

## Overview and Constraints in land Fisheries of India

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### Introduction

India is a South Asian country situated between the Himalayas in the north and the Indian Ocean in the south and flanked on either side by Pakistan and Burma. India is a federal republic covers a total area of 3287728 km<sup>2</sup>. India is a land of diversity. The climate ranges from tropical heat in the south to temperate in the north. The landscape includes towering mountains, extensive alluvial plains, riverine wetlands, plateaus, deserts, coastal plains and deltas. The major physiographic divisions are the Himalayas, the Indo Gangetic plains, the Vindhyas, the Satpuras, the Western Ghats, the Eastern Ghats, coastal plains, deltas and the riverine wetlands.

In terms of nature and the range of drivers that influence them, inland fisheries differ from marine fisheries. Although commercially intensive fisheries exist, most inland fisheries are small-scale/household-based in nature. Fishing participation is high, and the majority of the catch is consumed locally. By-catch is negligible because almost all fish caught are used. This means that their advantages are widely disseminated. Inland fisheries are also very diverse, as they are based on a variety of ecosystems in which fish communities respond very differently to internal (fisheries-based) and external (natural and human ecosystem-based) drivers (Welcomme et al., 2010).

### Inland fisheries resources

Inland fisheries are dynamic. As economies evolve the nature of inland fisheries changes (Arlinghaus et al., 2002). The importance of high-value inland recreational fisheries grows and reliance on fisheries for food declines as local economies develop. In India, inland fisheries is classified as follows: freshwater aquaculture, including the pond culture of carp; brackishwater aquaculture, involving mostly shrimp culture; and capture fisheries in rivers, estuaries, lakes, reservoirs, etc

**Table 1: Inland fisheries resources of India**

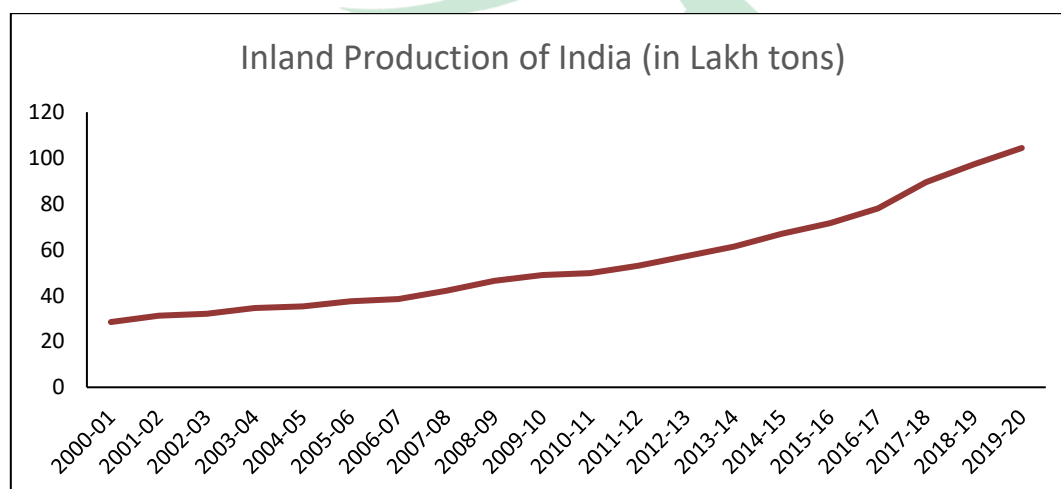
S.No.	Particulars	Resource
1.	Rivers and canals	1,73,287 km
2.	Floodplain lakes	2,02,213 ha
3.	Freshwater ponds	22,54,000 ha
4.	Reservoirs	31,53,366 ha
5.	Mangroves	3,56,500 ha
6.	Estuaries	2,85,000 ha
7.,	Brackish water ponds	12,35,000 ha
8.	Swamps and other wetlands	10,97,787 ha

(Source: Anon. 2011)

Table 1 represents India's vast inland area in terms of rivers (1.73 lakh km), floodplains lakes (2.02 lakh ha), freshwater ponds (22.54 lakh ha), reservoirs (31.53 lakh ha), mangroves (3.56 lakh ha), estuaries (2.85 lakh ha), brackish water ponds (12.35 lakh ha), swamps and other wetlands (10.97 lakh ha). It shows the potential of inland fisheries in India (Anon. 2011).

