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Factors influencing entrepreneurial behavior of fishery growers in Dimapur district of Nagaland

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ABSTRACT

The present study comprises a sample of 90 fishery growers by following multi stage simple random sampling technique to access the factors influencing the entrepreneurial behavior in Dimapur district of Nagaland. It is well known fact that fishery is an important enterprise in entire north eastern region of India; which comprising of a brother and seven sister states. The study revealed that entrepreneurial behavior has an positive impact due to the majority of fishery growers had medium level of knowledge about improved package of practices of fishery enterprise *viz;* farm decision making ability, family size, economic motivation, marketing orientation and scientific orientation programme aspects were enhance the knowledge about reorient relevant training programmes giving due cognizance to the influencing factors.

Key words: Entrepreneurial behavior, Fishery, Factors, Growers.

INTRODUCTION

Fish production in India has increased steadily from 7.50 lakh tonnes in 1950-1951 to 56.6 lakh tonnes in 1999-2000 (Sharma, 2012)[9]. Marine fisheries remained the major contributor till 1990-1991. Its contribution to total fish production by 1960-1961 was over 75.00 per cent, but it declined drastically to 61.93 per cent in 1970-1971. Since then, it remained almost constant till 1990-1991. In the nineties, fish production structure underwent substantial changes. The share of inland fisheries increased drastically reaching to 50.00 per cent in 2009-2010 (Anonymous 2012). These changes were due to deceleration in growth of marine fish production and a policy shift in favour of inland fisheries, particularly aquaculture (Anonymous 2014).

North East region of India comprising the states of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura and Sikkim covers almost 9.00 per cent of the area and 4.30 per cent of the production of India, due to various reasons of biotic and abiotic factors viz; lack of HYV saplings, rainfed condition, non-adoption of recommended package of practices, disease and pest, lack of infrastructures facilities like cold storage, credit facilities, marketing facilities, etc. Nagaland with an area of 16,579 square kilometers and the altitude ranging between 100 to 3840 meters above the mean sea level, out of the eleven district Dimapur district suits to this crop due to pH ranging 5.20 to 6.00, the share of fisheries in agricultural GDP has increased more impressively during this period from mere 0.84 per cent to 4.19 per cent (Bendangjungla, 2013). Therefore, the present study was undertaken in Dimapur district of Nagaland to examine the entrepreneurial behavior of the fishery growers and the factors influencing it. Transfer of technology through training has become a common and major extension activity in the field of agriculture and allied sector. This method of transfer of technology is being used either to make the Research and Development (R & D) staff more efficient in his present job or to train the staff in specialized field (Sharma *et al*., 2012). The state department gets their employees trained in various enterprises with a view to introduce new enterprise amongst the fishery growers in their area of specialization. The expenditure made on training can be best justified, when the trainees get themselves enriched in the area of work and skill upgraded during the training, percolates amongst the ultimate clients. The present study was conducted with following objectives:
1.To study the socio-economic and personnel characteristics as well as different factors influencing the entrepreneurial behavior of fishery growers in the study area, and
2.To study the relationship of selected variables with entrepreneurial behavior about the fishery growers.

MATERIALS AND METHODS

In the first stage two develop blocks of Dimapur district *viz;* Newland and Dhansiripar were selected, in the second stage, three villages from each blocks were selected by random method. While, in the final stage a list of fishery growers of these villages were prepared separately and finally 15 farmers from each selected villages rearing fishery were considered for the study and further it was stratified into 5 groups based on the area under fishery enterprise of the respondents and about thirty per cent of them were selected by following the stratified simple random sampling method,

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which making a sample of 90 fishery growers in the Dimapur district of Nagaland.

