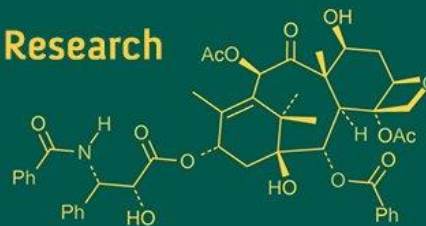
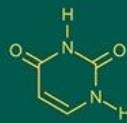
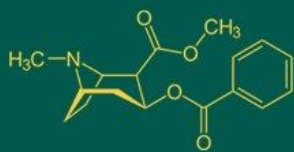


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## To ascertain the constraints and suggestions of fish farmers in study area

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### Abstract

The present investigation on the topic "To Ascertain the Constraints and Suggestions of Fish Farmers in Study Area" was carried out in different villages of the Kanker district of Chhattisgarh State. The details of materials used, experimental methodology followed and measurement techniques adopted during the course of study are described in this chapter. The aim of the fish farmer is to attain the maximum production, if not, reasonable production level. In producing fish, fish producers have encountered a few problems. At the time of survey, informal discussions were held with sample farmers, in which they have disclosed their production problems. The next intense problem that affecting fish farmers was diseases, out of 84.00 percent of the farmers under study, about 82 small farmers (75.93 percent), 40 medium farmers (71.43 percent) and 26 large farmers (72.22 percent) have the problem of fish diseases. Water management plays a decisive role in culture of fish. Water management includes availability of water, its inflow and out flow, turbidity and oxygen level. With respect to water management 114 farmers (57.00%) of the total reported in management problems. About 62 small farmers (57.41 percent), 32 medium farmers (57.14 percent) and 20 big farmers (55.56 percent) reported water management problem. The fourth problem that sample farmers faced was topography problem which includes geographical and climatic conditions of the fish tank. A total of 108 farmers who constituted 54.00% to the sample size have this problem. About 60 small farmers (55.56%), 30 medium farmers (53.57%) and 18 large farmers (50.00%) confronted by this problem.

**Keywords:** Constraints, diseases, fish farmers, problems, water management

### Introduction

Fish has been occupying a significant place in human life both as a delicacy and a nutrient food item from time immemorial. When people lived in caves and bushes hunting used to be their main means of livelihood. "Fishing was probably the earliest form of hunting, and since men were, almost certainly, hunters before they were cultivators, it follows that fishery is the oldest industry in the world". A significant portion of the Indian economy is derived from the fishing industry. Fish output has expanded more quickly in the 21<sup>st</sup> century blue revolution than it has for grains, milk, eggs, and a host of other food staples. With its riches under ponds and tanks, India has the most potential for the development of inland fisheries. The nation's farmers' socioeconomic development is significantly influenced by the fishing industry. In addition to being a source of affordable, wholesome food, the industry has been acknowledged as a potent employer and source of cash since it fosters the expansion of numerous ancillary companies. Above all, it provides a stable means of subsistence for a significant portion of the nation's economically disadvantaged populace. The development of sustainable technologies for fin and fish culture, yield optimization, harvest and post-harvest operations, landing and berthing facilities for fishing vessels, and accurate data on the assessment of fishery resources and their potential for fish production are the main obstacles facing the country's fisheries development.

Medical science tells us that protein is highly essential for human growth and development as well as health. Their function on body metabolism is an accepted fact. Next to meat and milk, fish is the major source of protein supply. Accordingly, fishing is today considered a major industry all over the world. Research and inquiry in this regard have made considerable progress and new technology has replaced the primitive fish culture. In the food processing industry, it has already occupied an important place. In the world market fish is now an important item securing foreign exchange for the fish-producing countries.

**Problems faced by farmers in fish production**

The aim of the fish farmer is to attain the maximum production, if not, reasonable production level. In producing fish, fish producers have encountered a few problems. At the time of survey, informal discussions were held with sample farmers, in which they have disclosed their

production problems. The four main problems that they facing were,

- Highly fluctuating cost of feed
- Fish diseases
- Water management
- Topography.

**Table 1:** Problems in fish farming

Sl. No.	Particulars	Size of respondents			Total (percent)
		Small	Medium	Large	
1.	Escalation in the cost of feed	100 (95.59)	50 (89.29)	30 (83.33)	180 (90.00)
2.	Fish Diseases	82(75.93)	40(71.43)	26 (72.22)	168 (84.00)
3.	Water Management	62(57.41)	32 (57.14)	20 (55.56)	114(57.00)
4.	Topography	60(55.56)	30(53.57)	18 (50.00)	108(54.00)
5.	Total	108 (100)	56 (100)	36 (100)	200 (100.00)

As can be seen from the Table 1 as many as 180 farmers (90.00 percent) of the total sample were encountering the problem of highly fluctuating cost of feed. Out of the total sample, this problem has been reported by 100 small farmers (95.59 percent), 50 medium farmers (89.29 percent) and 30 large farmers (83.33 percent) making a total of 90.00 percent of the sample.