### Inland fisheries contribution

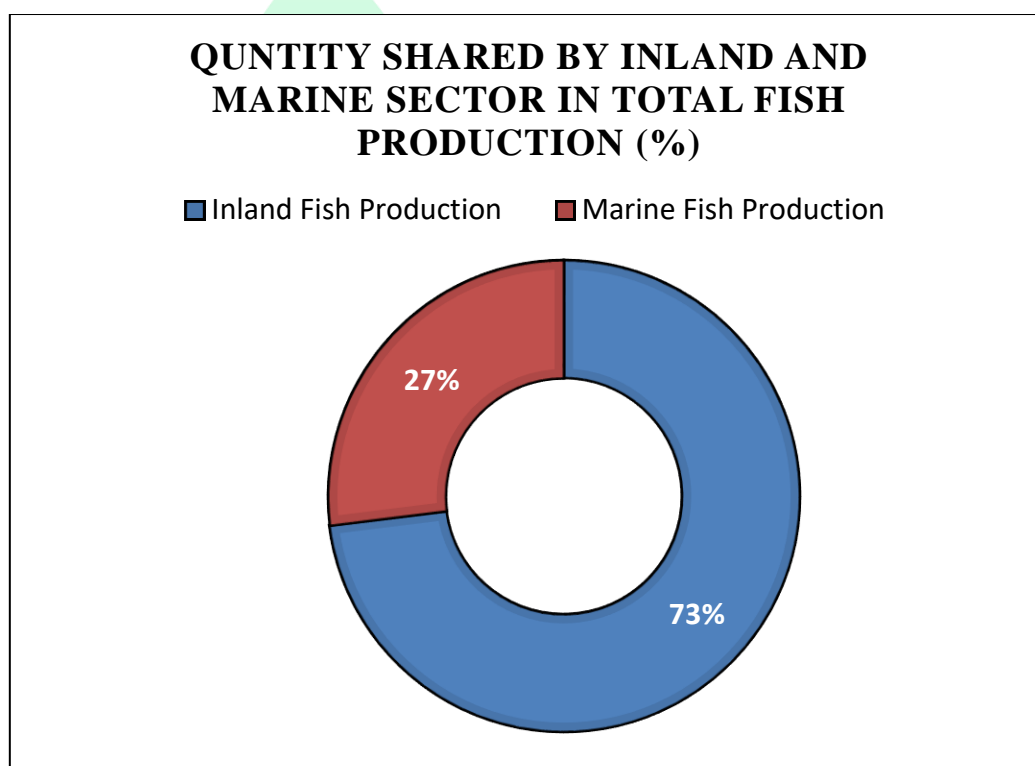
After China, India is the world's second-largest aquaculture nation and third-largest fish producer. The total fish production of India is 14.15 million tonnes out of which 10.43 million tonnes come from the inland fisheries sector (2019-2020), the country's inland fish production has steadily increased, and it became the world's second-largest producer of fish.



