Entrepreneurial Behavior of Tribal Winter Vegetable Growers in Jorhat District of Assam

Rituraj Boruah[1], S. Borua[2], C.R. Deka[3] and D. Borah[4]

1&4. Ph.D. Scholar, 2. Asstt. Prof. (S.G) 3. SMS, KVK, Kokrajhar (Gossaigaon), AAU, Jorhat, Assam

Corresponding author e-mail: boruahrituraj09@gmail.com

ABSTRACT

In Assam, nearly 60 per cent of tribal people are estimated to be involved in vegetable cultivation and about 70 per cent of tribal farmers are involved in growing vegetables in Jorhat district (DAO, Jorhat). But commercialization on a full scale is yet to begin and there is tremendous potential of entrepreneurship development in this region in vegetable cultivation with efforts of extension agencies and proper research. Therefore, a comprehensive study was carried out in Jorhat district of Assam in the year 2013 with a view to find out the entrepreneurial behavior of tribal winter vegetable growers and their relationship with socio-economic characteristics. Purposive and random sampling techniques were used for the selection of respondents. Total 120 respondents were selected for the study. Data was collected by administering a structured schedule. The study revealed that 41.66% of the vegetable growers belonged to young age (Between 18-35 years). Majority (52.50%) of the respondents had education up to higher secondary level. Majority (50.84%) of the respondents belonged to a medium sized family, possessed small sized operational land holdings (37.50%). The study also revealed that majority (51.67%) of the respondents had income ranging between Rs. 25001 to Rs.50000 and medium level of extension contact (70.83%). The results further revealed that more than half of tribal winter vegetable growers (63.34%) had medium level of entrepreneurial behavior in the district. A positive and significant relationship was found between entrepreneurial behavior and education level, size of the family, size of operational land holding and annual family income of the respondents in the district. The four components viz., *education, family size, size of operational land holding and annual family income were found to be the most contributing factors for entrepreneurial behavior.*

Key words: Tribal growers; Vegetables; Entrepreneurial behavior;

Assam is situated in the North-East region of India, bordering seven States viz. Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Tripura and West Bengal and two countries *viz.*, Bangladesh and Bhutan. With a geographical area of 78,438 sq.kms, which is about 2.4 per cent of the country's total geographical area. Assam provides shelter to 2.57 per cent population of the country. Majority of the State's population lives in the lush and verdant valleys of its two major river systems in the twenty four districts of the Brahmaputra valley and the three districts of the Barak valley (*Economic Survey, Assam, 2011-12*).

It is recognized that scheduled caste and scheduled tribes constitute the poorest section in rural areas of India. According to 2001 census, the total tribal population involved in cultivation in Assam is 6,59,461. Schedule tribe (ST) population in Jorhat district was 1,23,134 with 62,465 male and 60,669 female, respectively. About 43.2 per cent of the STs have been registered as workers, which is below the aggregated national figure for STs (49.1%). Of the total workers 65.3 per cent are main workers and 34.7 per cent marginal workers. Gender wise disparity is, however, distinct in case of main workers; 80.9 per cent among males and only 42.6 per cent among females are main workers. Among the major STs in the state, Deori have recorded the highest WPR of 55.5 per cent. It is lowest among Dimasa (38.9%). The ST of Assam are predominantly cultivators as 70.6 per cent of the total ST main workers have been recorded as cultivators, while merely 6.1 per cent as agricultural labourer. Apbout 60% of tribal people is estimated to be involved in vegetable cultivation in Assam. In Jorhat district, about 70% of tribal farmers are growing vegetables (*DAO, Jorhat*).

However, it is seen that only some varieties of vegetables are cultivated in North-East region which includes almost all summer and winter vegetables. But commercialization on a full scale is yet to begin and there is tremendous potential of entrepreneurship development in this region in vegetable cultivation with efforts of extension agencies and proper research. Therefore, a comprehensive study was carried out with the objective i.e. To find out the socio-economic characteristics of tribal winter vegetable growers and their relationship with entrepreneurial behavior.

