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Entrepreneurial Behaviour of Small and Marginal Farmers in Integrated Farming System (IFS)

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Abstract: The study was conducted with 120 small and marginal farmers practicing IFS selected from eight villages of two taluks in Bengaluru Rural district. The study revealed that majority of respondents belonged to middle age group (64.17%), educated up to high school (50.83%), engaged in agriculture + dairy + poultry (46.00 %), medium family size (59.17%), joint family (71.67%), marginal land holding (81.67%), high livestock possession (53.00 %), high annual income (60.83 %), medium social participation (59.17 %), high extension contact (52.50%) and medium economic motivation (62.5 %).

With respect to the entrepreneurial behaviour, majority of respondents had medium level of innovativeness (45.83%), achievement motivation (50.00 %), decision making ability (55.00%), high risk orientation (49.17%), high co-ordination ability (45.00%), medium planning ability (46.67%), medium information seeking behaviour (74.17%), medium cosmopolitaness (53.33%), medium self confidence (51.67%), medium profit orientation (59.17%) and medium overall entrepreneurial behaviour (60.00%). The characteristics such as education, livestock possession, annual income, extension contact and economic motivation had positive and significant relationship with entrepreneurial behaviour of small and marginal farmers in IFS. Hence, there is need to intensify the educational efforts about the IFS by the extension agencies by considering the positive and significantly related characteristics of respondents to promote entrepreneurial behaviour of small and marginal farmers in IFS.

Key words: Entrepreneurial Behaviour, Small and marginal farmers, Integrated Farming System

INTRODUCTION

Indian agriculture is known for its multi-functionalities of providing employment, livelihood,

food, nutrient and ecological securities. India has basically an agriculture driven economy where, agriculture and allied activities contribute about 17.32

per cent to the GDP (2015-16). It employs 48.90 per cent of the total work force and it is the principal source of livelihood for 58.00 per cent of population. The population of India has already crossed 1.28 billion (2016) and expected to increase 1.39 billion by 2025. The demand for foodgrains would increase from 273.38 million tons (2016-17) to 334.9 million tons by 2025.

Simultaneously, the demand for high value commodities viz., fruits, vegetables, livestock products, fish, poultry etc, are increasing faster than food grains and is expected to increase by more than 100.00 per cent by 2030. (Surve *et al.* 2014). According to the reports of Indian Council of Medical Research (ICMR) the per capita daily requirement for a adult is worked out to be 420 gms cereals, 40 gms pulses, 50 gms leafy vegetables, 60gms other vegetables, 150 ml milk and 40 gms fat and oils to get 2738 calories of energy and 65 gms of protein to perform voluntary as well as involuntary functions of body (Ray, 2009). Hence, the country has to produce more food and other agricultural commodities. But, the average size of land holding in India has declined to 1.16 ha during 2010-11 from 2.28 ha in 1970-71. If this trend continues, the average size of holding in India would be mere 0.68 ha in 2020 and would be further reduced to 0.32 ha in 2030. (Agriculture Census Report, 2010-11). This is due to fragmentation, rapid urbanization, creation of infrastructure facilities like roads, railway tracks, dams etc. With gradual declining trend in size of land holding poses a serious challenge to the sustainability and profitability of farming.

This situation in India, calls for an integrated effort to address the emerging livelihood issues. It is imperative to develop strategies and agricultural technologies that enable adequate income and employment generation for small and marginal farmers' who constitute more than 85 per cent of the farming community. The integrated farming system approach is considered to be the most

powerful tool for enhancing the profitability of small and marginal farmers. Integration of enterprises lead to greater dividends than single enterprise based farming, especially for small and marginal farmers. (Naushad Khan *et al.*, 2015). In this context, the University of Agricultural Sciences, Bengaluru has taken up an innovative development initiative called "Livelihood Improvement of Scheduled Caste Farm Families through Integrated Farming System (IFS)". It was implemented with the assistance of Department of Agriculture, Government of Karnataka during 2014-15. About 3000 farmers were benefited from the project. The success of project is well evident from the increase in yield of 25-40 per cent, provided employment to the family members and checked the migration.