**Fig.1 Inland Production of India (in Lakh tons) (Source: DoF, 2020)**

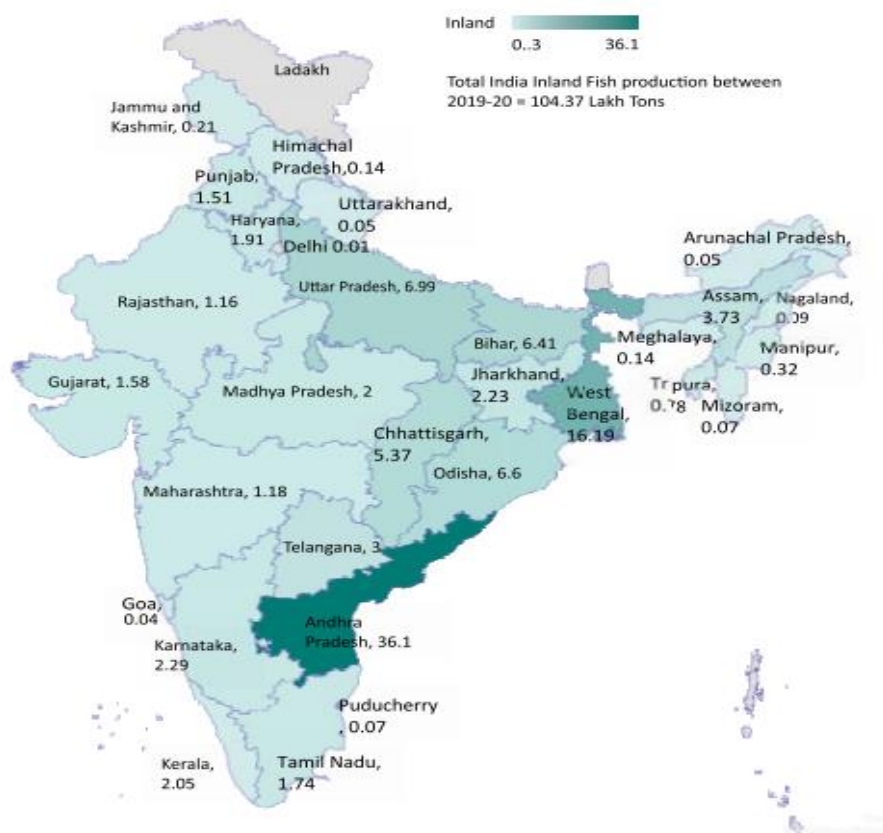
It may be noted that inland fish production has been increasing over time in India. Within inland fisheries freshwater aquaculture production has increased from 7.16 MT in 2015-16 to 10.43 MT in 2019-2020 (DoF, 2020).

Figure 1 depicts how inland production has increased over the last 19 years. The CAGR (compound annual growth rate) has also been calculated, indicating that production is increasing at a 7.08 percent CAGR. It may be noted that inland fish production has been increasing over time in India. Within inland fisheries, inland fish production has increased from 28.45 lakh tones in 2001-02 to 104.37 lakh tonnes in 2019-20 (DoF, 2020).



**Fig.2 Quantity shared by different sectors in total fish production (%) (Source: DoF, 2020)**

Inland fish production contributed more than 73 percent of the total fish production and gives employment to the millions of people in the country (Fig.2). Andhra Pradesh is the leading state in freshwater fish production in 2019-20, with 36.1 lakh tonnes, followed by West Bengal (16.19 lakh tones). However, the contributions of inland states have recently increased over time, with Uttar Pradesh ranking third in inland fish-producing states with (6.99 lakh tonnes), followed by Bihar (6.41 lakh tones) (Fig.3).



**Fig.3 Inland fish production district wise (Source: DoF, 2020)**

### Constrains in inland fish production

Bunkar (2017) studied the constraints faced by fish farmers. The major constraints in inland aquaculture were identified based on farmer responses. They are as follows:

- Lack of knowledge of modern tech.
- Non-availability of skilled labour.
- Unawareness of Govt. schemes.
- Poaching
- High price of fish seed
- High rate of mortality
- High cost of input
- Inaccessibility of marketing facility
- Difficulty in obtaining credit

- Disease problem
- Unavailability of raw materials
- Electricity problem

### Conclusion

Inland fisheries are an important source of income and protein food, particularly in the countries where the population has easy access to the products. Yields are likely to be well in excess of 10 million tonnes per year at the moment, but the outlook for the future is bleak, with many external drivers reducing the amount caught in many wild fisheries. This will almost certainly result in supply and availability issues for some rural areas that rely on inland fisheries as a food source. Since aquaculture requires more capital, there is a need for credit particularly for inland fish farmers who are poor and unable to invest more. The government should provide financial incentives or subsidies to fish farmers in order to combat the constraints and to encourage aquaculture, which is a profitable venture.

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