METHODOLOGY

The study was conducted in Jorhat district of Assam. A purposive cum random sampling design was followed for selection of respondents for the study. Under Jorhat district,3 blocks namely, N. W. Dev. Block, Dhekorgarah, Titabor Dev. Block, Titabor and Ujoni Majuli Dev. Block, Jengrai were purposively selected. Two villages from each block were selected randomly. Then, 20 vegetable growers were selected from each village including marginal, small, semi- medium, medium and large growers in equal proportion by using random sampling procedure. Thus, the total sample size constituted 120 tribal vegetable growers. The socio-economic variables selected for the study were age, education, family size, size of operational land holding, annual family income and source of extension contact. The dependent variable i.e. entrepreneurial behaviour of vegetable growers was measured in terms of nine dimensions namely, innovativeness, achievement motivation, decision making ability, risk orientation, co-coordinating ability, planning ability, information seeking behaviour, cosmopoliteness and self confidence. To measure the entrepreneurial behaviour of vegetable growers, an Entrepreneurial Behaviour Index (EBI) was used with the help of the following formula:

$$EBI = \frac{Obtained\ score\ by\ respondents}{Actual\ total\ score} \times 100$$

Where,   EBI = Entrepreneurial Behaviour Index

Based on this index, the respondents were classified in to three categories as given below:

Category	Range
Low	$(\overline{X} - SD)$
Medium	$(\overline{X} \pm SD)$
High	$(\overline{X} + SD)$

The scale developed by *Chaudhari et.al (2007)* was used with slight modification. Statistical tools employed to analyze the data included frequency distribution, percentage, mean, standard deviation, weighted mean score, Karl Pearson's co-efficient correlation and multiple regression analysis.

RESULTS AND DISCUSSION

Age: The data presented in Table 1 shows that most of the vegetable growers (41.66 per cent) were in the young age group (between18-35 years); while 35.84 per cent were middle aged (36-50 years) and the old farmers were only 22.50 per cent (above 50 years) in Jorhat district. This reveals that majority of vegetable growers in the study area are formed by the young age group. Involvement of more young and middle aged farmers in vegetable cultivation may be because of the fact that they are energetic than the old aged farmer. Therefore, they can devote more time for their cultivation. Because of their low education and lack of government jobs, they find vegetable cultivation as an income generating activities.

Table 1. Distribution of the respondents according to their age

Category	Score range	No.	%
Young	18-35 years	50	41.66
Middle	36-50 years	43	35.84
Old	50 years & above	27	22.50
Total		120	100.00

*Education :*It is seen from the Table 2 that 52.50 per cent of the respondents had medium level of education, 27.50 per cent had low educational level, 13.33 per cent had no education and only 6.67 per cent had high level of education. The low percentage of respondents possessing higher education in Jorhat district may be because of their non realization about the importance of formal education, poor economic condition of parent household, poor motivation from family members and involvement in farm activities.

Table 2. Distributionof the respondents according to their educational level

Category	Score range	No.	%
No Education	0	16	13.33
Low Education	1	33	27.50
Medium Education	2-4	63	52.50
High Education	5-6	8	6.67
Total		120	100.00

Family size of the respondents: It is evident from Table 3 that majority (50.84%) of the respondents belonged to medium sized family, followed by small sized family (34.16%) and large sized family (15.0%) in overall sample. The predominance of more number of medium sized families might be due to their awareness regarding the increased cost of living and difficulties in maintenance of big family.

Table 3. Distribution of the respondents according to their family size

Category	Score range	No.	%
Small Family	2-4	41	34.16
Medium Family	5-7	61	50.84
Large Family	More than 8	18	15
Total		120	100.00

Size of operational land holding of the respondents: The findings presented in Table 4 shows that majority (37.5%) of the respondents belonged to small farmer category in overall sample, followed by semi medium farmer (36.67%). The marginal and medium farmers recorded 8.33 per cent and 17.5 per cent, respectively in overall sample. No farmers were found having large size of operational land holding. Majority of the farmers' belonged to small farmer category which indicates that most of the small land holder and landless farmers are interested in entrepreneurial activities.

