

FISH DIVERSITY OF POND RAMSAGRA OF KHAIRA REWA (M.P.)

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ABSTRACT:- Ramsagra anthropogenic pond of Rewa district in central india. The Ramsagra pond is situated in village Khaira, tehsil Mauganj, district Rewa (M.P.). Ramsagra pond is manmade small sized perennial and spread in about 10 acres area. The pond water use is domestic purposes, irrigation, aquaculture etc. In the present investigation results 22 fish species belonging to six order were collected from the Ramsagra pond high economic value. These are *Labeo rohita*, *Catla catla*, *Cirrhinus mrigala*, *Walago attu*, and *Channa marulius*, and others have moderate economic value. During this study we also found exotic species namely *Cyprinus carpio* (common carp), *Ctenopharyngodon idella* (grass carp). Species richness, order Cypriniformes was dominant (12 species) followed preciformis (4 species), Siluriformes (3 species), Clupeiformes (1 species), Perciformis (1 species) and Mastcabeliformes (1). The unmanaged and unwanted activities of surrounding population of the area are deteriorating the pond water quality continuously.

KEYWORDS:- Fish population, diversity, Ramsagra pond..

INTRODUCTION:-

Fresh water is a critical, finite, vulnerable, renewable natural resource on the earth, and plays an important role in our living environment, without it, life is impossible. Since the beginning of the industrial revolution, increasing human population, economic activities as well as shortcomings in their management have resulted in more pollutants being introduced into watercourses. An increasing number of surface water bodies have come under serious threat of degradation. The global freshwater resources are under increasing pressure (GWP Technical Advisory Committee, 2000). The anthropogenic impact on aquatic ecosystems has become a crucial topic of increasing concern. These problems have led to the adoption of an integrated approach to the

management of water resources, which is called Integrated Water Resources Management (IWRM).

Aquatic ecosystem is the most diverse ecosystem in the world. The first life originated in the water and first organisms were also aquatic where water was the principal external as well as internal medium for organism. In a developing economy context, open water inland fisheries not only plays an important role for the diet and health of the population, but also the livelihood of many people engaged in this activity. Broadly, the open water inland fisheries can be divided into five categories, namely, riverine fisheries, reservoirs, aquaculture water bodies, estuaries, and flood plain lakes. The fishing practices also vary in these ecosystems. Usually, riverine fisheries are based on capture activities where regeneration of fish is left to the nature. The large and medium reservoirs are generally managed as stocking-cum-capture fisheries resources, whereas, small reservoirs and aquaculture water bodies are usually managed through culture practices. Estuaries are based on capture fisheries and flood plain lakes have both the components of culture as well as stocking-cum-capture fisheries.

The word fish is concerned to a heterogeneous gathering of aquatic chordates animals comprised of hagfish and lampreys, sharks, rays and chimaeras, and the finned bony fishes. The latter is by far the main diverse group and is well shown in fresh water system, while the others are prevalently marine gatherings. Freshwater fishes have a tendency to be more-or-less confined drainage system, provide relatively a conservative system for examining patterns of distribution that may reflect the imprint of past continental and climate changes. The main role of fish in river food chain and food webs has been hotly debated.

Economically fishes are very important used as food. For successful fish forming in dams and reservoirs, it is

essential to make a detailed hydrological study of the water body. Suitable species that are stocked in dams are the major carps. These are capable of adjusting successfully to ecological condition of the reservoir. The exotic carps also Thrives in manmade lakes or dam are suitable species for culture.

Distribution of Ichthyofaunal diversity in the ecosystem, their composition and seasonal variation are essential prerequisite for any successful resources management. Species diversity is a property of the population level while the functional diversity concept is more strongly related to ecosystem stability and stresses, physical and chemical factors for determining population dynamic in the lentic ecosystem (Kar and Barbhuiya, 2004). Fishes have a range of physiological tolerances that are dependent upon which species they belong to. They have different lethal temperature, dissolved oxygen requirements and spawning needs that are based on their activity levels and behaviors. Because fishes are highly mobile, they are able to deal with unsuitable abiotic factors in one zone by simply moving to another. Fishes exhibit enormous diversity in their morphology, in the habitats they occupy and in their biology. Unlike the other commonly recognized vertebrates, fishes are heterogeneous assemblage (Forese and Pauly, 1998). They can be used for ecological assessment (Harris, 1995). Besides, they are considered as important protein rich food source. Therefore, it is need of the hour to study fish diversity in order to conserve water bodies and increase our national economy by culturing them on scientific basis.

Many workers have studied Taxonomy, Biodiversity and Distribution of fishes found in freshwater bodies of various parts of India. David (1963) recorded fish fauna of Godavari and Krishna river.

In the present study is going to centralize on Ramsagra anthropogenic pond of Rewa district in central india. The Ramsagra pond is situated in village Khaira, tehsil Mauganj, district Rewa (M.P.). Ramsagra pond is manmade small sized perennial and spread in about 10 acres area. The pond water use is domestic purposes, irrigation, aquaculture etc. The surrounding area of pond semi urban semi agricultural.

MATERIAL AND METHODS:-

Ramsagra anthropogenic pond of Rewa district in central india. The Ramsagra pond is situated in village Khaira, tehsil Mauganj, district Rewa (M.P.). Ramsagra pond is manmade small sized perennial and spread in about 10 acres area.. The present study conducted from January 2017 to December 2017. Fishes were caught for the present study from Ramsagra pond of Rewa, by local fisherman by operating cast net and during Government operation using drag nets and gill net for its harvesting. Fishes were identified using the standard keys of Day, F. (1989), Mishra, K.S. (1959), Jhingran (1991) Jayaram (1999) and Shrivastava (1998).

