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Constraints faced and suggestions provided by fish farmers regarding community based fish farming practices in Kalyana Karnataka

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Abstract

Agriculture plays a crucial role in India's economic growth, significantly supported by the production of crops, fruits, vegetables, animals, and fish. Fish farming, one of the oldest human practices in livestock production, remains vital for stabilizing food supply and addressing nutritional needs. India, the world's second-largest producer of inland fisheries, has seen substantial advancements in fish production, contributing significantly to the national economy. However, fish farmers face numerous challenges, including produce perishability, water shortages, labor unavailability etc. Hence, to identify them and provide suggestions this study was conducted in Raichur district of Karnataka with 120 fish farmers using community based fish farming practices, The study identified that a large number of respondents (91.60%) felt that they had lack of knowledge of storing the product as it is highly perishable and incurred heavy losses. The other constraints faced by the fish producers were shortage of water during summer (88.33%), Non availability of fingerlings in time (85.00%) and non-availability of labour in time (81.66%). The suggestions provided by them are improving marketing systems, ensuring quality fingerling availability, enhancing transportation infrastructure, and demonstrating advanced fish production technologies. Addressing these issues through government intervention, community support, and scientific innovation can enhance the sector's efficiency and sustainability, improve farmers' livelihoods.

Keywords: Fish farmers, constraints, suggestions

Introduction

In India, agriculture has a significant impact on economic growth. In addition to crops, the nation's food demands are also greatly aided by the production of fruits, vegetables, animals, and fish. Fish farming is one of the oldest human endeavors in the production of livestock; humans learned to fish long before they could learn anything about agriculture. It was probably created as one of the several major production methods to stabilize food supply by the earliest farmers. Pond fish culture was first mentioned in writing 4,000 years ago in China and 2700 years ago in India.

Fish production and consumption are currently one of the main sectors of attention in India, which offers enormous potential for the expansion of the fish industry. The fishing industry has been contributing significantly to the national economy by creating jobs, increasing the availability of food, and making up 1.1% of the GDP overall and 5.1% of the GDP from agriculture. As a rich source of protein, fish is in high demand due to its nutritional benefits. India's food insecurity issue has become concerning as a result of the nation's fast growing population and declining per capita land availability. In order to meet the nutritional needs of the expanding population, farmers and policymakers are being forced by current scientific, economic, environmental, and social trends to explore for workable alternatives. In this case, fish with an average protein content of 18 to 21 percent may be the best option. The development of underutilized and unutilized fisheries resources offers a viable solution to the global problem of malnutrition. Fish farming techniques have the ability to significantly boost the rural economy and show promise for many small farmers. In addition to being a long-standing and essential part of agriculture, fish farming is also the most effective method of producing food and has the most potential to raise the socioeconomic standing of the vast majority of rural residents who fish and raise fish. Following China (3,9937 MT), Peru (7,878 MT), Japan (7,408 MT), Chile (6,366 MT), and the United States (5,493 MT), India is the world's

sixth-largest fish producer (5,477 MT). 130882 MT of fish are produced worldwide. (Department of Fisheries report, 2020) [3].

After China, India is the world's second-largest producer of inland fisheries. The previous 50 years have seen significant advancements in Indian fisheries, with an average yearly production of 6.40 million tons. Commercial freshwater fishing activities are referred to as inland fisheries. It is carried out in lagoons, tanks, cages, pens, natural and artificial ponds, brackish coastal regions, irrigation reservoirs, and canals. Fish are cultivated in a pond or other controlled setting and harvested when the appropriate size is reached in fish farming. The Indian economy greatly benefits economically from its inland fisheries. The development of inland fisheries and the growth that goes along with it can be used to address a variety of issues, including nutrition and food supply, income and employment opportunities, investment facilitation, mosquito control, and suitability for environmental education and scientific research. Millions of people work in the fishing sector and rely on fisheries in one way or another since fish are an abundant source of food. In addition to those who capture fish for commercial purposes, a sizable population works in related fields such as processing, refrigeration, preservation, and the production of tools and fish equipment. When compared to other states in the nation, Karnataka ranks sixth for marine fish output and ninth for inland fish production. With inland water resources of all kinds, Karnataka is one of the wealthiest states in India and accounts for around 9.30% of all inland water resources in the country. This comprises 5.60 lakh ha of inland waterways, which are made up of 5,813 km of rivers and 2.93 lakh ha of large and small tanks and reservoirs with an area of 2.67 lakh ha. As a result, the state offers enormous potential for inland fisheries growth. (Department of Fisheries report, 2020, Raichur District Website, 2021) [3, 4].

