Entrepreneurial Behavior and Interactivity of Sri Lankan Farmer Groups

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Abstract: Farming is increasingly been seen to be less attractive in commercial viability in the Sri Lankan farming community. Among the many factors influencing the entrepreneurial behavior of farmers, group interactions are of high importance. Understanding these interactions could be useful to foster entrepreneurial activities. Study was conducted among the farmers in Matale district, which is among the top 4 districts producing high amount of vegetables in Sri Lanka. Two successful farmer organizations, one farming throughout the year (in Yala and Maha seasons) and the other farming only in Yala season, were selected for the study. Overall objective of the study was to examine the entrepreneurial behavior of vegetable farmers. Stratified random sampling was used to select a sample of 60 vegetable farmers, 30 each from the two farmer organizations. Descriptive and inferential analyses were conducted. Overall group interaction and entrepreneurial behavior of the sample was at a moderate level. Study revealed effective entrepreneurial behavior involving high planning ability, and decision making ability. Majority of the farmers possessed a moderate level of innovativeness, risk orientation, coordinating ability, opportunity seeking behavior, self-confidence, and achievement motivation. Group interactions were low at land preparation, pest and disease controlling, harvesting, irrigation water distribution, participating in training programmes, and selling of harvest. Entrepreneurial behavior of farmers have enhanced with group interactions. The group characteristics of the two farmer groups had resulted significant differences in their group interactions and entrepreneurial behavior. Entrepreneurial behavior of the farmers was not prominent in vegetable cultivation. Risk orientation of farmers' was reportedly low. Low group interactions in the marketing of produce seemed to have an impact on the commercial viability of their operations Entrepreneurial behavior of farmers enhanced with socio-economic status and social participation.

Keywords: entrepreneurial behavior, farmers, interactions

1. Introduction

Amidst the diversity of approaches to study entrepreneurship, one can find different definitions for entrepreneurship. Webster's Dictionary defines entrepreneurship as "creation of a new, innovative, profit oriented, visionary economic organization that exists in uncertain environments carrying some risk". In other words, an entrepreneur can recognize a great opportunity and add value, using the necessary resources. In developing countries entrepreneur is identified as a person who is self-employed, earns his living, establishes his business and has a status in society (Farook, 1992). There is a long history of economic research on entrepreneurship. Empirical evidences suggest entrepreneurial behavior as a function of the characteristics of the person and the environment (Chell *et al*., 1991). As per Solanki and Soni (2004) an entrepreneur may be differentiated not only in terms of the kind of activities he pursues but in the context of his life style, attitudes, values and behavior which together go to make the entrepreneurial personality. Entrepreneurs have been instrumental in initiating socio-economic development. Entrepreneurs discover new sources of supply of materials and markets and they establish new and more effective forms of organizations and perceive new opportunities with super-normal will power and energy, essential to overcome resistance that social environment offers (Solanki and Soni, 2004).

1.1 Entrepreneurship among farmers

Empirical findings suggest that entrepreneurship is conceived as a personal quality which enables certain individuals to make decisions with far reaching consequences by acting differently from other people and achieving success in doing so. These examples often cause other people to change their mind too. Many contextual factors may exert an influence on entrepreneurial behavior and success (Woo *et al*., 1988). Agricultural development facilitates a better living standard for farmers by producing more and selling more. Farming success tends to increase farmers' self confidence. Their increasing contacts with merchants and government agencies would draw them into a closer acquaintance with the world beyond them.(Kruijssen *et al*. 2006) Compared with other enterprises, agriculture has some unique problems, as it heavily depends on a biological relationship which is affected by factors like climate, diseases, pests, storage, and fluctuation of price. An entrepreneur has little or no control over many of these factors. Under the existing dynamic and

competitive economic environment, individual farmer can do very little. Collective effort of farmers empowers them with greater control. (Kruijssen *et al*. 2006). Entrepreneurial behavior of farmers has an impact on their profit making. Entrepreneurial behavior depends on a number of factors like risk taking, feedback usage, persistence, hope of success, confidence, knowledge, manageability, achievement motivation, persuability, and innovativeness (Murali and Jamtani, 2003). Chaudhari *et al*. (2007) have indicated that, entrepreneurial behavior was based on nine characteristics, viz. innovativeness, achievement motivation, decision making, risk orientation, co-coordinating ability, planning, information seeking behavior, cosmopoliteness and self confidence. Furthermore, Chaudhari *et al*. (2007) developed an index to measure entrepreneurial behavior of dairy farmers. Individual's entry into entrepreneurship that relies on theories of social norms and individual attitudes typically posits that intentions precede entry and attitudes precede intentions (Krueger et al., 2000).