Entrepreneurship is the capacity for innovations and caliber to introduce innovative techniques in business operations. The entrepreneurial behaviour is a combination of several factors like Innovativeness, Achievement motivation, Decision making ability, Risk orientation, Co-ordination ability, Planning ability, Information seeking behaviour, Cosmopolitaness, Self confidence and Profit orientation. Understanding the role of these factors is essential for creating an environment which can facilitate the development of entrepreneurial behaviour. Integrated Farming System requires more capital investment and risky to manage day to day activities. These aspects point out the small and marginal farmers are entrepreneurs. Keeping this view the present study was conducted with following specific objectives:

1. To study the personal and socio- economic characteristics of small and marginal farmers in IFS
2. To assess entrepreneurship behaviour of small and marginal farmers in IFS
3. To know the relationship between characteristics of small and marginal farmers with their entrepreneurship behaviour in IFS

MATERIAL AND METHODS

The study was conducted in purposively selected two taluks of Bengaluru Rural district. From each taluk, one Grama Panchayath was selected based on maximum number of beneficiaries covered under Integrated Farming System project. Further, from each Grama Panchayath four villages were selected based on the maximum number of farmers availed the benefits under the project. From each village, prepared the list of beneficiaries and 15 respondents were selected by using simple random technique thus making a total sample of 120. The data were collected by using structured interview schedule. The entrepreneurship behaviour of small and marginal farmers in IFS was studied with respect to 10 behaviour dimensions with the help of scale developed by Chaudhari *et al.*, (2007) with slight modification. Analyzed the data by using frequency, percentage, mean, standard deviation and correlation & regression.

RESULTS AND DISCUSSION

A. Personal, socio-economic and psychological characteristics of respondents: The data with respect to various characteristics of respondents have been furnished in Table 1. It is revealed that majority of the respondents (64.17%) belonged to middle age group, whereas more than half of the respondents (50.83%) were educated up to high school level and majority of the respondents (46.00%) were engaged in agriculture + dairy + poultry. The possible reasons for the above trend might be the middle aged famers can take up independent decision to implement their ideas, lack of facilities of college education in near by villages and due to free supply of improved seeds, HF Hiefers and poultry birds at free of cost from the project. These findings are in accordance with findings of Takale *et al.*, (2013) and Rajendra Prasad (2016). Majority of farmers had medium family

size (5 to 8 members), belongs to joint family (71.67%) and 71.67 per cent of the respondents possessed marginal land holdings. The family size stimulating for small and marginal farmers to take further action and also if the number of members in the family increased there is a scope for division of work, sharing of ideas and information. The reason for possession of marginal land holding could be fragmentation of land. These findings are inline with the findings of Naveenkumar (2012) and Rajendra Prasad (2016). Majority of respondents belonged to high livestock possession group (53.00 %), had high annual income (60.83 %), and medium social participation (59.17 %). The possible reasons might be due to possessed more livestock due to free supply of livestock components from project, practicing of subsidiary occupations by the respondents and formal education along with good economic conditions are keen to participate in social organizations for getting social status. These findings more are inline with the findings of Rajendra Prasad (2016). Majority of respondents (52.50%) had high extension contact and 62.5 per cent of the respondents were having medium level of economic motivation. This trend might be due to frequent contact with different extension personnel to seek more and looking towards earning more profit by adopting new technologies in IFS. These findings are inline with the findings of Takale *et al.*, (2013).

