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Determinants of Entrepreneurial Behaviour of Vegetable Growers

Shailesh Kumar[1], Gyanendra Sharma[2], K. Srinivas[3] and V. K. Yadav[4]

ABSTRACT

The present study was conducted in Uttarakhand state to find out the components of entrepreneurial behaviour of vegetable growers. For this purpose, a sample of 120 vegetable growers through multi-stage sampling technique was selected. It was found that achievement motivation (0.782), self confidence (0.782), management orientation (0.744), leadership ability (0.559) and farm decision making (0.525) were higher factors loading to influence the entrepreneurial behaviour. Second levels of influential variables were innovativeness (0.665) and knowledge of vegetable cultivation (0.569). The findings indicate that management orientation, farm decision making, leadership ability, achievement motivation and self confidence are crucial for affecting entrepreneurial behaviour of vegetable growers. Findings of the study are helpful in selecting appropriate motivational training for the hill farmers particularly.

Key words: Vegetable growers, entrepreneurial behaviour, factor analysis, influential variables

INTRODUCTION

Agriculture is the mainstay for the people living in Uttarakhand hills of North-West Himalayan region. The state has only 13.50 per cent (7,65,150 ha) area under agriculture. Agriculture based entrepreneurship development in rural areas of the state can lead to improving income and enhancing opportunity for unemployed youth on a sustainable basis. In agriculture sector, particularly those involved in other than traditional farming like vegetable cultivation, their role can be compared to small and medium sized businesses. Irrespective of the farm size, principle of management is also followed for timely completion of various agricultural operations, procurement of farm inputs, allocation of resources, finance, marketing of farm produce etc. Several Indian studies indicated that entrepreneurial behaviour has direct and significant bearing on farm productivity (Subrahmanyeswari *et al.* 2007, Palmurugan *et al.* 2008, Rao and De, 2009). Human behaviour and several other factors like- the individual, environment, socio-cultural factors and support system (like-training and extension, marketing, finance and input supply) determine the entrepreneurial behaviour in a person. Understanding of such dimensions is essential for the promotion of agricultural entrepreneurship as well as transformation of agrarian economy of the state. In this regard the present study aims to enlist the elements of entrepreneurial behaviour of vegetable growers of Uttarakhand in particular.

METHODOLOGY

The study was conducted in two phases. The first phase was restricted to clarify the concept of entrepreneurial behaviour. The second phase consisted of identification of dimensions of entrepreneurial behavior of vegetable growers. There are several methods to study the entrepreneurial behaviour such as socio-cultural, psychological traits and demographic approaches. Each one has its own limitation and advantage. Trait approach has been adopted for the present study. It assumes that particular personality type whose characteristics are keys to explain entrepreneurship as a phenomenon in general and entrepreneurial behaviour in particular. More than 60 variables were listed based upon the available literature. Finally, 9 variables (traits) were selected by using Pusa Rank Sheet technique (Babu and Singh, 1984). These were- management orientation, farm decision making, leadership ability, risk taking ability, knowledge of vegetable cultivation, achievement motivation, innovativeness, self confidence and utilization of available assistance. On the basis of scores obtained in relation to above traits the respondents were classified with the help of arithmetic mean and standard deviation in three categories as low, medium and high. The final score of entrepreneurial behaviour was obtained by summing up the score of each trait. The entrepreneurial behaviour has been operationalized as assemblage of personality characteristics and environmental factors contributing in transformation of physical, natural and human resources into marketable product.

[1]Senior Scientist, Central Research Institute for Jute & Allied Fibres, Barrackpore, Kolkata 700 120 (West Bengal), [2]Professor, Department of Agricultural Communication, College of Agriculture, G. B. P. U. & A. T., Pantnagar, 263 145 (Uttarakhand), [3]Principal Scientist, National Academy of Agricultural Research Management, Hyderabad, 500 030 (Andhra Pradesh); [4]Senior Scientist, Directorate of Maize Research, Pusa Campus, New Delhi 110 012,

Second phase consisted of administration of scales and test for data collection. The study was carried out during 2007 in two hill districts of Kumaon division of Uttarakhand namely, Nainital and Almora. Multi-stage random sampling was used to select the respondents from respective districts. Two development blocks were selected from each district and two villages were selected from each development block. From each village 15 vegetable growers were selected from the population. Thus, totally 120 vegetable growers were selected. Data was collected using structured interview schedule. The collected data were analyzed in order to determine the existing relationship among the groups of independent variables. Factor analysis, percentage and frequency were used for interpretation of data.