While to understand the background of fishery growers a total number of nine characteristics viz; age, education, knowledge (improved / modern package of practices), family size, farm size, farm experiences for fishery enterprise / growers, annual income, information sources utilization and farm decision-making ability were studied under the socio-economic and personal characteristics in terms of the variables. The empirical measurement of these variables was done with the help of structured schedule specially designed and developed for the purpose of the investigation. The entrepreneurial variables included economic motivation, self confidence, technical-cum-scientific orientation programme, marketing orientation programme, finance orientation programme and risk and uncertainty of production. The entrepreneurial behavior of the selected respondents was empirically measured with the help of the entrepreneurial index develop for this purpose. The entrepreneurial variables included Scientific orientation, self-confidence, economics motivation, risk orientation and marketing orientation. The variable 'Economic Motivation' with the help of modified scale of Sharma (2012), 'Self Confidence' by the scale of Dhakre and Sharma (2010), 'Scientific orientation' was empirically measured with the help of modified scale of Sagar and Vijay (2006) and Sharma *et. al* (2012), 'Financial orientation' was empirically measured with the help of modified scale of Sharma (2012) and Sharma (2018). 'Risk orientation' was empirically measured with the help of modified scale of Jha (2012) and Sharma *et. al* (2012). 'Knowledge' with the help of 'Knowledge Index' developed by Jha (2012) and Sharma (2012), 'Farm decision making ability', by using the scale of Sharma *et. al* (2012) and Sharma (2013). The respondents were classified in three categories based on their respective mean and standard deviation values.

The primary data were collected from the selected respondents with the help of pre-tested structured schedule by personnel interview method, while the secondary data were collected from different sources viz; online reports, publication, journals, magazine, books, records etc; data analysis was done by using SAS (9.1 version) software for obtaining the valid inferences to make the present study more meaningful to the academician, researchers and policy makers.

RESULTS AND DISCUSSION

Keeping in view the objectives, the present study was divided into three parts *viz*; socio-economic and personnel characteristics of fishery growers, entrepreneurial behavior of the fishery growers and multiple linear regression of 'Entrepreneurial behavior' with the predictor variables (Bendangjungla, 2014).

A perusal of Table 1 reveals to understand the background of fishery growers, a total number of nine

Table 1: Socio-economic and personnel characteristics of fishery growers (N = 90)

Characteristics	Category / Level	Frequency	Percentage
Age (Years)	Old group (≥59)	33	36.67
μ = 45.5	Middle group (38 - 58)	20	22.22
s.d. = 26.125	Young group (≤37)	37	41.11
Education level (numbers)	Graduate & above (≥3.34)	12	13.33
μ = 2.333	Middle to P. U. (1.35 - 3.33)	61	67.78
s.d. = 1.006	Up to Primary (≤1.34)	17	18.89
Knowledge level (categories)	High (≥2.43)	11	12.22
μ = 1.778	Medium (1.14 - 2.42)	48	53.33
s.d. = 0.649	Low (≤1.13)	31	34.44
Family members (house hold)	Big (≥9.01)	22	24.44
μ = 7.222	Medium (5.45 - 9.00)	42	46.67
s.d. = 1.785	Small (≤5.44)	26	28.89
Farm size (ha)	Big (≥4.89)	14	15.56
μ = 3.289	Medium (1.70 - 4.88)	68	75.56
s.d. = 1.605	Small (≤1.69)	8	8.89
Farm Experiences (Years)	High (≥9.21)	19	21.11
μ = 7.06	Medium (4.94 - 9.20)	60	66.67
s.d. = 2.14	Low (≤4.93)	11	12.22
Annual income (Rs)	High (≥108978)	12	13.33
μ = 60704.46	Medium (12432 - 108977)	78	86.67
s.d. = 48273.49	Low (≤12431)	0	0
Information sources utilization	High (≥2.05)	6	6.67
μ = 1.433	Medium (0.82 - 2.04)	84	93.33
s.d. = 0.619	Low (≤0.81)	0	0
Farm decision making ability	High (≥6.71)	54	60.00
μ = 4.044	Medium (1.39 - 6.70)	36	40.00
s.d. = 2.664	Low (≤1.38)	0	0

Table 2: Entrepreneurial behavior of the fishery growers (N = 90)