B. Components of entrepreneurial behaviour of small and marginal farmers in IFS : The entrepreneurial behaviour of small and marginal farmers in IFS comprised 10 components such as, innovativeness, achievement motivation, decision making ability, risk orientation, co- coordination ability, planning ability, information seeking behaviour, cosmopoliteness, self confidence and profit

Table 1
Personal and Socio- Economic characteristics of respondents

<i>Sl. No.</i>	<i>Components</i>	<i>Categories</i>	<i>Frequency</i>	<i>Percentage</i>
1	Age	Young (Up to 35 years)	29	24.17
		Middle (36-50 years)	77	64.17
		Old (Above 50 years)	14	11.67
2	Education	Illiterate	15	12.50
		Primary School	19	15.83
		Middle School	25	20.83
		High School	61	50.83
		College & above	0	0.00
3	Occupation	Agri.+ Dairy+ Poultry	55	46.00
		Agri.+Horti.+ Dairy+ Poultry	24	20.00
		Agri.+Horti.+ Dairy+ labour	11	9.00
		Agri.+Horti.+ Sheep+ Poultry	19	16.00
		Agri.+ Sheep+ Poultry+ labour	12	10.00
4	Family size	Small (Upto 4 members)	36	30.00
		Medium (5-8 members)	71	59.17
		High (Above 8 members)	13	10.83
5	Family type	Nuclear	34	28.33
		Joint	86	71.67
6	Land holding	Marginal (Up to 29 Acres)	98	81.67
		Small (More 2.50 Acres)	22	18.33
7	Livestock possession	Small (-1-3)	17	14
		Medium (4-6)	39	33
		High (>6)	64	53
8	Annual Income	Low (Up to 25000/-)	23	19.17
		Medium (25000-50000)	26	21.67
		High (More than 50000)	73	60.83
9	Social Participation	Low (Up to 4.31)	33	27.50
		Medium (4.32 to 15.93)	71	59.17
		High (Up to 5.36)	16	13.33
10	Extension Contact	Low (Up to 5.36)	26	21.67
		Medium (5.37- 9.85)	31	25.83
		High (More than 9.86)	63	52.50
11	Economic Motivation	Low (Up to 18.76)	20	16.67
		Medium (18.77 to 28.11)	75	62.50
		High (More than 28.12)	25	20.83

orientation. The component wise entrepreneurial behaviour of small and marginal farmers in IFS have been furnished in Table 2 and the same have been interpreted and discussed as follows.

- 1. Innovativeness:** It was found from Table 2 that 45.83 per cent of the respondents had medium level of innovativeness followed by 33.33 per cent and 20.83 per cent of respondents had high level and low level of innovativeness respectively. A considerable percentage of small and marginal farmers in IFS were found in medium and high categories of innovativeness. The possible reason might be due to comparatively higher education and free supply of inputs which helped these farmers to put the new IFS technology into practice. These results are in accordance with the findings of Palmurugan *et al.*, (2008), Tekale *et al.*, (2013), Pooja Patel *et al.*, (2014) and Rajendra Prasad (2016).
- 2. Achievement motivation:** From the above table 2 that half of the small and marginal farmers in IFS (50.00 %) had medium level of achievement motivation, 35.00 per cent and 15.00 per cent of them had high and low level of achievement motivation respectively. It is concluded that majority of Small and marginal farmers in IFS belonged to medium achievement motivation. The probable reason for this trend might be due to, their enthusiasm and zeal to become economically sound. It is assumed that achievement motivation forces the goals, which one has set for oneself. The higher annual income might have encouraged them to set the higher goals. These findings were supported by findings of Palmurugan *et al.*, (2008), Tekale *et al.*, (2013), Pooja Patel *et al.*, (2014) and Rajendra Prasad (2016).
- 3. Decision making ability :** In case of decision making ability data in Table 2 shows that, majority of the respondents (55.00 %) belonged to medium category of decision making ability, followed by 28.33 per cent and 16.67 per cent of respondents belonged to low categories of decision- making ability respectively. The logical reason behind having medium, followed by high decision making ability might be due to the middle aged farmers has comparatively free hands in making decision about adopt or reject the innovation. Other possible reason might be freely supplied of IFS inputs helped them to take right decision at right time and right place. These factors might have facilitated the farmers to choose wise decision among alternatives. Similar trend have been reported by Tekale *et al.*, (2013), Pooja Patel *et al.*, (2014) and Rajendra Prasad (2016).
- 4. Risk orientation:** The Table 2 revealed that, majority of respondents (49.17%) had high risk orientation, followed by 37.50 per cent of respondents had medium level of risk orientation and only 13.33 per cent of the respondents had low level of risk orientation. By and large majority of respondents had high risk orientation the possible reason might be due to livelihood security for the life. A small and marginal farmers in IFS having more risk performance is well aware of risk involved in IFS practices. The findings were supported by findings of Tekale *et al.*, (2013).
- 5. Co-ordination ability:** As per the data in Table 2 majority of respondents (45.00%) had high level co-ordination ability followed by 40.83 per cent and 14.17 per cent of the respondents had medium and low level of co-ordinating ability respectively. Thus, it has been concluded that majority of respondents belongs to high co-ordinating ability. In IFS, farmer has to harmonize and synchronize various farm and allied activities in order to complete the work in a stipulated period. It must be due to the