The next intense problem that affecting fish farmers was diseases, out of 84.00 percent of the farmers under study, about 82 small farmers (75.93 percent), 40 medium farmers (71.43 percent) and 26 large farmers (72.22 percent) have the problem of fish diseases.

Water management plays a decisive role in culture of fish. Water management includes availability of water, its inflow and out flow, turbidity and oxygen level. With respect to

water management 114 farmers (57.00 percent) of the total reported in management problems. About 62 small farmers (57.41 percent), 32 medium farmers (57.14 percent) and 20 big farmers (55.56 percent) reported water management problem.

The fourth problem that sample farmers faced was topography problem which includes geographical and climatic conditions of the fish tank. A total of 108 farmers who constituted 54.00 percent to the sample size have this problem. About 60 small farmers (55.56 percent), 30 medium farmers (53.57 percent) and 18 large farmers (50.00 percent) confronted by this problem.

**Garret ranking analysis of constraints of the fish farming**

**Table 2:** Rank Estimation of the Total Respondents of fish farmers

Rank	Variables	1	2	3	4	Total
I	Escalation in the cost of feed	87	51	35	27	200
II	Fish Diseases	46	85	21	48	200
III	Water Management	37	38	79	46	200
IV	Topography	30	26	65	79	200

Table 2 lists the overall ranking each respondent assigned to the various elements that lead to issues in fish farming. According to the above data, the cost of feed is the issue that the greatest number of respondents-87-ranked as the most important. Conversely, fish infections have been ranked as

the second most important issue, and so on. These points serve to illustrate how the sample respondents as a whole ranked the various variables that lead to difficulties in finding fish farmers.

**Table 3:** Estimation of Garrett Value for each Percent Position value

Rank	Percent position for Garrett value = $100(R_{ij}-0.5)/N_j$	Garrett Value
I	12.50	72
II	37.50	56
III	62.50	44
IV	87.50	26

Percent position value were calculated by considering the formula i.e.,  $100(R_{ij}-0.5)/N_j$ ; in order to evaluate the Garrett value, percent position value is essential to rank the exact causes for a particular phenomenon or problem.

This Table 3 described the percent position value of the total sample respondents. For each percent position value, Garrett value has been estimated by considering Garrett Ranking

Conversion Table (Appendix-B). Here, the 12.50 percent position value the Garrett value has been nearest integer of the Garrett Ranking Conversion Table i.e., 72 and so on. This is because, Garrett value is essential for calculating the total score of the respondents by ranking on different factors of the phenomenon.

**Table 4:** Overall Ranking by Respondents

Rank	Variables	1	2	3	4	Total	Average	Final Ranking
I	Escalation in the cost of feed	6264	2856	1540	702	11362	56.81	I
II	Fish Diseases	3312	4760	924	1248	10244	51.22	II
III	Water Management	2664	2128	3476	1196	9464	47.32	III
IV	Topography	2160	1456	2860	2054	8530	42.65	IV

Table 4 outlined the methods used to calculate the sample respondents' total score. The cumulative score is determined by multiplying the Garret Value by the corresponding ranking provided by the participants for every sample factor. Therefore, the Garret value for the first rank is 72, and the number of respondents assigned Rank 1 is 47. Thus, multiplying these two results in the total score of 6264. As a result, every estimating process is moving in the same direction for every factor, with each factor's rank determined by the total number of respondents.

### Suggestions to overcome the problems

- Farmers do not have any influence in controlling the prices of feed, manipulation/controlling of prices is purely in the hands of Feed producers and middlemen. So, it is suggested that the farmers should practice Backward Integration by undertaking feed production organizing Farmer's Association.
- Circulation of water, both inflow and outflow, has to be maintained. In areas, where there is scarce of water, water need to be pumped into the tanks under quota system so that scarce water resources can be utilized by all farmers efficiently. Effective drainage system has to be evolved by the fish farmers collectively.
- Effective management of pests and diseases will enhance fish yield and therefore integrated pest and disease management schemes must be evolved and implemented in the fish culture area.
- Weather and geographical conditions are uncontrollable forces influencing the farmer negatively. The Farmer has to keep in touch with weather forecast news and taking necessary steps (use of pesticides and water management) to adopt fish tanks to the changed climatic condition.

### Conclusion

As demonstrated according the study has identified a number of challenges in achieving fish farming. Four issues that the respondents had noted are shown in this tables. The one that bothered the beneficiaries the most in terms of getting the profit out of the four was the increase in feed costs.

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