1.2 Network linkages

Johannison (1987) identified a high degree of network linkages and ties in two rural regions in Sweden, indicating that in some circumstances the network may lead to direct support in raising finance, inter trading and cooperative efforts. Wijekoon, and Jayawardena (2010) found positive significant relationships 'between the use of information sources and personal factors, viz. age, social participation, degree of exposure to mass media, innovativeness, and risk orientation'. They also identified fellow farmers to be the mostly available information source. Johannisson (1987) pointed out that the entrepreneur is a networking person and that the personal network is the vehicle by which the established entrepreneur exchanges information while he acquires resources from the environment. In the conduct of a collaborative task, there are varying levels of interaction among group members. It has been found that main characteristics of informational influence such as information sharing, factual and task messages, rational decision model, etc., are reflected in task activities of asking for and giving information, suggestions, and directions (Bales, 1950). Social interactions refer to particular forms of externalities, in which the actions of a reference group affect an individual's preferences. The reference group depends on the context and is typically an individual's family, neighbors, friends or peers (Steiner, 1972).

1.3 Groups and interactions

The main characteristics of normative influence, such as group relationships, morality of care, seeking subjective virtue, group norms, preferences, maintaining harmony, etc., are essentially centered on relationships between group members or needs/ preferences of members (Bales, 1950). Interpersonal relations are the important aspects of social life and it is easily achieved at group situations (Festinger, 1953). Group is a stage where members meet and negotiate personal interests and some members try to obtain power and status through groups and organizations (Pretty and Word, 2001). 'Behavior of a person is governed by interactions, and interrelations with other people' (Padmaja and Batilan, 2005). Pretty and Word (2001) reported that factors such as age, education, gender, group size, heterogeneity of members, resourcefulness of members, and previous experience on collective actions influence collective actions. However, Kruijssen *et al*. (2006) reported that collective activities were always not possible in the resource-less farmer groups. Accordingly, lack of capital makes difficult in maintaining groups among poor farmers. Farmer groups reduce transaction cost, improve marketing facilities, reduce cost of cultivation, and facilitate other services (Choupkova and Bjornskov, 2002). Other benefits of farmer groups are; initiating and establishing culture of cooperation and coordination for their own benefits (Putnam, 1995), conducting collective actions to overcome common problems (Bebbington, 1996), improving resource management strategies resulting in growth of local market and rural economy (Bebbington, 1996), developing networks among members and facilitate members to share ideas and find ways for mutual supports. Farmers' groups help extension agents to improve member farmers' knowledge and practical skills of agricultural technologies (Putnam, 1995). Entrepreneurial action is embedded in social interactions with other individuals (Sarason *et. al*. 2006). Autio and Wennberg (2010) revealed strong group-level effects on entrepreneurial behaviors. They found nearly 50% of the total variance in entrepreneurial behaviours resides between social groups, and that it is not attributable to individual level characteristics. Further, the influence of group-level attitudes and social norms on individual level entrepreneurial behaviours was up to three times as strong as the influence of individual-level attitudes and norms. These findings show that individual-level entrepreneurship is, to a grater degree, a reflection of group-level dispositions, suggesting that the dominant, individual-centric and dispositional explanations of entrepreneurship are therefore, at best, incomplete.

1.4 Scope of the study

Among the many factors influencing the entrepreneurial behavior of farmers, group interactions are given a high importance. Especially, in Sri Lankan context group interactions help to manage labour cost in farming. This study examines *'whether there is an impact from group interactions to improve entrepreneurial behavior of farmers?, and, what the resulting effects?.'* General objective of the study was to examine the entrepreneurial behavior of vegetable farmers. The specific objectives of the study were to identify the major entrepreneurial behavioural characteristics of farmers, to distinguish, and assess the varying entrepreneurial behaviours of farmers and to examine the relationship between the interactions and entrepreneurial behaviour of farmer groups.