Factor analysis is used to uncover the latent structure (dimensions) of a set of variables. It reduces attribute space from a larger number of variables to a smaller number of factors. There are several types of factor analysis. Principal components analysis (PCA) was preferred for purposes of data reduction. It extracts a maximum amount of variance as each factor is calculated. The first factor extracts the most variance, the second does the next most variance and so on. Varimax technique of orthogonal rotation was used to make the output more understandable. Orthogonal rotation maintains the independence of factor *i.e.,* the angles between the axis (90 degrees).

The identified factors gave insight into a whole array of behaviour of vegetable growers that are both economic and non-economic. For the present study, three factors, I and II, I and III, II and III were orthogonally rotated.

RESULTS AND DISCUSSION

In the state of Uttarakhand, out of 7, 53,711 ha net sown area (Govt. of Uttarakhand, 2008-09) around 81, 800 ha *i.e.* 10.85 per cent (NHB, 2009-10) is used for vegetable cultivation. Major vegetables grown are vegetable pea, potato, tomato, cabbage, cauliflower, french bean, capsicum, brinjal *etc*. Generally, in hills a family of vegetable grower consists of 5-6 members with marginal land holding (2000-3000 m²) and with annual the income of up to ₹ 50,000.

Dairy as essential component of the system contributes 20-30 per cent in agricultural income *i.e.* usually ₹ 20,000-30,000/annum. The data obtained from the respondents on the dominant characteristics of entrepreneurial dimensions is presented in Table 1.

Table 1: Distribution of vegetable growers according to different dimensions of entrepreneurial behaviour

n=120

Entrepreneurial behaviour	Dimension range (in percentage)		
	Low	Medium	High
Management orientation	25 (20.83)	95 (79.16)	-
Farm decision making	3 (2.50)	83 (69.16)	34 (28.33)
Leadership ability	13 (10.83)	69 (57.50)	38 (31.66)
Risk taking ability	16 (13.33)	92 (76.66)	12 (10.00)
Knowledge of vegetable farming	3 (2.50)	117 (97.50)	-
Achievement motivation	21 (17.50)	84 (70.00)	15 (12.50)
Innovativeness	17 (14.16)	82 (68.33)	21 (17.50)
Utilization of available assistance	21 (17.50)	84 (70.00)	15 (12.50)
Self-confidence	11 (9.16)	109 (90.83)	-
Total entrepreneurial trend	20 (16.66)	79 (65.83)	21 (17.50)

Note: Figures in parenthesis indicates percentage.

It was revealed that majority of the respondents (97.50%) had medium level of knowledge of vegetable cultivation. It comprised of both factual and conceptual knowledge such as suitable vegetable and their varieties, method and time of sowing, method of seed treatment, management of insect and disease *etc.* The same table displayed that 90.83 per cent respondents were in the medium category of self confidence. Their past experience (14-35 years) and knowledge helped in building up their self-confidence. It was also found that 95 respondents (79.16%) were in the medium category of management orientation. Their planning related to production and marketing of vegetable crops were as per the prevailing demand and physical environment. A close look of the table confirmed that 76.66 per cent of the respondents were in the medium category of risk taking ability. Probability of assured profit stimulated them to take calculated risk in relation to weather, market and government policies. Most of the respondents (69.16%) were in medium category of farm decision making. They had full knowledge of right persons for seeking their help such as hiring of farm labour, borrowing of money for farm improvement, market preference of consumers, package of practices of vegetable cultivation *etc.* More than half of the respondents (57.50%) were in medium category of leadership ability. It indicated that their ability to anticipate a situation in advance and guide, direct or influence the thought, feeling or behaviour of others. The

