Original Research Article

Constraint in production and marketing in perception of fish farmers and market intermediaries of Inland fisheries in Khammam District of Telangana

ABSTRACT

The study focuses on Khammam district in Telangana, a significant region for fish farming. Using primary data collected through personal interviews with fish farmers and market intermediaries, the study aims to identify constraints in fish production and marketing using Garrett's ranking technique. The major constraints in fish production identified include high feed costs (Garrett score 71.41), lack of market facilities (68.55), and inadequate capital (68.15). For marketing, key issues include high price fluctuation (60.4), high transportation costs (56.13), and lack of market infrastructure (53.53).These findings highlight critical areas that need addressing to improve the efficiency and sustainability of fish farming and marketing. Financial constraints such as high feed costs and inadequate capital, along with infrastructural issues like lack of market facilities and transportation costs, are the most pressing problems. Addressing these challenges is essential for enhancing the sector's contribution to food security and economic development, particularly in regions like Khammam

Key Words: Constraints,Infrastructure,Financial support, Market facilities, Sustainability

INTRODUCTION

Fish is a nutrient-dense food that plays a crucial role in maintaining a healthy and balanced diet, offering a range of health benefits. It is an excellent source of protein, long-chain omega-3 polyunsaturated fatty acids, and various micronutrients. Globally, fish and fishery products are vital for food and nutritional security, providing high-value proteins, essential micronutrients, and long-chain omega-3 fatty acids (FAO). Although the average global daily consumption of fish and fish products is only about 34 calories per capita, they make a significant contribution to daily protein requirements, with a 150g serving meeting 50-60% of an adult's needs. Fish also plays a key role in addressing micronutrient deficiencies, making it an essential component of a healthy diet.

India's fish production Additionally, fish has a higher feed conversion rate, better protein retention, and lower cholesterol content. In India, about 35% of the population consumes fish, with a per capita availability of 9.0 kg, compared to the World Health Organization's recommendation of 13 kg for nutritional security. Fisheries are a crucial source of food, income, nutrition, and livelihood for millions of people worldwide. In India, Blue revolution had a pioneering impact on the fisheries sector which demonstrated more importance of fisheries and aquaculture sector. This sector is considered as a sunrise sector and is poised to play a significant role in the Indian economy in near futurereached 8.92% of the global total in 2022-2023, with a record 175.45 lakh tonnes produced in FY 2022-23, including 44.32 lakh tonnes of marine and 131.13 lakh tonnes of inland fish. The fisheries sector significantly contributes to the national economy, with a GVA of Rs. 1,37,716 crores in 2020-2021 and

a provisional production of 16.25 MMT in 2021-22. India is the second-largest producer of aquaculture fish globally, after China. Inland fish production accounts for about 75% of the country's total, with a notable shift from capture fisheries to aquaculture over the past 25 years. Freshwater aquaculture's share in inland fisheries has risen from 34% in the mid-1980s to around 76% recently. Fisheries is one of the fast growing sectors generating income and employment in the state of Telangana. The sector is contributing 0.6 percent to the GSDP and plays an important role in the overall socio-economic development of fisher families in Telangana by providing nutrition & food security

METHODOLOGY:

The study was based on primary data and collected through personal interview method from fish farmers and market intermediaries like wholesalers,retailers,vendors etc with the help of well structured and pre-tested schedule exclusively designed for the study.The present study is conducted The present study is going to be conducted in Khammam district of Telangana. Fish farming is one of the significantsource of livelihood in Khammam District. It not only provides food security but also contributes to the economic development of the region. Approximately 9.93% of the total fish farming population in Telangana hail from Khammam district, positioning it as the second-most prominent district in the realm of aquaculture, boasting an expansive area of 132.176 ha. Combination of multistage, purposive sampling techniques will be adopted. Purposive sampling technique will be adopted to select mandals, villages from each mandal and farmers from each village making a total of 60 farmers and 10 wholesalers ,10 retailers,10 vendors primary data is collected**.**

To find out the constraints in production and marketing of Fish. Garrett's ranking technique will be used. The respondents will be asked to rank the various problems and these ranks will be converted into percent position by the formula

$$Percent\ position = \frac{100(R_{ij} - 0.5)}{N_j}$$

Where,

R_{ij}= Rank given for the i^{th}variable by j^{th} respondents

N_j= Number of variables ranked by j^{th} respondents

From the Garrett's Table, the percent position calculated is converted into scores. Then for each factor, the scores of each individual are added and then total value of scores and mean values of score is calculated. The factors having highest mean value is considered to be the most important factor.

RESULTS AND DISCUSSION

Opinion survey was carried out to know the constraints faced by the respondents in the production and marketing of the fish in the study area and the data analysed with the help of Garrets ranking technique .During the survey the eight problems were identified in fish production for the fish farmers such as inadequate capital for the farming, water availability,high feed costs, disease infestation,lack of market facilities , lack of technical knowledge for the production,price fluctuations, high seed costs , lack of input suppliers in local. And for the marketing of the fish major constraint are identified are high transportation

cost ,high commission charges,high price fluctuations, storage problem,inconsistent supply of fish,lack of government support, lack of infrastructure in market ,shifts in consumer preference etc .constraints faced by the respondents were ranked according to according to garrets score.