2. Methodology

2.1 Operationalization of research

Farmer organizations of Matale district in Sri Lanka was selected for the study. Matale has been among the top 4 districts producing high amount of vegetables in Sri Lanka. It has over 220 farmer Organizations. An exploratory research to identify the farmer groups, and activities was conducted with the participation of community leaders and government Agricultural Instructors (AIs'). Naula, and Dambulla Divisional Secretariat (DS) areas were selected from Matale district. Naula DS area consists of farming organisations growing vegetables throughout the year, namely during the seasons of Yala and Maha. However, majority of farmers in Dambulla DS area cultivates vegetables only during the Yala season. Sinha farmer Organization from Naula DS area and Mahasen farmer Organization from Dambulla DS area were selected for the study. Among the 75 farmer organizations in Naula DS area, Sinha farmer organization was the most active farmer organization, as per the reports of AIs'. Similarly, among the 90 farmer organizations in Dambulla DS area, Mahasen farmer organization was the most successful.

2.2 Research instruments and data analysis

Stratified random sampling was used to select a sample of 60 vegetable farmers, 30 each from these two farmer organizations. Farming experience, Age, and continuity in farming were identified as the major criteria. Primary data were collected through a questionnaire survey, which was followed by informal discussions and key informant discussions. The entrepreneurial behavior scale developed by Chaudhari *et al*. (2007), was incorporated into the questionnaire to assess the farmers of entrepreneurial behaviour. Assessment of group interactions was based on the five statements (covering the differing aspects) used for assessing group interactions introduced by Kaplan and Miller for research on Group decision making (1987). It had a likert scale for answers in the range of 1 to 5 for each statement. Data were analyzed using the Statistical Package for Social Sciences. Descriptive data were presented using tabular analysis and relationships were tested through correlation tests, and using 2-independent sample t-tests (Mann Whitney Test) for non-parametric data.

3. Results and discussion

All the respondents (farmers) were males and they varied from 25 years to 60 years in age.

3.1 Group interactions among farmers

Group interactions of farmers were assessed by measuring their involvement in group activities of selected eight practices in vegetable cultivation. Group interactions of each practice were measured using five statements and responses are depicted in table 1.

Table 1: Scoring pattern of group interactions

Answer	Score	Maximum score
Very high	5	25
High	4	20
Low	3	15
Very low	2	10
Not at all	1	05

Source: Authors' classification

Group interactions of the farmers were measured in eight identified activities namely; seasonal planning, crop selection, land preparation and field planting, irrigation water distribution, controlling of pests and diseases, participating in training programmes, harvesting, and selling. Table 2 depicts the categorization of group interactions of practices as low, moderate, and high.

Table 2: Categorization of group interactions by their scores

Group interactions category	Score
Low	≤15
Moderate	16-20
High	≥21

Source: Authors' classification

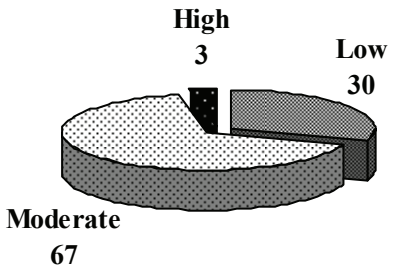

Figure 1: Percentage distribution of respondents by group interactions

As shown in Figure 1 above, 67% of the farmers perceived their group interactions in vegetable cultivation as moderate.

3.2 Task interactions and social interactions

Task interactions among farmers were at a moderate level. Seventy two percent of the farmers responded that, sharing of information, suggestions, directions, and rational decision making of the group were at a moderate level. Social task interactions of the respondents were at a moderate level. Fifty five percent of the farmers responded that, conformity to norms, consideration about preferences of group members, and morality of care of the group were at moderate levels.