RESULT AND DISCUSSION:-

Rewa is very rich in water resources. There are many rivers, streams, ponds, lakes and stop dams. The waters which have covered large area are not much utilized so for the benefit of the district. These are great importance from the point view of fish supply and development of fishery. A Knowledge of pisciculture is essential for sound and practical planning in this respect. However, there has been a great difficulty in catching fish from turbulent streams and rivers running between difficult terrains where traditional collecting techniques do not yield the desired result. In view of it these is a vast scope of exploring the fish fauna of waters of Rewa district.

Some of the economically important fresh water fishes which were collected during the course of present investigation from 2017 from different sampling sites of the Ramsagra pond Rewa district (M.P) after proper identification, systematic account have been given in (Table No 1.)

A total of 22 fish species belonging to six order were collected from the Ramsagra pond high economic value. These are *Labeo rohita*, *Catla catla*, *Cirrhinus mrigala*, *Walago attu*, and *Channa marulius*, and others have moderate economic value. During this study we also found exotic species namely *Cyprinus carpio* (common carp), *Ctenopharyngodon idella* (grass carp). Table no.1 species richness, order Cypriniformes was dominant (12 species) followed preciformis (4 species), Siluriformes (3 species), Clupeiformes (1 species), Perciformis (1 species) and Mastcabeliformes (1). During the present investigation the order of dominance was as follows:

Cypriniformes>perciformis>Siluriformes>Clupeiformes
 >Perciformis>Mastcabeliformes

The study findings showed that fish diversity of the study area is reducing with the increase of water quality. The reduced fish diversity eventually decreases the fish production of native species and creates extinction of several species. These consequences eventually create

instability in the socio-economic sector of the study area in terms of increased poverty of local fishermen. In the polluted stretch of the Ramsagra pond tolerant species such as is thriving well and commercially important and sensitive native species such as *Wallago attu*, *Labeo calbasu*, *Puntius* sp. etc, are considered to be threatened by increasing water pollution.

Table No. 1. Fish Diversity of Ramsagra pond Rewa (M.P.)

S. No	Taxonomic position				
	Order	Family	Genus	Species	Local Name
1.	Cypriniformes	Cyprinidae	<i>Labeo</i>	<i>Rohita</i>	Rohu
2.			<i>Labeo</i>	<i>Calbasu</i>	Karauchar
3.			<i>Cirrhinus</i>	<i>Mrigal</i>	Mrigal
4.			<i>Cyprinus</i>	<i>Carpio</i>	Common carp
5.			<i>Catla</i>	<i>Catla</i>	Catla
6.			<i>Puntius</i>	<i>Sarana</i>	Pothiya
7.			<i>Oxygaster</i>	<i>Bacaila</i>	Chela
8.			<i>Puntius</i>	<i>Sarana</i>	Punti
9.			<i>Ctenopharyngdon</i>	<i>Idela</i>	Grass carp
10.					<i>Oxygaster</i>
11.		Sisoridae	<i>Bagrius</i>	<i>Bagarius</i>	Baikar
12.		Bagridae	<i>Rita</i>	<i>Rita</i>	Raiya
13.	Siluriformes	Siluridae	<i>Wallago</i>	<i>Attu</i>	Padin or Bual
14.		Bagridae	<i>Mystus</i>	<i>Seenngghala</i>	Tengara
15.		Clariidae	<i>Clarias</i>	<i>Batrachus</i>	Magur
16.	Perciformis	Chanidae	<i>Channa</i>	<i>Marulius</i>	Punti
17.			<i>Channa</i>	<i>Punctatus</i>	Punti
18.		Heteropneustidae	<i>Heteropneustus</i>	<i>Fossillis</i>	Shinghi
19.		Anabantidae	<i>Anabas</i>	<i>Testudineus</i>	Kaoi
20.	Clupeiformes	Notopteridae	<i>Notopterus</i>	<i>Notopterus</i>	Patra
21.	Perciformes	Nandidae	<i>Nandus</i>	<i>Nandus</i>	Bata
22.	Mastcabeliformes	Mastacembelidae	<i>Mastacembalus</i>	<i>Armatus</i>	Balm

CONCLUSION:-

The pond are important surface water resources which facilitate harvesting and storage of rain water from their catchment areas and replenishment of the ground water. Fish diversity in Ramsagra pond is gradually decreasing due to the increasing urbanization along the catchment area within past few years, the quality of the water these water bodies is deteriorating fast creating social, economical and technological problems. The present study indicates that the Ramsagra pond is not good. The unmanaged and unwanted activities of surrounding population of the area. Many fish species are already

become extinct while some of them are endangered. To maintain fish diversity in Rewa region there is need for conservation.

REFERENCES:-

1. David, A. (1963). Studies on fish and fisheries of the Godavari and Krishna river systems. Part proceedings of the National Academy of Science India, 33(2): 263-293.
2. Day Francis. The fishes of India. 1971; 1:3.

3. Forese, R. and Pauly, D., (1998): Fish Base 98: Concepts, Design and Data sources, Manila: ICLARM. pp. 66-94.
4. Harris, J.H. (1995). The use of fish in ecological assessments. Australian Journal of Ecology, 20, 65-80.
5. Jayaram K C (1999) The freshwater fishes of the Indian region. Narend Publishing House, Delhi India
6. Jhingran V G (1991) Fish and Fisheries of India Edition Hindustan Publishing Corporation, Delhi.
7. Mishra K S (1959) An aid to identification of the common commercial fishes of India and Pakistan. Records of the Indian Museum 57:1-320.
8. Shrivastava G (1998). Fishes of U.P. and Bihar. Edition, Vishwavidalaya Prakashan, Chowk Varanasi, India (pub).