Table 2
Distribution of respondents based on components of entrepreneurial
behaviour of IFS farmers

<i>Sl.No.</i>	<i>Components</i>	<i>Categories</i>	<i>Frequency</i>	<i>Percentage</i>
1	Innovativeness	Low	25	20.83
		Medium	55	45.83
		High	40	33.33
2	Achievement Motivation	Low	18	15.00
		Medium	60	50.00
		High	42	35.00
3	Decision making ability	Low	20	16.67
		Medium	66	55.00
		High	34	28.33
4	Risk Orientation	Low	16	13.33
		Medium	45	37.50
		High	59	49.17
5	Co-ordination ability	Low	17	14.17
		Medium	49	40.83
		High	54	45.00
6	Planning ability	Low	21	17.50
		Medium	56	46.67
		High	43	35.83
7	Information seeking behaviour	Low	08	6.67
		Medium	23	19.16
		High	89	74.17
8	Cosmopolitaness	Low	26	21.67
		Medium	64	53.33
		High	30	25.00
9	Self confidence	Low	35	29.17
		Medium	62	51.67
		High	23	19.16
10	Profit orientation	Low	33	27.50
		Medium	71	59.17
		High	16	13.33
11	Over all entrepreneurial behaviour level	Low	34	28.33
		Medium	72	60.00
		High	14	11.67

fact that IFS farmer will become efficient in the management of land, labour and other aspects of production. So it is natural to think that these small and marginal farmers in IFS are better oriented to co-ordinate farm and allied activities in time.

The probable reason for high followed by medium coordinating ability of small and marginal farmers in IFS might be due to their middle age, high school education and higher annual income which helped them to undertake the different IFS activities in time. The findings of the present study are in line with the findings of Tekale *et al.*, (2013).

6. **Planning ability:** The data presented in Table 2 revealed that 46.67 per cent respondents had medium planning ability, followed by high (35.83 %) whereas, only 17.50 per cent of respondents had poor planning ability. This might be due to the fact that small and marginal farmers in IFS had given importance to the activities, which would help them in future. The similar results have been reported by Tekale *et al.*, (2013), Pooja Patel *et al.*, (2014).
7. **Information seeking behaviour:** The critical examination of data presented in Table 2 revealed that, more than three fourth of the small and marginal farmers in IFS (74.17%) had medium level of information seeking behaviour. About 19.16 per cent of respondents had high level of information seeking behaviour. Very few (6.67%) of the respondents had low level of information seeking behaviour. The plausible reason for this trend might be due to exposure the different inter personal mass media channels consequent obtaining information helps them to acquire right information. Further, their higher educational level and higher use of communicational devices like telephones and mobiles which facilitate easy contact with experts and extension worker for proper guidance and getting up-to-date information to manage their enterprise. The above results are in accordance with the findings of Tekale *et al.*, (2013), Pooja Patel *et al.*, (2014) and Rajendra Prasad (2016).
8. **Cosmopolitenes:** It is revealed from Table 2 that, more than half (53.00 %) of respondents belonged to medium category of cosmopoliteness, followed by 25.00 per cent and 21.67 per cent of the respondents belonged to high and low categories of cosmopoliteness respectively. This might be due to their good economic condition, comparatively higher education and extension contact of small and marginal farmers in IFS. The above results are in accordance with the findings of Tekale *et al.*, (2013) and Pooja Patel *et al.*, (2014)
9. **Self confidence:** It was observed from Table -2 that majority of respondents (51.67 %) had medium level of self confidence, followed by 29.17 per cent and 19.16 per cent of respondents had low and high level of self-confidence respectively. It might be due to the respondents were not fully oriented of their abilities to improve their agriculture and allied enterprises. These findings were supported by the findings of Palmurugan *et al.*, (2008) and Pooja Patel *et al.*, (2014)
10. **Profit orientation:** It was observed from Table 2 that more than half of respondents (54.17 %) had medium level of profit orientation, followed by 27.50 per cent and 13.13 per cent of respondents had low and high level of self confidence respectively. It might due to the respondents were not fully oriented of their abilities to improve their IFS enterprise. The above results are in accordance with the findings of Tekale *et al.*, (2013).
11. **Over all entrepreneurial behaviour:** The perusal of data in Table 2 that majority small and marginal farmers in IFS belonged to

