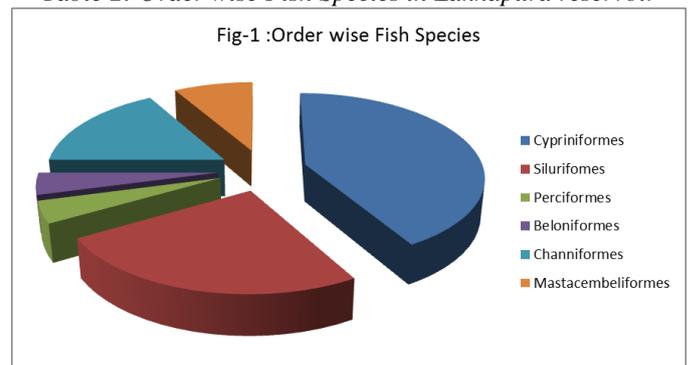


Figure 3

Mandal (2010) same observation was noticed and Shrivastava et al., (2011) studied the fish fauna of Shajapur district. Solanki et al., (2011) worked at Sanjay Sagar

reservoir and observed 16 species of fishes which are belongs to a different orders of class teleosteis of class pisces viz. Cypriniforms, Siluriforms, Metacembeliformes and Ophiocephaliforms. Keshre and Mudgal (2012) were surveyed fish fauna of the Moghat reservoir, Khandwa and 18 fish species were collected which are belongs to 4 families, *Catla catla* and *Labeo rohita* showed its dominance respectively. Fishes found in reservoir are edible and have been an important source of protein. Narsimha and Benarjee (2013) 30 species of fishes were recorded at Nagaram Tank Warangal which are belongs to 6 orders. The fish fauna of 30 species belongs to 13 families among which 13 species are Cypriniformes.

IV. CONCLUSION

Our Nation is one of the mega diversity countries with respect to freshwater fish species. In freshwater fish diversity India is 8th in the world and 3rd in Asia. There are plenty of cultivable species and any further introduction of exotic fish species is unnecessary. It is concluded that the reservoir have high fish diversity with good economic potential. We found 24 species of 6 different orders (Table 2). Cypriniformes contributes its major contribution. To conserve and maintain the fish diversity, we further need to assess water quality and anthropogenic activities to this tank, which should be controlled.

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