

DIRECT AND INDIRECT EFFECT BETWEEN ANTECEDENT CHARACTERISTICS OF INLAND FISH FARMERS AND THEIR ENTREPRENEURIAL COMPETENCE

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ABSTRACT

The present investigation was carried out in the Anand district of middle Gujarat. Total fifteen variables were subjected to path analysis and the study revealed that annual income had exerted a maximum direct positive effect and substantial effect on entrepreneurial competence, economic motivation had the maximum total indirect effect in the determination of the entrepreneurial competence of inland fish farmers.

Keywords: inland fish farmers, entrepreneurial competence, direct-indirect effect

INTRODUCTION

Global fish production has reached about 179 million tonnes in 2018 with a total first sale value estimated at 401 billion USD, of which 82 million tonnes, valued at 250 billion USD, came from aquaculture production and among which 156 million tonnes were used for human consumption, equivalent to an estimated annual supply of 20.5 kg per capita. The remaining 22 million tonnes were destined for non-food uses; mainly to produce fishmeal and fish oil. Aquaculture accounted for 46 per cent of the total production and 52 per cent of fish for human consumption. Global capture fisheries production in 2018 reached a record 96.4 million tonnes with increase of 5.4 per cent from the average of the previous three years. Marine capture fisheries mostly drove the increase, where production increased from 81.2 million tonnes in 2017 to 84.4 million tonnes in 2018, still below the all-time high of 86.4 million tonnes in 1996. The top seven producing countries of global capture fisheries accounted for almost 50 per cent of total captures, with China producing 15 per cent of the total, followed by Indonesia (7 per cent), Peru (7 per cent), India (6 per cent), the Russian Federation (5 per cent), the United States of America (5 per cent) and Viet Nam (3 per cent). The top 20 producing countries accounted for about 74 per cent of the total capture fisheries production (Anonymous, 2020^a).

To enhance inland fish production in Gujarat, there is a need to increase fry grow-out areas for cultural practices in each district, making full use of the available potential. There is also a need for introducing fast-growing species for culture. In the seasonal water tanks and reservoirs of Saurashtra and North Gujarat, fingerlings stocking could be

useful. Scientific management of reservoirs with adequate stocking and controlled fishing could go a long way in improving production. The polyculture of giant freshwater prawns and fish is another approach that could be pursued for increasing production. The fisheries development of the Sardar Sarovar Project needs to be carefully planned and promoted in such a way as to maximize fish production from the reservoir proper and command areas (<https://gujarat.pscnotes.com/gujrat-geography/gujarat-fishing/>).

OBJECTIVE

To study the direct and indirect effect between antecedent characteristics of inland fish farmers and their Entrepreneurial competence

METHODOLOGY

The study was conducted in the Anand districts of middle Gujarat State. A list of Inland fish farmers was obtained from the office of Assistant Director of Fisheries Anand and KVK, Devataj and based on the availability 150 Inland fish farmers from the Anand district were selected randomly. In light of the objectives, the interview schedule was prepared and respondents were interviewed either at their homes or office. An ex-post facto research design was used and for the measurement of variables. The constraints and suggestions obtained from each respondent were measured in terms of the mean value and simple comparisons was made based on frequency and percentage. The data were analysed to find out the relationship between each of the independent variable and the dependent variable. When the computed value was equal to or more than the table value, then the relationship between the selected variables was considered

as significant. Then, it was carried out to identify the direct and indirect effect of significant independent variables on the entrepreneurial competence of inland fish farmers as well as to know the nature of influence extended on the entrepreneurial competence

Path coefficient technique is the rate of the standard deviation of the effect due to a given cause of the total standard deviation of the effect. Path effects were obtained by solving simultaneous equations set up for the purpose using the correlation matrix. Considering XI as independent variable to be influencing the dependent variable Y the entrepreneurial competence. (Reddy, et.al, 1995-1996).

RESULTS AND DISCUSSION

All fifteen variables were subjected to path analysis. The data thus, indicate that the observed relationship between the variables was only partially absolute and partially relative. A partial relationship was a contribution made by other variables exercising their influence jointly.

It is, therefore, necessary to study the influence of one variable on another variable both directly as well as through other variables presented in the situation. The result of the path analysis is presented in Table 1.