3.3 Entrepreneurial behaviour characteristics of respondents

Farmers were assessed of their following seven characteristics of entrepreneurial behaviour.

i.) Planning ability of the respondents

Planning ability of the respondents was measured by using five statements, each of them were allocated scores from 1 to 4. Total scores below 10 were categorized as low; 10-15 scores as moderate, and scores over 15 was categorized as high. Among 60 respondents, 70% of farmers had well planned their cultivation activities. In Mahasen farmer group planning ability of the respondents was higher than observed at Sinha farmer group. Farmers in the Mahasen farmer group had to adopt the seasonal plan, and those who could not follow that would have to pay a fine.

ii.)Information seeking behaviour of the respondents

Information seeking behavior of the farmers was measured by using 14 information sources and their frequency of usage by farmers. Frequencies were given scores from 1 to 3. Total scores below 18, were categorized as low, 18 and 28 as moderate and scores over 28 was categorized as high information seeking behavior. About 85% of respondents had a moderate information seeking behavior. Majority of the farmers did not use television, radio, newspapers, telephone, and NGO officers to get information frequently. Most of them had used family members, friends, relatives, AI's, agriculture research and production assistants (ARPA's) frequently to get information.

iii.) Innovativeness of the respondents

Innovativeness of the respondents was measured by using five practices which were introduced recently for vegetable cultivation and were allocated scores from 0 to 3, based on the number of years they had used

them. Total scores below 5 were categorized as low, 6 and 10 were categorized as moderate, and scores over 10 were categorized as high. Seventy five percent of the respondents had a moderate level of innovativeness. Most of them never searched for new markets. However, they used plastic trays to transport their products. Mahasen farmer group had 30% of framers with a high level of innovativeness.

iv.) Risk orientation of the respondents

Risk orientation of the respondents was measured by using five statements, assigning scores from 1 to 3. Total scores of below 8 were categorized as low, 8 and 12 as moderate, and over 12 were categorized as high. There was not much difference in the risk orientation between the two farmer groups. Sixty three percent of respondents had a moderate level of risk orientation. Majority considered vegetable cultivation as risky and they opted to try new practices only after seeing successful results of other farmers.

v.) Decision making ability of the respondents

Decision making ability of the respondents was measured using eight practices and allocating scores (1 to 3) based on approach to taking decisions. Total scores below 13 were categorized as low, 13 to 19 as moderate, and over 19 were categorized as high. Ninety percent of the farmers had high level of decision making ability. Most of the farmers decided on their cultivations through their own experiences. Majority of farmers were not mindful/ thoughtful of practicing sprinkler or drip irrigation, and crop insurance.

vi.) Achievement motivation of the respondents

Achievement motivation of the respondents was measured by using ten statements awarding scores of 1 to 2. Total scores below 7 were categorized as low, 7 and 8 were categorized as moderate, and scores over 8 were categorized as high. About 52% of total respondents had a high achievement motivation. Motivation levels to earn higher profits, to be a well known farmer, and to accomplish tasks better than others were at moderate levels. Sixty percent of the farmers in Mahasen group had a high level of achievement motivation. They were highly profit oriented, and ambitious in farming.

vii.) Self confidence of the respondents

Self-confidence of the respondents was measured by using five statements, allocating scores of 1 to 2. Total scores below 8 were categorized as low, 8 and 10 were categorized as moderate, and scores over 10 were categorized as high. About 47% of the respondents had a moderate level of self confidence. Most of the farmers lacked confidence in profit making through vegetable cultivation, and most of them relied on others in carrying out farming activities. They did not take the initiative in selecting a crop/s for the season, deciding time for land preparation, planting, harvesting and selling etc. Farmers perceived that adapting to new situations, concentrating on a task, and saying the right opinion at right time to be at a moderate level among them.

3.4 Entrepreneurial behaviour of the respondents

Based on the values obtained from the entrepreneurial behavior (Index) three categories were identified. Index value below 65 was categorized as low, 65 and 75 as moderate, and over 75 was categorized as high. The overall entrepreneurial behavior of the respondents was at a moderate level (mean value 71.186, standard deviation = 0.17). Among the ten entrepreneurial characteristics planning ability and decision making ability were at a high level (mean values were 2.7 and 2.9 respectively). Other characteristics were at a moderate level. As shown in Figure 2, Twenty three percent of the respondents had a high level of entrepreneurial behaviour.

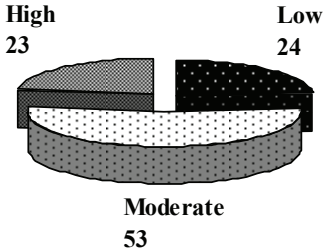

Figure 2: Percentage distribution of respondents' entrepreneurial behaviour

3.5 Significant associations

Relationship between group interactions and entrepreneurial behaviour

There was a positive significant relationship between the group interactions of farmers and their entrepreneurial behavior (r=0.507, p=0.001, significant at 0.01 level).