Entrepreneurial behavior	Level	Frequency	Percentage	Mean	s. d.
Economic Motivation	High	27	30.00	2.100	0.704
	Medium	45	50.00		
	Low	18	20.00		
Self Confidence	High	21	23.33	2.467	1.463
	Medium	37	41.11		
	Low	32	35.56		
Technical-cum-Scientific Orientation Programme	High	18	20.00	7.867	3.319
	Medium	58	64.44		
	Low	14	15.56		
Marketing Orientation Programme	High	17	18.89	1.700	0.771
	Medium	73	81.11		
	Low	0	0		
Fishery Financial based Orientation Programme	High	19	21.11	4.044	2.224
	Medium	55	61.11		
	Low	16	17.78		
Risk and Uncertainty of Fishery Production Pattern	High	25	27.78	11.022	2.788
	Medium	42	46.67		
	Low	23	25.56		

characteristics *viz*; age, education, knowledge (scientific / improved package of practices), family size, farm size, farm experiences for fishery enterprise / growers, annual income, information sources utilization and farm decision-making ability selected. The empirical measurement of these variables was done with the help of structured schedule specially developed for the purpose of investigation. The entrepreneurial variables included economic motivation, self confidence, technical-cum-scientific orientation programme, marketing orientation programme, finance orientation programme and Risk and uncertainty of production.

A perusal of Table 1 reveals that the 41.11 per cent of fishery growers belonged to the young age (below 38 years), followed by 36.67 per cent of them in the age of old (above 58 years) and the remaining 22.22 per cent of them having in the age of middle group (38 to 58 years). 67.78 per cent of fishery growers were middle to PU level of education, followed by 18.89 per cent had primary education and the remaining 13.33 per cent of them were graduate and above level of education. Further 53.33 per cent of fishery growers were middle range of knowledge, followed by 34.44 per cent of them has low range of knowledge and the remaining 12.22 per cent of them having high knowledge about the improved sapling of fishery enterprise. Further study reveals that 46.67 per cent of fishery growers were having medium size of family (5 to 9 members), followed by 28.89 per cent of them were small size of family (below 5 members) and 24.44 per cent of them were having the big size of family (above 9 members). Majority (75.56 per cent) of fishery growers were having medium size of land (1.70 to 4.88 ha), followed by 15.56 per cent of them were big size of land (above 4.88 ha) and the remaining 8.89 per cent having the small size of land (below 1.70 ha). Whereas 66.67 per cent of fishery growers belonged to the medium range of farm experiences (5 to 9 years), followed by 21.11 per cent of them in high range of farm experiences (above 9 years) and the remaining 12.22 per cent of them having low range of farm experiences (below 5 years).

Majority (86.67 per cent) of fishery growers belonged to the medium range of annual income (Rs. 12,432/ - to Rs. 1,08,977/-), followed by 13.33 per cent in the high range of annual income (above Rs. 1,08,977/-), whereas none of them had in low range of annual income (below Rs. 12,432/-). Majority (93.33 per cent) of the respondents had medium level of utilization of information sources (0.82 - 2.04), followed by high level (6.67 per cent) of information sources (above 2.05), whereas none of them had low level of utilization of information sources. 60.00 per cent had high level of farm decision making ability (above 6.70), followed by medium level (40.00 per cent) of farm decision making ability (1.39 to 6.70), whereas none of them had low level of farm decision making ability.

A perusal of Table 2 reveals that 50.00 per cent of fishery enterprise had medium level of economic motivation, 30.00 per cent of them had high level of economic motivation and only 20.00 per cent of the respondents had low level of economic motivation, 41.11 per cent of fishery growers had medium level of self confidence level, 35.56 per cent of them had low level of self-confidence level and 23.33 per cent of the respondents had high level of self-confidence level. 64.44 per cent of fishery growers had medium level of technical-cum-scientific orientation knowledge, 20.00 per cent had high level of technical-cum-scientific knowledge and 15.56 per cent of the respondents had low level of technical-cum-scientific orientation knowledge. Most (81.11 per cent) of fishery growers had medium level of marketing orientation programme and 18.89 per cent of them had high level of marketing orientation programme. 61.11 per cent of fishery growers had medium level, 21.11 per cent of them had high level and only 17.78 per cent of the respondents had low

Table 3: Multiple linear regression of 'Entrepreneurial behavior' with the predictor variables