Table 4. Distribution of the respondents according to their size of operational land holding

Category	Score range	No.	%
Marginal	Below 1 ha	10	8.33
Small	1 to 2 ha	45	37.5
Semi medium	2 to 4 ha	44	36.67
Medium	4 to 10 ha	21	17.5
Large	10 ha and above	0	0
Total		120	100.00

Annual family income of the respondents : It is seen from the Fig.1 that majority (51.67%) of the respondents belonged to group with annual income ranging from Rs 25001-50000 followed by 25 per cent with annual income between Rs. Rs.75001 and above, 20.83 percent had income level between Rs. 50001-75000 and only 2.5 percent of the respondents were found income level up to Rs.25000 in overall sample.

This may be due to fact that there was a mixture of households having government jobs with good income to households having labourers with low wages in Jorhat district.
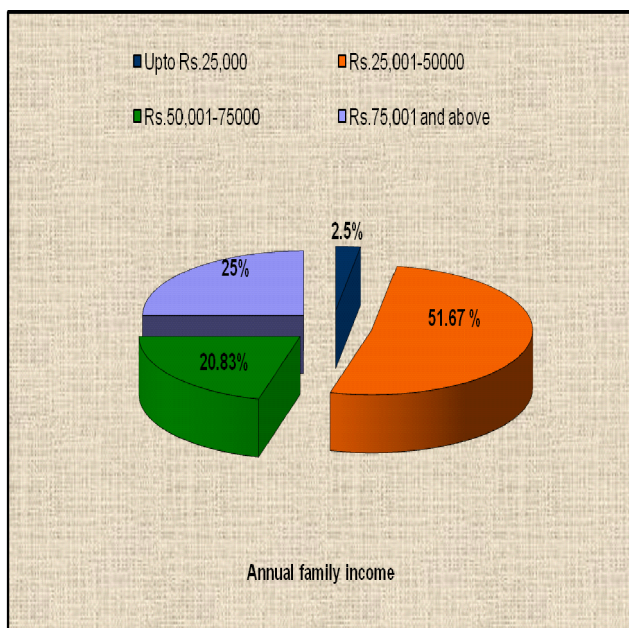

Fig.1. Distribution of respondents according to their annual family income

Source of extension contact: From Fig.2, it can be observed that majority of the respondents had medium level of extension contact (70.83%), followed by 16.67 per cent and 12.50 per cent have low and high level of extension contact, respectively. The predominance of respondents having medium level of source of extension contact may be due to the reason that the study areas comprise of highly educated, less educated and even illiterate respondents. Also may be due to heterogeneity of the respondents in age and education. The literate, young and middle aged respondents may approach to these sources more easily than the illiterate and old respondents.
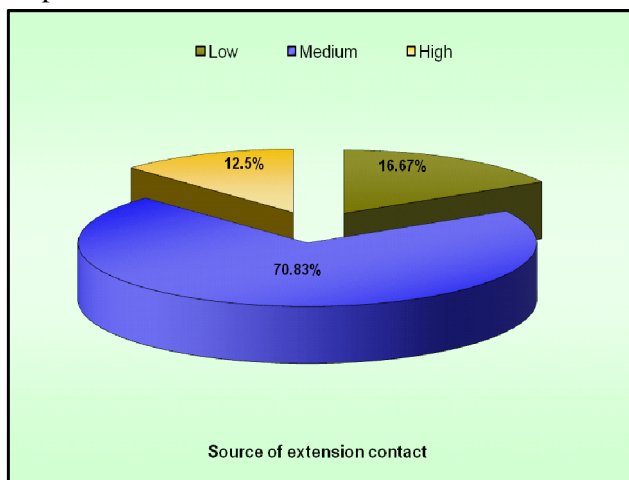

Fig. 2. Distribution of the respondents according to their overall source of

Entrepreneurial behaviour of the respondents of Jorhat district: Entrepreneurial behaviour is the composite measure of nine components such as innovativeness, achievement motivation, decision making ability, risk orientation, coordinating ability, planning ability, information seeking behaviour, cosmopoliteness and self confidence. The data in this regard have been presented in Table 5. *Vijaykumar (2001)* operationalized entrepreneurial behaviour as the cumulative outcome of information seeking behaviour, farm decision making, leadership ability, risk taking ability, innovativeness, achievement motivation and market orientation of the respondent farmers.

