



# THREATS TO FISH BIODIVERSITY WITH REFERENCE TO CULTURAL AND ECONOMICAL ISSUES IN MITHILANCHAL REGION OF BIHAR, INDIA

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**Abstract:** Fish is not only a food item but also Mithila has a social and cultural past, which is still famous for its uniqueness. In Mithila, 'fish or mach' has been used in the sense of good luck and perfection. This cultural form connects Mithila and Bengal in a single thread, like Mangrauni in the name of Mangur, Saurath in the name of Saura, Singhia in the name of Singhi, Chichri in the name of Chachra, Rahua in the name of Rehu, Pathan Kawai in the name of Kawai etc. Not only that, the women of Mithila sung many songs on different ritual occasions, and among them are some melodic and poetic gems (Edward O. Hanry, 1998). But since some decades, now it seems like a historical phenomena due to rapid extinction of most the fish species.

The paper focuses on threats to fish biodiversity with reference to cultural and economical issues in Mithila with the future prospects for aquaculture development and need of attention to present fish species.

**Key Words:** Mithila, Cultural and economical issues, Extinction, Fish (Mach) Biodiversity, Future Prospects.

## INTRODUCTION

Biodiversity is the variability among living organisms from all sources, including terrestrial, marine, and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species, and of ecosystems. When we talk about Mithila, it is an ancient cultural region of South Nepal and North India lying between the lower ranges of the Himalayas and the Ganges River. The Nepal border cuts across the top fringe of this region. The Gandak and Kosi Rivers are rough western and eastern boundaries of Mithila. The Ramayana records a dynastic marriage between Prince Rama of Ayodhya and Sita, the daughter of Raja Janak of Mithila. In India, that region consists of Begusarai, Bhagalpur, Darbhanga, East Champaran, Khagaria, Madhepura, Madhubani, Munger, Muzaffarpur, Saharsa, Samastipur, Sheohar, Sitamarhi, Supaul, Vaishali and West Champaran (Fig.1). Here are some typical fish varieties that is found in Mithila named-Katra, Tengara, Saura, Buaari, Naini, Katli, Bhaakur, Rohu, Kabai, Pothia, Singhi, Mangur, Gainchi, Jhinga and Mara etc. But in the recent years, a decline in pond's fish cultivation due to various reasons like habitat loss, excessive contamination of pond water, overexploitation, invasive species, climate change, flood effects, migration, lack of basic infrastructure, marketing issues in the interior villages, etc. have been seen. However experiments are being done continuously to enhance the fish production in Mithilanchal and Bihar. (<https://scienceclever.com/fish-production-in-bihar-types-of-fish-in-bihar-2021/>) (Sinha & Sinha, 2018; Yadav, 2018; Shashi, 2015 & 2016; Shashi & Alam, 2020 and Jha et al, 2004, IUCN, 2014).



Fig.1. Map of Mithilanchal Region(From Google.com)

## NEED OF THE STUDY

Day by day due to several reasons, the fish species of Mithilanchal region are seen to be on the way of extinction. So there is need to pay always attention on this happenings because it effects on cultural as well as economical issues in this particular region.

## RESEARCH METHODOLOGY

For this survey study, we moved to different Mithilanchal districts ponds, chauras, rivers and other fishery water sources, met several fishermen as well as rural and urban areas people personally, telephonic conversation etc. on this issue and visited several districts 'AARHAT' (Wholesale & distribution daily fish market) and took one year survey (February 2021-January 2022) on this issue as well as time to time identification of fish species in Zoology research laboratory of MKS College, Trimuhan-Chandauna, Darbhanga, Bihar, India (Fig.1; Shashi & Alam, 2020).

## RESULTS AND DISCUSSION

### 'Thretened Fish Species, Reasons, Remedies and Cultural-Economical Issues'

On the basis of survey studies, the following facts came together:-

**(a)Reva, Chhahi and other species found in 'Books only':** Generally, Maithil argues on eating fish that if there are Maithils, then they will eat betel nut, mach (fish) and makhan (*Euryale ferox*), but it seems as if one of their favorite things is mach (fish), now they will not be able to get it at least in Mithilanchal at this time. Because Mithila, the fishes that give a distinct identity to the world are on the verge of extinction ( Kumari & Prasad, 2020; Shashi & Alam, 2014 and Swain et al, 2021). The survival of small fish is completely at stake. Most of the small fishes are no longer visible and no effort is being made by the department to protect it either day by day experiments only. We are worried about the gullibility test of small fish, while the new generation does not even know the name of small fish. Therefore, through this paper, the old, new and coming generations are known. Trying to give information, it is noteworthy that the food is related to the geography there. The abundance of rivers and ponds has made fish the favorite food here.