Table 1: Constraints faced by the fish farmers in fish production

Sl.no	Constraints	Garrets score	Rank
1	High feed costs	71.41	I
2	Lack of market facilities	68.55	II
3	Inadequate capital	68.15	III
4	Disease infestation	51.08	IV
5	Lack of input suppliers	46.8	V
6	Water availability	43	VI
7	High seed costs	36.38	VII
8	Price fluctuations	32.83	VIII
9	Lack of technical knowledge	31.78	IX

Constraints faced by the farmers in fish production:

The constraints in fish production expressed by the farmers were ranked based on the results of Garret ranking analysis and listed in Table 1. From the nine constraints High Feed Costs(Garrets score-71.41 , Rank I) is identified as the most severe constraint, indicating that high feed costs are the biggest challenge faced by the fish farmers. It suggests that feed costs significantly impact the profitability and sustainability of the operations.Lack of Market Facilities (Garrets score -68.55 , Rank II) is the second most critical issue is the lack of market facilities. This indicates problems with the infrastructure needed to sell products, possibly leading to inefficiencies and reduced market access for producers. Inadequate Capital(Garrets score-68.15 , Rank III) Inadequate capital is ranked third, showing that limited financial resources are a major barrier. This could affect the ability to invest in necessary inputs, technology, or expansion efforts**.**Disease Infestation (garrets score-51.08 , Rank IV) Disease infestation is a significant concern but less critical than the top three constraints. It highlights health issues that can affect productivity and necessitate spending on treatments or preventive measures.Lack of Input Suppliers (Garrets score-46.8 ,Rank V):The fifth constraint is the lack of input suppliers, suggesting challenges in obtaining essential supplies such as seeds, fertilizers, or equipment, which can hinder production efficiency and effectiveness.Water Availability (Garrets score -43 , Rank VI) is a mid-level constraint. This indicates issues with accessing sufficient water for production needs, which could affect both the quantity and quality of output.High Seed Costs (Garrets score 36.38 - Rank VII) .High seed costs are a lesser but still notable constraint. This impacts the initial investment needed for planting, potentially limiting the scale of production or the ability to choose high-quality seeds.Price Fluctuations (Garrets score-32.83 ,Rank VIII)Price fluctuations are a concern, less severe compared to the others. This indicates that unstable market prices can affect income predictability and financial planning.Lack of Technical Knowledge (Garret score-31.78 ,Rank IX):The least severe constraint is the lack of technical

knowledge. While still an issue, it suggests that improving technical know-how could be a relatively lower priority compared to addressing financial and infrastructural constraints.Overall, suggests that financial constraints (high feed costs, inadequate capital) and infrastructural issues (lack of market facilities) are the most pressing problems, whereas technical knowledge is relatively less of a concern.

Table.2 Constraints faced by the market intermediaries in marketing the fish

Sl no	Constraints	Garrets score	Rank
1	High price fluctuation	60.4	I
2	High transportation costs	56.13	II
3	Lack of infrastructure in market	53.53	III
4	Storage problem	52.9	IV
5	Inconsistent supply of fish	50.73	V
6	Lack of government support	44.03	VI
7	Shifts in consumer preference	43.93	VII
8	High commission chharges	39.33	VIII

The analysis of constraints impacting the market reveals several significant challenges ranked by market intermediaries based on Garrett's score in Table 2 . The most critical issue is high price fluctuation, with a score of 60.4, indicating it as the top-ranked constraint (I). This is closely followed by high transportation costs, which scored 56.13, making it the second most pressing issue (II). The third major constraint is the lack of infrastructure in the market, with a score of 53.53 (III). Storage problems also pose a significant challenge, ranking fourth with a score of 52.9 (IV). The inconsistent supply of fish, scoring 50.73, is the fifth-ranked constraint (V). Lack of government support, with a score of 44.03, is ranked sixth (VI), while shifts in consumer preference, scoring 43.93, rank seventh (VII). Although high commission charges were mentioned, they were not assigned a score and rank, suggesting they might be less significant or not fully assessed in this analysis. Overall, these constraints highlight critical areas that need addressing to improve market efficiency and stability

CONCLUSION

The study in Khammam district of Telangana identifies key constraints in fish farming and marketing. For fish farmers, high feed costs are the most severe issue, followed by lack of market facilities and inadequate capital. Other significant constraints include disease infestation, lack of input suppliers, water availability, high seed costs, price fluctuations, and lack of technical knowledge.Market intermediaries highlighted high price fluctuations, high transportation costs, and lack of market infrastructure as major challenges. Storage

problems, inconsistent supply of fish, lack of government support, and shifts in consumer preference were also notable issues.Addressing these financial and infrastructural constraints through targeted policies, financial support, and infrastructure development is crucial. Enhancing technical knowledge and support services can further mitigate production challenges. Focusing on these areas will improve the efficiency, stability, and sustainability of the fishery sector, contributing to food security, economic development, and livelihoods in the region

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