Table.5. Distribution of respondents according to the components of Entrepreneurial Behaviour

Components	Category	Score range	No.(%)
Innovativeness	Low	Below 4.32	16 (13.33)
	Medium	4.32 to 11.72	88 (73.34)
	High	Above 11.72	16 (13.33)
Achievement motivation	Low	Below 3.264	21 (17.5)
	Medium	3.264-4.719	74 (61.67)
	High	Above 4.719	25 (20.83)
Decision making	Poor	Below 6.249	21 (17.5)
	Moderate	6.249-10.73	82 (68.34)
	Good	Above 10.73	17 (14.16)
Risk orientation	Low	Below 5.45	21 (17.5)
	Medium	5.45 to 9.36	66 (55.00)
	High	Above 9.36	33 (27.5)
Co-ordinating ability	Poor	Below 5.46	24 (20.00)
	Moderate	5.46 to 8.39	77 (64.17)
	Good	Above 8.39	19 (15.83)
Planning ability	Poor	Below 2.38	22 (18.33)
	Moderate	2.38 to 4.14	88 (73.34)
	Good	Above 4.14	10 (8.33)
Info. seeking behaviour	Low	Below 8.59	17 (14.16)
	Medium	8.59 to 14.75	85 (70.84)
	High	Above 14.75	18 (15.00)
Cosmopoliteness	Low	Below 7.30	13 (10.83)
	Medium	7.30 to 9.67	79 (65.83)
	High	Above 9.67	28 (23.34)
Self confidence	Low	Below 3.29	20 (16.67)
	Medium	3.29 to 5.43	88 (73.33)
	High	Above 5.43	12 (10.00)

Entrepreneurial Behaviour Index (EBI) was used to measure the entrepreneurial behaviour of tribal winter vegetable growers by considering the scores obtained by each respondent and actual total score. The data in this regard have been presented in Table 6. A critical perusal of the data furnished in Table 6 portrays that more than half of tribal winter vegetable growers (63.34%) had medium level of entrepreneurial behaviour, followed by equal (18.33%) of high and low entrepreneurial behaviour.

Table 6. Distribution of respondents according to their overall Entrepreneurial Behaviour

Category	Score range	No.	%
Low	Below 45.731	22	18.33
Medium	45.731 to 59.563	76	63.34
High	Above 59.563	22	18.33
Total		120	100.0

Mean = 52.647   S.D. = 6.916

Relationship between SE characteristics of tribal winter vegetable growers and entrepreneurial behavior: From the Table.7, it was revealed that, age and source of extension contact of the respondents had no significant relationship with entrepreneurial behaviour at 5 per cent level of significance. *Murali and Anitha (2003)* reported similar kind of observation in which entrepreneurial characteristics of floriculture farmers was negatively related with age.

On the other hand, education, family size, size of operational land holding and annual family income of the respondents had significant positive correlation with entrepreneurial behaviour at 5 per cent level of significance. Similar findings were reported by *Savitha et al (2009)* and *Subramanyeswari et al. (2003)* in case of education and size of operational land holding respectively.

Table.7. Relationship between the socio-economic characteristics containing ratio and interval scale with entrepreneurial behaviour (N=120)

Variables	'r' value	't' value
Age	0.069501973	0.76
Education	0.198399	2.19**
Family size	0.438584	5.29**
Size of operational land holding	0.209208	2.31**
Annual family income	0.194681	2.16**
Source of extension contact	-0.01712	0.185

