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RESEARCH ARTICLE

AN EMPIRICAL STUDY ON PROBLEMS OF FISH AQUA FARMERS OF WEST GODAVARI DISTRICT OF ANDHRA PRADESH

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ABSTRACT

Andhra Pradesh with a coastline of 974 km encompassing nine coastal districts has had a long history of fishing. Starting with traditional fishing in ancient times to the modern, technology-intensive fishing, the marine fisheries sector of the state has grown tremendously. There are two major fishing harbours at Visakhapatnam and Kakinada where bulk of total trawl catch (nearly 70%) is landed and three minor fishing harbours at Bhairavapalem, Machilipatnam and Nizamapatnam. The marine fishermen population of the state are being active in fishery related activities throughout the year. The marine fisheries sector, at present, is an important source of employment and income generation in the state, but is plagued with several problems such as inadequate power supply, non-support of fishing cooperative societies, non-support from local administration, high cost of transportation, no good infrastructure, non-availability of suitable market etc. is the need of the hour. So, the study aims to find various problems among four mandals Akividu, Bhimavaram, Kalla and Mogalturu and among three categories of aqua farmers such as small, medium and large. The primary data is collected through a well-structured questionnaire and administered to the target fish aqua farmers of four mandals and three categories of fish aqua farmers.

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INTRODUCTION

Aquaculture is being the fastest food production sector in the world with an estimated production of about 179 million tonnes. The fish production from capture fisheries (96 million tonnes) is almost stagnant for many decades but the demand is rising significantly due to the awareness about the health benefits of fish consumption. The additional demand for fish consumption must be achieved only through aquaculture. The current fish production from aquaculture has increasing and it is sharing almost 45% of total global fish production but this production level is not sufficient to fulfil the demand (FAO, 2020).Indian Fisheries and Aquaculture sector is considered as a sunrise sector and is poised to play a significant role in the Indian economy in near future. India continues to retain its position as the second-largest fish producer in the world with a production of 14.16 million metric tonnes during 2019-20. The sector has shown impressive growth with fish production registering an average annual growth of 7.53% during last 5 years. Besides the domestic market, fisheries and aquaculture sectors contribute greatly to India's export earnings as well.

The country exported 12.89 lakh metric tons of fisheries products valued at Rs.46,662 crores (USD 6.68 billion) during 2019-20, largely mitigating the adverse impact of Covid-19 pandemic. Andhra Pradesh hasbeen contributing to 25% to thefish productionin India in recent years through an effective strategyin both coastal and freshwater aquaculture and marketing. The state has 5.17 lakh ha of freshwater ponds and tanks, 11,514 km of rivers and canals, 4.58 lakh ha of reservoirs and 150,000 ha of water areas suitable for coastal aquaculture. The inland fish production is 3.49 million tons (PIB, 2019; Srikanth, 2020) including 6.04 lakh ton of marine fish along with farmed shrimp in brackish waters (Keelery, 2019). Andhra Pradesh is achieving rapid progress in aquaculture with vast potential for the development of fish and prawn cultivation and seafood production. The fish and prawnproduction have 6.04 per cent share in the Gross State Domestic Production (GSDP) andproviding directemployment to14.5 lakh people (Ameen, 2018). Different sets of challenges have been identified, which if addressed can quicken and improve the rate of growth in Fisheries in the state.

These are (i) the majority of the boats are small fishing boats and such boats lack modern fishing facilities and equipment and information and communication equipment. (ii) The technology used at various levels of the value chain starting from boats to the cold chain is inadequate and obsolete (iii) The fishermen do not have access to institutional financing and new technologies (iv) Availability of technical Labour (v) training for fish farming etc. (R. Jeyalakshmi and P. Venkata Rao, 2021). Lack of labour, transportation, ice to preserve catch and cold storage facilities has also been a challenge for the fish trade (CGIAR, 2020). Normally, farmers undertake repairs to fish ponds and existing machinery during summer. There is severe shortage of technicians for repair and maintenance of farm machinery. Availability of spare parts has become difficult (MSSRF, 2020).

The quality fish seed sometimes are not available locally and making necessary arrangement for such seeds often cause higher operational costs. Sometimes shortage of fish seed supply results from the limited number of hatcheries in the local region. Thus, both the quality and quantity of fish seed suffers from limitations. Along with seed, fish feed is equally important.