Table 1: Direct and indirect effect between antecedent characteristics of respondents and their entrepreneurial competence (n = 150)

Sr. No.	Variables	Direct effect	Total indirect effect	Substantial indirect effect through	
				1	2
X ₁	Age	0.199	0.007	0.051 (X10)	0.048 (X7)
X ₂	Education	0.120	0.046	0.049(X10)	0.016 (X13)
X ₃	Experience in inland fish farming	-0.318	0.072	0.263 (X7)	0.035 (X1)
X ₄	Social Participation	0.035	0.061	0.049 (X10)	0.013 (X1)
X ₅	Gender	-0.011	-0.034	0.014 (X7)	0.013 (X2)
X ₆	Cast	-0.133	0.010	0.296 (X7)	0.029 (X1)
X ₇	Annual Income	0.365	-0.366	0.026 (X1)	0.013 (X9)
X ₈	Size of pond	0.129	-0.015	0.069 (X12)	0.025 (X7)
X ₉	Mass Media	0.148	-0.112	0.032 (X7)	0.009 (X2)
X ₁₀	Extension participation	-0.322	-0.055	0.074 (X12)	0.034 (X7)
X ₁₁	Scientific Orientation	0.078	0.082	0.082 (X3)	0.051 (X10)
X ₁₂	Credit Orientation	-0.211	0.110	0.009 (X2)	0.006 (X1)
X ₁₃	Deferred Gratification	0.107	0.041	0.023 (X10)	0.018 (X2)
X ₁₄	Fish Farming Commitment	0.045	0.131	0.088 (X10)	0.078 (X3)
X ₁₅	Economic Motivation	-0.008	0.156	0.073 (X3)	0.054 (X10)

Direct effect

The data in Table 29 revealed that annual income had exerted a maximum direct positive effect on entrepreneurial competence (0.365) followed by age (0.199), mass media (0.148), social participation (0.129), education (0.120), deferred gratification (0.107), scientific orientation (0.078), fish farming commitment (0.045) and caste (0.035).

As far as negative direct effect is concerned economic motivation (-0.008) exerted the maximum negative direct effect on entrepreneurial competence followed by gender (-0.011), pond size (-0.133), credit orientation (-0.211), experience in fish farming (-0.318) and extension participation (-0.322).

It can be inferred that annual income had exerted the maximum

positive direct effect on entrepreneurial competence followed by age, mass media, social participation, education, deferred gratification scientific orientation, fish farming commitment and cast.

Total indirect effect

So far, the total indirect effect is concerned; ten variables had a positive total indirect effect on entrepreneurial competence. Further, it can be observed that economic motivation had the maximum total indirect effect (0.156) followed by fish farming commitment (0.131), credit orientation (0.110), scientific orientation (0.082), experience in fish farming (0.072), cast (0.061), education (0.046), deferred gratification (0.041), pond size (0.010) whereas the highest negative indirect effect was exerted by annual income (-0.366) and followed by social participation (-0.015), gender

(-0.034), extension participation (-0.055) and, mass media (-0.112).

Substantial indirect effect

Data further revealed that out of 30 substantial indirect effects, seven each routed through annual income and extension participation, five each routed through age, four each routed through education, three each routed through experience in fish farming, two each routed through credit orientation, one through mass media and deferred gratification.

Concluding the findings, it can be said that annual income exerted the highest direct effect and substantial effect and economic motivation exerted the maximum total indirect effect on the entrepreneurial competence of inland fish farmers.

CONCLUSION

The inland fish production in particular Gujarat can be enhanced by increasing fry grow-out areas for cultural practices in each district, making full use of the available potential and introducing fast-growing species for culture. Scientific management of reservoirs with

adequate stocking and controlled fishing could go a long way in improving production. Path effects were obtained by solving simultaneous equations set up for the purpose using the correlation matrix for fifteen variables. The annual income had exerted a maximum direct positive effect on entrepreneurial competence i.e. 0.365 while negative direct effect on economic motivation i.e. -0.008) in the study. It can be said that annual income exerted the highest direct effect and substantial effect and economic motivation exerted the maximum total indirect effect on the entrepreneurial competence of inland fish farmers.

CONFLICT OF INTEREST

All authors declare that they have no conflict of interest

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