In community fish farming different communities participate fish raising from single pond. Most of the farmers cannot afford all the items needed for raising fish. Therefore they enter into just ventures dividing the input required and profit made into shares. (Singh *et al*., 2018). The fisheries industry is confronted with several obstacles despite its peak productivity, and fish farmers are equally burdened by the numerous limitations they deal with on a daily basis. Their problems stem from the lack of fingerlings available to initiate a fresh cycle of fish production (Bhutti et. al., 2022) [14]. Fish farmers face numerous challenges, which make their jobs extremely difficult. These include the availability of feed for them, the upkeep of healthy fish ponds, changing the water, buying and using new equipment, properly storing harvested fish because it is highly perishable, locating markets with better prices, and being eligible for benefits from fisheries sector related schemes (Uttej et. al., 2023, Shubham *et al*., 2023) [15, 17]. The purpose of the study is to thoroughly examine these kinds of constraints and offer suitable suggestions to those who face them. With this understanding, it is simple to comprehend the actual issues that fish farmers encounter, and the government may appropriately step in by creating appropriate policies to alleviate those problems.

Methodology

The Ex-post-facto research design was used in the present study because the researcher is having no control over the independent variables which have already occurred. The present study was conducted in Raichur district of Karnataka, India. Total 8 villages were selected from four selected taluks based on highest number of community based fisheries farmers in the taluks. From each selected village 15 fisheries farmers who are under a fish farmers community were selected with the help of simple random sampling procedure to make up a total of 120 fisheries farmers for the present study.

During the data collection all the farmers were asked to state the major constraints faced by them during fish production and also to provide most important suggestions which they feel that they are highly needed to overcome their constraints. Based on the information provided the suggestions and constraints were noted and analyzed. Later the frequency and percentage for each statement has been done.

Results and Discussion

Problems faced by inland fisheries farmers in inland fish production

The present study made an attempt to identify the problems faced by the fisheries farmer. Different problems expressed by fisheries farmers were shown in Table 1 and Fig 1. A large number of respondents (91.60%) felt that they had lack of knowledge of storing the product as it is highly perishable. Hence they incurred heavy losses. The other constraints faced by the fish producers were shortage of water during summer (88.33%), Non availability of fingerlings in time (85.00%) and non-availability of labour in time (81.66%). Fish production is highly labour intensive enterprise but, the labourers are not available for many operations in the right time due to migration of labourers to other places and co-incidence of harvesting seasons.

Non availability of fingerlings at required place (78.33%), lack of knowledge about source of feed and feeding procedures (75.00%), lack of proper marketing channels (73.33%), lack of transportation system (64.14%), low market price of fish (55.83%), non-availability of quality fingerlings (33.33%), undeveloped cooperative structure for marketing (20.83%), loss due to predators (13.33%) especially the predator insects were also found to be the major constraints for production of fish in the study area as the freshwater bodies such as lakes, streams and ponds sustain greatest population of aquatic insects. (Salem et.al., 2020) [1]. (Niangti et. al., 2020) [18].