Fish is involved in the journey from birth to death of Mithilavasi's. There were so many species of fish here that new species of fish were served in the plate throughout the month. Production was so much that even dry fish was traded. But today the situation is fine. The opposite has happened. In the case of fish, Dhanna Seth, this area itself has become dependent on outside fish. Because the existence of small fish has reached the point of extinction. Till a decade ago, during the rainy days, the market was full of small fishes. Who said that about the rivers and ponds, there used to be small fish hunting in the paddy fields, but today it is nowhere to be seen. Shrimp, Suhiya, Marwa, Pothia, Chenga, Channa, Chelba, Garai, Tengra, Singhi, Ganchi, Kauwahi, Khesra, Kabai, Kawli, Garchunni, Reba, Chachi, Mangur, etc. Small fishes are no longer found will also be found in books only ( Jha et al, 2006; Srivastav, 2013 & Jha et al, 2015).

**(b)Danger from 'Fine Net':** The reason for this is said to be the use of fine net for hunting. It is also sold by the producers. While a fisherman Mithilesh Sahni says that Shikarmahi is done especially during the breeding season of fishes. Due to this, the number of small fish species of Mithila is decreasing day by day.



**(c)Will have to ‘Try Himself’ :** However, if the local fishes are to be saved, then the fish producers, food lovers and animal scientists will have to make efforts. Local species of fish will be reared in two ponds.

**(d)Tropical Climate :** According to former fisheries officer Dr. Anand Mohan, the climate of this region is tropical. It is considered a favorable climate for fish. Dr. Mohan told that small fish lay eggs in the rain. There is a period of time.

**(e)Lack of ‘Conservation Plan’:** The surprising aspect is that no initiative is being taken by the fishery department for the protection of these fish.

#### **: Many Species of Fish are Becoming Extinct :**

Many species of fish are on the verge of extinction from Kusheshwarsthan of Darbhanga, which is called the city of ponds and its surrounding areas. Till just ten years ago, hundreds of quintals of Rehu, Katla, Common Carp, Saura, Garai and Bhuna were sent to different cities of the country. There, fish of rare castes including Bhuna, Tengra, Dhelwa, Vamch, Singhi, Gayachi, Lal Ichna, Pothia, which grow in submerged squares spread over thousands of acres, are no longer available. Due to this, many castes associated with the fish business have gone on a glut of bread in front of many castes. Md. Moti etc. told that due to floods, fishes come here in abundance. Every year the catchment capacity of the chaur is decreasing due to the massive flooding of the soil. There is no such concrete plan of the Government and the Fisheries Department to stop the migration of fishes. Dr. Tuntun Singh of the Fisheries Department, who studied the squares of Kusheshwarsthan in the past, told that here, due to siltation, the growth of the hulls in the squares and the soil in the ponds. Due to the freezing of the crust, fish are becoming extinct. This stops the growth of phytoplankton and zooplankton and aquatic insects, which are abundant as fish food. While some fishermen also filter fish and children through mosquito nets.

#### **SUMMARY**

For good solution in relation to save fish diversity and accordingly cultural and economical issues particularly in Mithilanchal region, fisheries policies based on proper economic planning and analysis are very necessary to ensure profitable production and processing and marketing of all fishery-products. Fisheries economics will also help in ensuring equitable distribution of the net benefits created in the production process. There seems to be an urgent need to broaden the base of fisheries economics to meet the dynamic needs of fishing industry in respect of the following and the other related areas:

- (a) Planning and management of fisheries
- (b) Economics (economic analysis) of fish culture, prawn culture, composite fish culture, and integrated fish farming.
- (c) Fish marketing and related problems.
- (d) Manufacturing costs of crafts and gear and expenditure on fishing both in terms of human resource and other consumables.
- (e) Economics of processing of fishery products and their export potential and related problems.

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