Table 3
Relationship between characteristics of respondents
with their entrepreneurial behaviour

n-120

Sl. No.	Characteristics	'r' value
1	Age	0.161 ^{NS}
2	Education	0.313**
3	Occupation	0.036 ^{NS}
4	Family size	0.121 ^{NS}
5	Family type	0.113 ^{NS}
6	Land holding	0.142 ^{NS}
7	Livestock possession	0.415**
8	Annual Income	0.320**
9	Social Participation	0.068 ^{NS}
10	Extension Contact	0.382*
11	Economic Motivation	0.448**

medium level of entrepreneurial behaviour.(60.00%) followed 28.33 per cent and 11.67 per cent of them belonged to low and high level of entrepreneurial behavior respectively. The plausible reasons might be due to their good financial condition, higher education level and higher extension contact. However, all the major 10 components of entrepreneurial behaviour of small and marginal farmers in IFS together reflect their medium entrepreneurial behaviour. The findings of present study are in agreement with the findings of Palmurugan *et al.*, (2008), Tekale *et al.*, (2013), Nishu Kanwar Bhati *et al.*, (2014) Pooja Patel *et al.*, (2014).

Relationship between characteristics of respondents with their entrepreneurial behaviour

The perusal of the data depicted in Table 3 revealed that the characteristics such as education, livestock possession, annual income, extension contact and economic motivation had positive and significant relationship with entrepreneurial behaviour of small

and marginal farmers in IFS. The remaining characteristics such as age, occupation, family size, family type, land holding and social participation had non-significant relationship with entrepreneurial behaviour of small and marginal farmers in IFS. The possible reasons for this trend are attributed to higher education, livestock possession, annual income, extension contact and economic motivation were leads to higher entrepreneurial behaviour of small and marginal farmers in IFS. The findings are more or less in consonance with the results of Jabina Shaikh *et al.*, (2014), Nishu Kanwar Bhati *et al.*, (2014) Pooja Patel *et al.*, (2014).

CONCLUSION

The result revealed that, majority of the respondents belonged to middle age group, educated up to high school level, engaged in agriculture + dairy + poultry, medium family size, joint family, marginal size of landholding, high livestock of possession group, high annual income, medium social participation, high extension contact and medium level of economic motivation.

With respect to entrepreneurial behaviour of small and marginal farmers in IFS, half of the respondents had medium level of innovativeness, achievement motivation and decision making ability. The majority of respondents had high risk orientation, co-ordination ability, medium planning ability, medium level of information seeking behaviour, medium cosmopolitaness, medium level of self confidence, medium level of profit orientation and medium level overall entrepreneurial behaviour. The characteristics such as education, livestock possession, annual income, extension contact and economic motivation had positive and significant relationship with entrepreneurial behaviour of small and marginal farmers in IFS. Hence, there is need intensify the educational efforts about the IFS enterprises to small and marginal farmers by the field extension functionaries of

development departments, NGO's and private organizations. The extension agencies should make an attempt to manipulate these characteristics which in turn promote entrepreneurial behaviour among small and marginal farmers in IFS.

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