Table 1: Problems faced by fish producers in the study area (n=120)

Sl. No.	Problem	Frequency	Percentage
1	Loss of produce due to perishability	110	91.6
2	Shortage of water during summer	106	88.33
3	Non availability of fingerlings in time	102	85.00
4	Non availability of labour in time	98	81.66
5	Non availability of fingerlings at required place	94	78.33
6	Lack of knowledge about source of feed and feeding procedure	90	75.00
7	Lack of proper market	87	73.33
8	Lack of transportation system	76	64.14
10	Low market price of fish	67	55.83
11	Non availability of quality seeds	40	33.33
12	Undeveloped cooperative structure for marketing	25	20.83
13	Loss of produce due to Predators	16	13.33

Suggestions perceived by the inland fisheries farmers to overcome inland fisheries production

In the present study fish farmers were asked to give their suggestions for overcoming the constraints and their opinions are presented in Table 2 and Fig 2.

It was found that majority (81.66%) of the fisheries farmers suggested on proper marketing system, followed by better price for the produce (78.33%), surety of availability of proper quality fingerlings (73.33%), development of transportation facilities (64.16%), demonstration of improved fish production technology (56.66%), location specific health care centre for fish (40.00%), strategy for water availability during the summer (20.83%) and technical guidance by expert's for increase the production (14.16%).

Majority of the fisheries farmers had suggested for providing the proper marketing systems. The reason might be that most of the fisheries farmers export the fishes through different channels interference of middle man between produce and markets might affect the farmers income. Further fisheries farmers suggested that surety for availability of quality fingerlings which is the prime input for aquaculture which effects the yield. One more major issue is the lateral damage caused by diseases of the fishes due to unavailability of diagnostic centre. Hence, all the farmers suggested for requirement of diagnostic centre at the nearest area. (Bassey et. al., 2015) [2]

Table 2: Suggestions as perceived by the fish farmers to overcome the constraints (n=120)

Sl. No.	Suggestions	Frequency	Percentage
1	Proper marketing system of fish in the area and aboard	98	81.66
2	Better price for the produce	94	78.33
3	Surety for availability of proper quality of fish seed is must	87	73.33
4	Transportation facilities should be developed	77	64.16
5	Demonstration of improved fish production technology and guidance should be made through extension activities	68	55.83
	Health care centre for fish should be available at local specific	48	40.00
7	Strategy for water availability	25	20.83
8	Proper information and technical guidance should be provided time to time through training of extension/ fisheries department	17	14.16