Figure 3 indicates that all the respondents indicating high group interactions reported high entrepreneurial behavior (EB). Among the farmers reporting low group interactions, 50% of them had low entrepreneurial behavior.

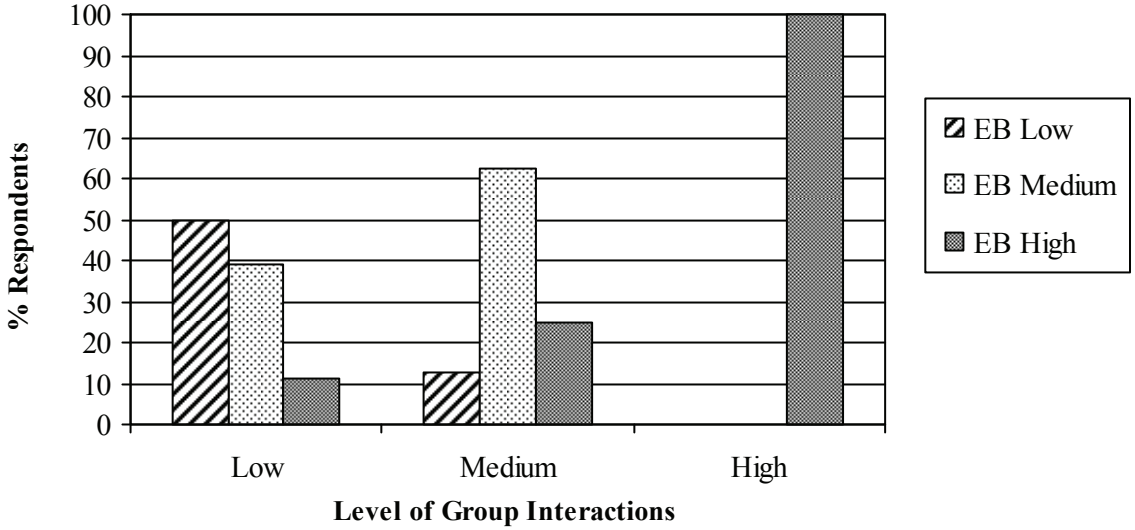

Figure 3: Percentage distribution of respondents' group interactions and entrepreneurial behaviour

Entrepreneurial behavior of the two farmer groups

As per the 2-independent sample t-test (Mann Whitney Test) there was a significant difference in entrepreneurial behavior (p=0.007, significant at 0.01 level) of two farmer groups. Eighty six percent of the respondents who had high entrepreneurial behavior belonged to Mahasen farmer group, whilst the corresponding figure was 14% in Sinha farmer group. In Mahasen farmer group planning ability, coordination ability, and innovativeness of farmers were at a higher level than Sinha farmer group.

4. Conclusions

4.1 Conclusions

There was a significant relationship between the group interaction level, and entrepreneurial behavior of farmers. Entrepreneurial behavior of farmers varied with farmer groups. Group interactions of farmers were found to be moderate. Entrepreneurial behavior of the farmers was not prominent in vegetable cultivation. Majority of the farmers possessed a moderate level of innovativeness, risk orientation, coordinating ability, opportunity seeking behavior, self-confidence, and achievement motivation. Decision making ability and planning ability of farmers were at a high level. Risk orientation of farmers' was reportedly low. Entrepreneurial behavior of farmers enhanced with socio-economic status and social participation. Group interactions of the farmers were high at seasonal planning, and selecting of crops. Very low group interactions in marketing the produce seemed to have an impact on the commercial viability of farming operations.

4.2 Limitations and further research

The static nature of data is a serious weakness of contemporary management research. This study also falls into this category as the data collection (interviewing and surveying) was carried out at a particular point in time during the year 2011. Also, the farmers behaviours were assessed only based on their perceptions. A longitudinal research incorporating more objective data (i.e. profits, and profitability of farmers, times spent

for farming, alongwith feedback of key stakeholders in addition to farmers) is bound to provide more insightful facts.

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