The success of a sustainable aquaculture system depends on the fish feed and fish nutrition. The fish farmers who are engaged in fish farming at the farm sites far away from the potential market, often face a problem of lacking of potential market. The fish farmer doing farming since a long time may have steady customers and may not consider access to market as a problem.

Table 1. Problems faced by Fish aqua Farmers among four mandals

Problems	Akividu	Bhimavaram	Kalla	Mogalturu	Total	Chi-Square	Result
Problems with fishing cooperatives	3.22	3.07	2.82	3.17	3.07	85.51	Significant
Problems with local administration	3.53	3.79	3.13	3.66	3.53	113.22	Significant
Conflict with other fish farmers	2.83	2.68	2.51	2.82	2.71	67.67	Significant
No good road approach to landing centre	3.61	4.06	3.19	3.94	3.70	61.40	Significant
inadequate transport facilities	3.03	3.51	3.04	3.26	3.21	36.70	Significant
High cost of transportation	3.77	4.07	3.89	3.86	3.90	40.33	Significant
Over exploitation by middlemen	3.95	4.46	4.47	4.33	4.30	72.66	Significant
Fluctuation in price	4.58	4.88	4.83	4.61	4.72	85.86	Significant
Inadequate demand	4.29	4.56	4.51	4.30	4.41	44.25	Significant
Low price offered by buyer	3.86	4.70	4.30	4.17	4.26	82.82	Significant
Delay in Payment	2.84	3.43	3.60	3.10	3.24	74.67	Significant
Suitable market not available	2.89	3.65	3.39	3.38	3.33	31.13	Significant
Shortage of Fish feed	1.62	1.48	1.63	1.45	1.55	85.64	Significant
Lack of quality of fish feed	2.69	1.95	3.02	2.38	2.51	95.27	Significant
Inadequate storage facilities	3.72	4.13	3.21	3.88	3.74	90.19	Significant
Curing facility not available	4.40	4.33	3.96	4.33	4.25	47.73	Significant
Construction of Fish Pond is too costly	3.75	4.09	3.90	3.88	3.90	33.34	Significant
Non-availability of fish feed-mill	3.52	3.36	3.35	3.58	3.45	21.43	Significant
Lack of availability of fish seeds	2.21	1.94	2.18	1.83	2.04	65.17	Significant
Inadequate Power Supply	3.36	2.88	3.04	3.25	3.13	56.86	Significant
Lack of access to cold rooms	4.17	4.12	3.86	4.29	4.11	38.48	Significant
Lack of credit facilities	2.88	3.23	3.16	3.07	3.08	57.01	Significant
Government regulations are not supportive	4.28	3.73	3.98	3.86	3.96	61.81	Significant
Government Tax is high	4.22	3.50	3.73	3.51	3.74	88.10	Significant
Lack of technical labour availability	3.94	4.28	3.42	4.32	3.99	70.21	Significant

Table 2. Problems faced by Fish aqua Farmers among three categories of farmers

Problems	Small	Medium	Large	Total	Chi-Square	Result
Problems with fishing cooperatives	3.16	3.14	2.90	3.07	46.41	Significant
Problems with local administration	3.57	3.75	3.26	3.53	53.04	Significant
Conflict with other fish farmers	2.89	2.81	2.44	2.71	40.1	Significant
No good road approach to landing centre	3.79	3.91	3.40	3.70	39.05	Significant
inadequate transport facilities	3.35	3.41	2.87	3.21	34.08	Significant
High cost of transportation	3.88	4.01	3.80	3.90	23.94	Significant
Over exploitation by middlemen	4.30	4.39	4.22	4.30	52.42	Significant
Fluctuation in price	4.69	4.79	4.69	4.72	21.34	Significant
Inadequate demand	4.50	4.50	4.24	4.41	20.11	Significant
Low price offered by buyer	4.24	4.38	4.15	4.26	14.23*	Insignificant
Delay in Payment	3.24	3.25	3.23	3.24	13.01*	Insignificant
Suitable market not available	3.42	3.53	3.04	3.33	21.48	Significant
Shortage of Fish feed	1.66	1.38	1.60	1.55	52.64	Significant
Lack of quality of fish feed	2.29	2.29	2.96	2.51	49.6	Significant
Inadequate storage facilities	4.00	3.97	3.24	3.74	45.17	Significant
Curing facility not available	4.59	4.30	3.87	4.25	61.23	Significant
Construction of Fish Pond is too costly	3.93	3.89	3.89	3.90	23.13	Significant
Non-availability of fish feed-mill	3.63	3.45	3.28	3.45	29.99	Significant
Lack of availability of fish seeds	1.83	1.84	2.44	2.04	56.68	Significant
Inadequate Power Supply	3.36	3.18	2.86	3.13	42.55	Significant
Lack of access to cold rooms	4.16	4.34	3.83	4.11	53.56	Significant
Lack of credit facilities	3.17	3.08	3.00	3.08	24.22	Significant
Government regulations are not supportive	3.96	3.94	3.98	3.96	21.88	Significant
Government Tax is high	3.76	3.66	3.79	3.74	16.79	Significant
Lack of technical labour availability	4.28	4.03	3.66	3.99	48.39	Significant