Predictor variables	b value	SE (b)	't' value
Education level (x_1)	0.0608	0.1590	0.3825^{NS}
Knowledge status (x_2)	0.4155	0.3210	1.2945*
Family size (x_3)	0.0423	0.0897	0.4713^{NS}
Farm decision making ability (x_4)	1.1816	0.0744	15.8924***
Economic Motivation (x_5)	0.0608	0.2278	0.2667^{NS}
Technical-cum-Scientific Orientation Programme (x_6)	0.2684	0.1130	2.3748***
Marketing Orientation (x_7)	0.0884	0.0472	1.8744*
Fishery Finance Orientation Programme (x_8)	0.1802	0.2270	0.7941*
Risk &Uncertainty Fishery Orientation Programme(x_9)	-0.0279	0.0777	-0.3593^{NS}

a = -0.1636647; F = 30.21556***; R-square = 0.77489***; Adjusted R-square = 0.74924491;

*** Significant at 1 per cent; ** Significant at 5 per cent; * Significant at 10 per cent level of significance; NS: Non-significant and DF (9, 79).

level of finance-based fishery orientation programme. 46.67 per cent of fishery growers had medium level of risk and uncertainty of production pattern, 27.78 per cent of them had high level of risk and uncertainty of production pattern and only 25.56 per cent of the respondents had low level of risk and uncertainty of production pattern. The studies conducted by Jha (2012), Sharma (2012) and Sharma *et. al* (2012), reported that for any enterprise to succeed, an entrepreneur must possess risk and uncertainty capacity, but at moderate or medium level.

To access the effective impact of entrepreneurial behavior (Y) of fishery enterprise / grower nine variables (x_1 to x_9) were selected to test the significance with the help of 't' test / values of the regression coefficients of predictor variables by explaining it by Y. The regression model fitted for this purpose it is was as under:

$$Y = a+b_1 x_1 + b_2 x_2 + b_3 x_3 + b_4 x_4 + b_5 x_5 + b_6 x_6 + b_7 x_7 + b_8 x_8 + b_9 x_9 + \varepsilon$$

From Table 3 it is revealed that the regression equation which included predictor variables knowledge, economic motivation, self confidence, technical-cum-scientific orientation programme, marketing orientation programme, finance orientation programme and risk and uncertainty of production pattern. Explained to the extent of 77.49 per cent of the variations in the entrepreneurial behaviour of the fishery enterprise and the 'F' value (30.22) both were found to be significant at 1 per cent level of significance. Data further depicts that the regression coefficient of the predictor variables on farm decision making ability (x_4) and technical-cum-scientific orientation programme (x_6) both were found to be highly significant at 1 per cent level of significance, whereas the regression coefficient of the predictor variables viz; knowledge (x_2), marketing orientation (x_7) and fishery finance orientation programme (x_8) were found to be significant at 5 per cent level of significance. Thus, it may be inferred that all the above significant predictor variables at different level were found to be important in explaining the entrepreneurial behaviour of the fishery enterprise, these findings are in the line of Dhare and Sharma (2009); Sharma (2012), reported in the same manner.

Whereas education (x_1), family size (x_3) and economic motivation (x_5) were found to be non-significant, which indicate less contribution to the entrepreneurial behaviour of fishery growers, while risk and uncertainty orientation programme (x_9) while it was negative non-significant contribution factor for the fishery growers, the negative relationship of dependent variable might not be serious about the future risk and uncertainty of production, which resulted into low gain.

CONCLUSION

It may be concluded that majority of fishery growers had gained medium level of knowledge about the improved package of practices of fishery enterprise may be due to the low utilization of information sources in majority of the cases is has observed to be a limiting the mentioned factors. Therefore the present study draw attention towards the fishery growers in order to lift up their overall status by adopting few suggestions *viz;* co-operative organization should be encouraged at the village level, institutional credit facilities at a marginal rate of interest made available, improved cultural practices for increasing production and productivity, trainings-cum-demonstrations should be organized time to time for the upliftment of knowledge by growing of various economic feasible and suitable species of fishery to the region, post harvest technology-cum-value addition should be given more emphasis to generate more income and employment. Lastly, if all the above influencing factors for the entrepreneurial behavior of fishery enterprise-cum-growers should be involved by the planning board to re-organize to the need based entrepreneurial trainings with practical utility communication skill will be more effective in terms of change in the existing knowledge level by adopting of the transfer of technology to enhancing the production and productivity status in the field of fishery enterprise and boost the growers towards the better future in the days to come.

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