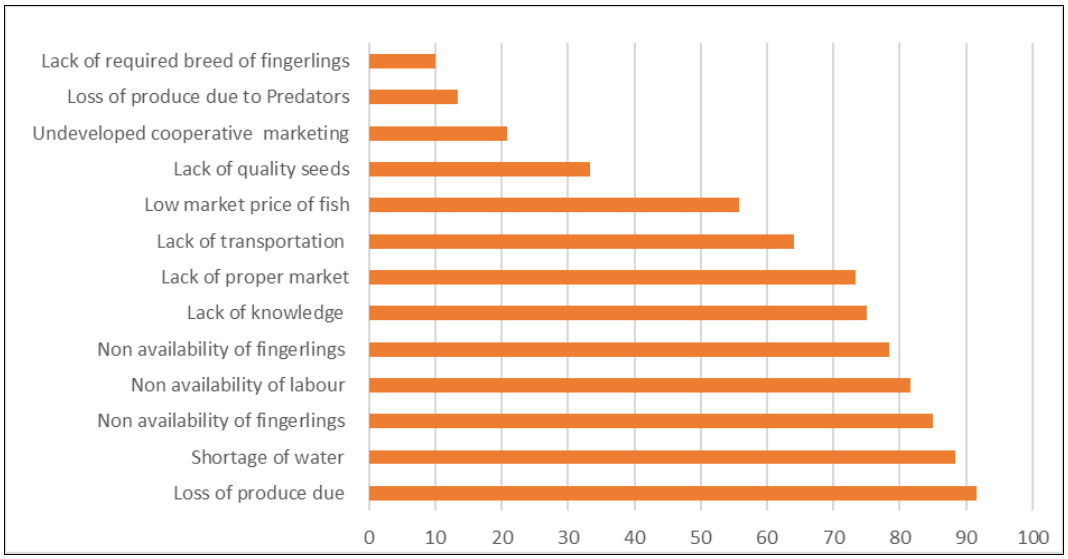

Fig 1: Problems faced by fish producers in the study area

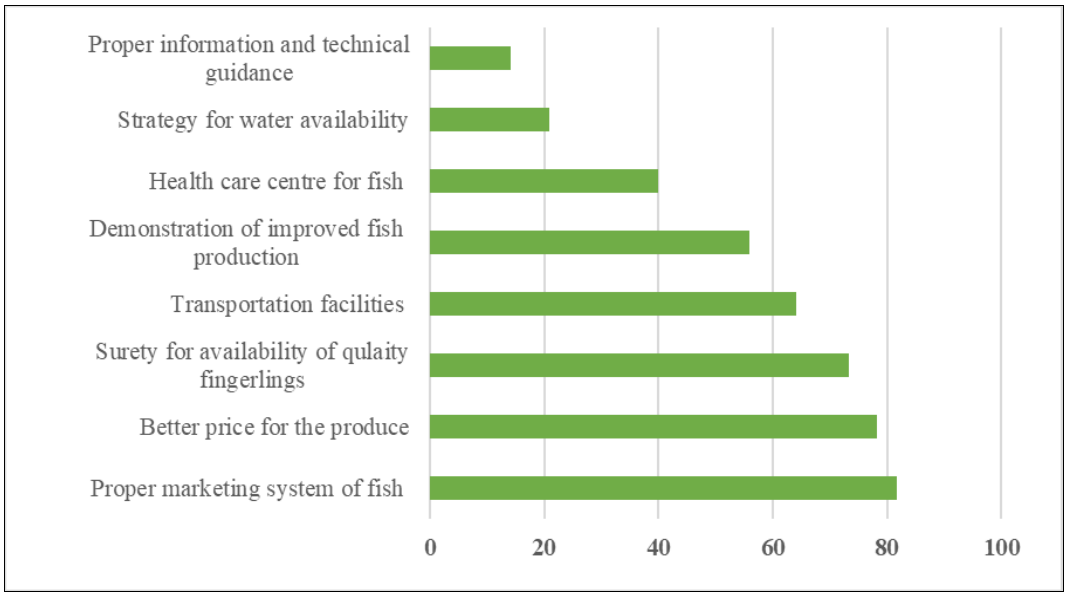

Fig 2: Suggestions as perceived by the fish farmers to overcome the constraints

Conclusion

The research highlights that despite the progress in the fisheries sector, fish farmers face considerable challenges that hinder their productivity and profitability. The primary issues include the perishability of produce, water shortages, labor unavailability, inadequate access to fingerlings and feed, poor marketing channels, and transportation problems. These constraints result in substantial financial losses and operational difficulties for the farmers. To address these challenges, fish farmers have suggested several measures. Key recommendations include the establishment of proper marketing systems to ensure fair prices, improved availability of quality fingerlings, development of transportation infrastructure, and demonstration of advanced fish production technologies. Additionally, the creation of local health care centers for fish and the implementation of strategies to ensure water availability during the summer are vital. By implementing these suggestions, policymakers and stakeholders can enhance the fish farming sector's efficiency and sustainability. This will not only improve the livelihoods of fish farmers but also contribute to addressing India's food security issues and support the broader goals of economic development and poverty alleviation. The study underscores the need for a collaborative approach involving government intervention, community support, and scientific innovation to overcome the constraints faced by fish farmers and unlock the full potential of inland fisheries in India.