experienced one used to guide the new comers for growing of new kind of vegetables first time in their area like- broccoli, red cabbage *etc*. It is also witnessed from Table 1 that 68.33 per cent of the respondents were in medium category of innovativeness. Their innovativeness was demonstrated in terms of use of hybrid/improved seed/fertilizer/ micronutrient *etc.* Equal percentage (70.00%) of respondents was in medium level of utilization of available assistance and achievement motivation. They approached the offices of Horticulture Mobile Team for advisory service as well as purchase of inputs. These offices were located near by their villages (5-10 Km.). Higher achievement motivation of vegetable growers was found in terms of the desire for excellence. It differentiated them from a normal farmer. After summing up the score of each trait, majority of the respondents (65.83%) were found in medium category of entrepreneurial behaviour. It was followed by high (17.50%) and low (16.66%) category of entrepreneurial behaviour. The findings are in line with the observations of Subrahmanyeswari *et al.* (2007), Palmurugan *et al.* (2008), Rao and De (2009) and Kumar and Sharma (2009).

The factor analysis has yielded three groups of factors which underlie the entrepreneurial behaviour of vegetable growers. The factor matrix of three factors is presented in Table 2.

Table 2: Factor loadings of independent variables with respect to entrepreneurial behaviour

n=120

Variables	Factor I	Factor II	Factor III	Communality
Management orientation	0.744	-0.315	-0.029	0.738
Farm decision making	0.525	0.277	0.097	0.360
Leadership ability	0.559	0.092	0.178	0.368
Risk taking ability	0.331	-0.757	-0.072	0.680
Knowledge of vegetable cultivation	0.181	0.569	-0.377	0.497
Achievement motivation	0.782	0.021	0.001	0.611
Innovativeness	0.365	0.665	0.111	0.587
Self-confidence	0.782	-0.093	0.135	0.737
Utilization of available assistance	-0.015	0.042	-0.887	0.737
Eigen values -	3.985	0.490	1.107	-
% of total variance -	29.353	17.060	12.142	-

Three factors contributed for 58.655 per cent variation and remaining 41.345 per cent variation was unexplained. The data clearly reflects that there were five variables in factor I and two variables in factor II which had significant factor loading. It can be seen from Table 2 that in factor I, variables achievement motivation (0.782), self-confidence (0.782) management orientation (0.744), leadership ability (0.559) and farm decision making (0.525) contributed for 29.3 per cent of total variation. Psychological factors like achievement motivation and self confidence signifies the mental make up of a person. High achievement motivation drives a person to attain higher and higher goals. The person becomes restless and likes to take initiative to meet out new challenges. Consequently, the motivated person seeks his goal through persistent action supported by his managerial skill. At the same time, self confidence is essential to initiate and continue the activity/venture in future. Management orientation supports the decisions of vegetable crop management. Farm decision making either own or assisted with family members and others facilitated in understanding of off and on farm problems in better way. Ultimately, these characteristics tend to increase the social influence of a successful vegetable grower. Hence, these factors are identified as "psycho-management" factors.

The variables risk taking ability (-0.757), innovativeness (0.665) and knowledge of vegetable cultivation (0.569) are significant factors loading on factor II. These three variables go hand in hand in explaining the entrepreneurial behaviour. These factors were responsible for 17.06 per cent of the total variation. Risk taking ability was negatively associated with entrepreneurial behaviour in terms of diversify their activities due to lack of specialized skill. Innovativeness of a vegetable grower was reflected in terms of adoption of technologies such as plant protection measure, seed treatment, micronutrient application. These interventions reduced the cost of cultivation as well as increased the total output of vegetable. A vegetable grower perceived new opportunities by looking around and anticipating the future requirement. It means he was prepared to experiment the available alternatives. It was quite natural, that a vegetable grower who was innovative would have latest information related to vegetable cultivation. Socialites and cosmopolites were major sources of conceptual/factual knowledge of vegetable cultivation. These three factors were interrelated and have been termed as "innovation related risk" factors

CONCLUSION

It can be concluded that management orientation, farm decision making, leadership ability, achievement motivation and self confidence are crucial for determining the entrepreneurial behaviour of vegetable growers in Uttarakhand hills. Understanding of the behaviour give us a holistic view of the subject. It is recommended to give due emphasis upon such traits to heighten the entrepreneurial level of vegetable growers through behavioural interventions. It will help in

improving the quality of extension services like motivational training and communication techniques offered to hill farmers particularly by government as well as non- government institutions.

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