Hypothesis

H1: There is a significant difference among the four mandals Akividu, Bhimavaram, Kalla and Mogalturu of West Godavari district towards various problems faced by the fish aqua farmers.

H2: There is a significant difference among three categories of aqua farmers such as small, medium and large aqua farmers of West Godavari district towards various problems faced by the fish aqua farmers.

Objectives of the study

- To observe and analyse various problems faced by the fish aqua farmers of four select mandals of West Godavari district.
- To assess various problems faced by the fish aqua farmers of three categories such as small, medium and large fish aqua farmers of West Godavari district.

METHODOLOGY

Current study was carried out on fish aquaculture farmers problems in West Godavari district of Andhra Pradesh. Awell-structured questionnaireused in this studyto collect the primary data. The data was collected from 480 fish aqua farmers of West Godavari district. Cross section distribution of respondents was adopted for this study. Questionnaire is administered equally to four mandals Akividu, Bhimavaram, Kalla and Mogalturu. Similarly, questionnaire is administered equally to three categories such as small, medium and large fish aqua farmers. Respondents were selected randomlyfrom all cross section of respondents. Data was tabulated and analysed using percentages, mean scores, chi-square test.

Data Analysis: Problems faced by the fish aqua farmers is collected from four mandals and tabulated as shown in table 1. The researcher considered twenty-five problems general faced by the fish aqua farmers and listed in the below table. It is found from the table 1 that majority of the respondents from Akividu mandal opined that fluctuation in the price of the fish is the major problem faced by them with a mean score of 4.58 and non-availability of fish curing facility is another major problem with mean score of 4.40 followed by inadequate demand for fish with mean score of 4.29, Government regulations are not supportive with mean score of 4.28, Government taxes are high with mean score of 4.22 etc. In case of Bhimavaram mandal, it is found that fluctuations in fish price with a mean score of 4.88 and low price offered by buyer with a mean score of 4.70 are the major problems faced by the fish aqua farmers followed by inadequate demand and over exploitation of the middlemen with mean scores of 4.56 and 4.46 respectively. It is observed the same in case of Kalla and Mogalturumandals of West Godavari district.

To test the hypothesis chi-square test is used and found that there is a significant difference among the four mandals towards the problems faced by the fish aqua farmers. As per the Government, small aqua farmers mean those aqua farmers who are farming in less than five acres of land. Medium aqua farmers are those farmers who are farming in between five to ten acres of land. Large means more than ten acres. Researcher has taken all the three categories of farmers to find the problems across these categories. This data is shown in the table 2. It is found the table 2 that majority of the fish aqua farmers opined that fluctuations in price of the fish and non-availability of fish cure centres are the major problems faced by small aqua farmers with mean score of 4.69 and 4.59 respectively followed by inadequate demand, lack of technical labour and lack of access to cold rooms are the next problems with mean scores of 4.50, 4.28 and 4.16 respectively. The same is observed even in case of medium and large aqua farmers. To test the hypothesis, chi-square test is conducted and found that there is a significant difference among small, medium and large aqua farmers towards the problems.

CONCLUSION

The outcomes and their analysis emphases on considerable infrastructure investment, strengthening for expansion of pond fish farming is needed. Proper marketing facilities such as good infrastructure, refrigerated transport need to be provided. Government of Andhra Pradesh should improve the road network and build paved roads of good quality to facilitate the fish market. Credit facilities needs to be increased for the poor fish aqua farmers. Cooperative society and local administration should support the fish farmers to successfully distribute their production and get fair prices of fish. Availability of electricity supply and adequate support to provide underground water in dry season are needed to be ensured. Government of Andhra Pradesh should give proper training in fish farmers and also training the fish famers in using the new technology to improve their business.

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