References

1. Salam MA, Hussain SM, Oinam G, Debnath B. Perceived constraints of fish farmers in adoption of scientific fish farming in Manipur. J Krishi Vigyan. 2020;Special Issue:231-235.
2. Bassey NE, Uwemedimo EO, Uwem UI, Edet NE. Analysis of the determinants of fresh fish marketing and profitability among captured fish traders in South-South Nigeria: the case of Akwa Ibom State. Br J Manag. 2015;1:35-45.
3. Department of Fisheries. Handbook on Fisheries statistics. New Delhi: Department of Fisheries; 2020. Available from: https://dof.gov.in/sites/default/files/2021-02/Final_Book.pdf
4. Department of Fisheries. Raichur District Website. 2021. Available from: https://raichur.nic.in/en/fisheries/
5. Emmanuel J, Ogueri E, Adesope O. Impact of Africa Regional Aquaculture Centre on fish farmers' livelihood in Obio/Akpor Local Government Area, Rivers State. J Appl Res. 2016;7(1):23-32.
6. Olaoye OJ, Ashley-Dejo SS, Fakoya EO, Ikeweinwe NB, Alegbeleye WO, Ashaolu FO, *et al*. Assessment of socio-economic analysis of fish farming in Oyo State, Nigeria. Glob J Sci Front Res. 2013;13(9):45-55.
7. Ogunmefun SO, Achike AI. Socioeconomic characteristics and constraints of pond fish farmers in Lagos State, Nigeria. Res J Agri Sci. 2017;7(10):304-317.
8. Saha B, De HK, Dana SS, Saha S, Basu K. Adopting gap in scientific fish production practices among fish farmers in Tripura. J Aqua. 2016;24:41-51.
9. Upadhyay AD. Economic analysis of commercial processing of fermented fish product (Matka shidal) and its marketing in North-East region of India. Econ Aff. 2016;61(3):501.
10. Borah K, Singh Y, Sarkar A, Singh S, Pal P, Khuman O, *et al*. Adoption of scientific fish farming practices in West Tripura district of Tripura, India. Pantnagar J Res. 2019;17(2):148-151.
11. Nisar U, Kumar NR, Kumar DK, Gawa S, Anamika S. Profitability, investment pattern and constraints of major marketing intermediaries involved in supply chain of exotic carps in Jammu and Kashmir, India. Int J Curr Microbiol App Sci. 2018;7(2):3130-3143.
12. Khuman ON, Singh YJ. Fish farmers' perceived constraints and suggestions towards the adoption of scientific fish farming of Pengba (*Osteobrama belangeri*) in the valleys of Manipur, India. Int J Curr Microbiol App Sci. 2019;8(2):2489-2494.
13. Hossen S, Ali MM, Sharker MR, Jahan N, Hossain MB, Sukhan ZP, *et al*. Present status of fish farming and livelihood of fish farmers in Barisal Sadar Upazila of Barisal District, Southern Bangladesh. World Appl Sci

J. 2020;38(2):143-152.
14. Bhutti JK, Lende S, Pargi NA, Vasava RJ, Taral PV. Studies on the socio-economic condition of fish farmers in Sabarkantha district of Gujarat state. J Pharm Innov. 2022;11(14):970-974.
15. Uttej D, Sailaja A, Savitha B, Vidya Sagar CH, Meena A, Rajani V. Fishermen in Telangana State: Their constraints and suggestions. Int J Stat Appl Math. 2023;8(6):269-274.
16. Singh KD, Siddiqui UA, Atreya S, Singh PK, Singh AP, Prasad K. Community fish farmers and their constraints in Gonda district of UP. J Pharmacogn Phytochem. 2018;7(2):1820-1821.
17. Shubham PK, Chahal BS, Ghanghas AK, Rohila R, Mukteshawar, Arulmanikandan B, Rohtash Kumar. Constraints perceived by farmers in fish farming: A review analysis. Int J Environ Climate Change. 2023;13(11):1546-1550. Available from: https://doi.org/10.9734/ijecc/2023/v13i113307
18. Niangti W, Singh YJ, Upadhyay AD, Pal P, Patel AB, Bharati H, Devi LR. Constraints in fish farming activities as perceived by the fish farmers of Ri-Bhoi and West Garo Hills districts of Meghalaya. J Entomol Zool Stud. 2020;8(6):1702-1706.