** Significant at 0.05 level of probability

Multiple regression analysis to determine the combined influence of the socio-economic variables to the entrepreneurial behaviour: Table 8 reveals that the multiple regression model with all the socio-economic variables produced R^2=0.334, adjusted R^2 =0.298, F=(6,113 degree of freedom) = 9.445,

p<0.01.Out of all the socio-economic variables; education, family size, size of operational land holding and annual family income were found to have significant effect on entrepreneurial behaviour, the regression coefficients being b=1.5518, b=6.2429, b=1.9071 and b=3.0030, respectively. The R^2 value 0.334, which means the variables jointly contributed 33.34 per cent towards variation in entrepreneurial behaviour of tribal winter vegetable growers. Further, the variables whose regression coefficient values (b) were found significant (education, family size, size of operational land holding and annual family income) could be termed as good predictors of entrepreneurial behaviour.

Table 8. Multiple regression analysis to determine the combined influence of the socio-economic variables to the entrepreneurial behaviour (N=120)

Variables	Regression coefficient (b)	SE	't' value
Age	-0.01818	0.0571	-0.3182
Education	0.58136	0.3746	1.5518*
Family size	5.27585	0.8451	6.2429**
Size of land holding	0.09162	0.0480	1.9071**
Annual family income	0.00005	0.0000	3.0030**
Extension contact	-0.12968	0.1143	-1.1344

R^2 =0.334   F= 9.445*   Adjusted R^2 = 0.298

* Significant at 0.01 level probability

** Significant at 0.05 level probability

The reason for obtaining low R^2 value may be due to human error, as humans are simply harder to predict than physical processes. In this study, though the R^2 value is low, most of the independent variables were found statistically significant with dependent variable. Therefore, we can still draw important conclusions about how changes in the predictor values are associated with changes in the entrepreneurial behaviour of vegetable growers. The significant coefficients still represent the mean changes in the entrepreneurial behaviour of one unit of change in the predictor, while holding other predictors in the study constant. Hence this type of information can be extremely valuable. (*Frost, 2013*).

CONCLUSION

The findings of the present investigation have a number of implications for the extension workers from different agencies, agricultural scientists, programme executing agency, planners and administrators. Therefore, it calls for intensification of educational efforts and policy support to the growers by the field extension workers of the development departments, NGOs and private organizations. Majority of the tribal winter vegetable growers had medium extension participation; therefore exposure visits to the place of successful entrepreneurs in the nearby areas and interaction meetings with successful entrepreneurs could motivate and promote development of entrepreneurial qualities. As majority of tribal winter vegetable growers were young aged, this group should be imparted training, so that they can act as catalyst in motivating other growers through communication networks. Further, the variables whose regression coefficient values (b) were found significant (i.e education, family size, size of operational land holding and annual family income) could be termed as good predictors of entrepreneurial behaviour.

REFERENCES

Chaudhari, R.R.; Hirevenkanagoudar, L.V.; Hanchinal, S.N.; Mokashi, A.N.; Katharki P.A. and Banakar, B. (2007). A scale for measurement of entrepreneurial behaviour of dairy farmers. *Karnataka J. Agric. Sci.* **20**(4): 792-796.

Frost, J. (2013).http://blog.minitab.com/blog/Adventures-in-statistics/regression-analysis-how-do-i-interpret-r-squard-and-assess-the-goodness-of-fit.

Murali, K. and Anitha, J. (2003). Entrepreneurial characteristics of floriculture farmers. *Indian J. Extn. Edn.* **39**(1&2): 19-25.

Savitha, C.M.; Siddaramiah, B.S. and Nataraju, M.S. (2009). Development of a Scale to Measure the Entrepreneurial behaviour of Rural and Urban Women Entrepreneur. *Mysore J. Agril. Sci.* **43**(1): 119-121.

Subramanyeswari, B. and Veeraraghava Reddy, K. (2003). Enterpreneurial behaviour of rural dairy women. *Madras Agri. J.* **30** (1-3): 173-175.

Vijay Kumar, K. (2001). Entrepreneurship behaviour of floriculture farmers in Ranga Reddy district of Andhra Pradesh. M.Sc. (Agri.) Thesis, Acharya N. G. Ranga Agricultural University, Hyderabad.

● ● ● ● ●