www.ThePharmaJournal.com

The Pharma Innovation

Chitra BM
Ex-PG Student, Department of
Agricultural Extension,
University of Agricultural
Sciences, GKVK, Bangalore,
Karnataka, India

Ramanna KN
Professor, Farmers Training
Institute, University of
Agricultural Sciences, GKVK,
Bangalore, Karnataka, India

Profile characteristics of farmers practicing selected farming systems in Mandya district, Karnataka

Chitra BM and Ramanna KN

Abstract
The study was carried out in Mandya district of Karnataka state, to study profile characteristics. Three taluks were selected for study based on the dominance of three farming systems i.e., a) Paddy + Sugar cane + Dairy (farming system-I) b) Ragi + Tomato + Coconut + Agro-forestry (farming system-II) c) Ragi + Dairy (farming system-III), which were selected by preliminary survey. Thirty respondents were selected from each of the three selected farming systems. Total of ninety respondents were selected for the study. The findings indicated that, majority of farmers fall under medium category of knowledge and adoption level. It is also concluded that majority of the farmers from all the three farming system belong to middle and lower category of age, education, size of land holding, size of the family, annual income, extension participation, experience in farming, mass media participation, social participation, cosmopoliteness, management orientation, risk orientation and innovativeness. Whereas, some characteristic like size of the family, annual income and management orientation were significantly associated in all the three farming systems.

Keywords: Adoption, cosmopoliteness, innovativeness, farming system

Introduction
Agriculture throughout the world is still single most important human activity. Despite all the advances of high technology, it is still the only reliable source of food and an important source of fibers and other products, whose synthetic substitutes are often not as good as the natural products or most costly to produce. Agriculture is the main or the only source of livelihood for 50 to 70 percent of population and contributes roughly the same proportion to the national income.

The term Farming Systems Research is any research that views the farm in a holistic manner and considers interacting in the system (CGIAR, 1978). Today, Farming Systems Research with a farmer's perspective occupies pride of place in India's agricultural research agenda. In this regard farmers are required to acquire more knowledge regarding the improved practices in farming systems. To understand the farming Systems, there is a need to study the social-economic characters like educational level, family size, size of land holding, organizational participation and assets structure of the farmers. Assessing standard of living of farmers in these farming Systems is also important. It is observed that the acquisition of knowledge depends on farmers' personal profile constituted by various socio-economic and psychological characteristics. With this background, the present study was undertaken with specific objective of knowing the profile of the farmers practicing different farming systems

Material and Methods
The study was carried out in Mandya district of Karnataka state. Out of seven taluks, three taluks were selected for study based on the dominance of three farming systems *i.e.,* a) Paddy + Sugar cane + Dairy (farming system-I) from irrigated situation b) Ragi + Tomato + Coconut + Agro-forestry (farming system-II) from semi irrigated situation c) Ragi + Dairy (farming system-III) from rainfed situations which were selected by preliminary survey. Nine villages i,e., three villages for each farming system having more number of farmers practicing one or more number of above mentioned farming systems were selected purposively for the study. Thirty respondents were selected from each of the three selected farming system. Thus, a total of ninety respondents were selected for the study. The research design adopted for this study was ex-post-facto technique, since the phenomenon has already occurred and is continuing. The "Teacher made test" suggested by Anastasi (1961) [1] is employed to measure the knowledge level of respondents and Scale developed by Sengupta (1967) [9] is employed to

Correspondence
Chitra BM
Ex-PG Student, Department of
Agricultural Extension,
University of Agricultural
Sciences, GKVK, Bangalore,
Karnataka, India

measure the adoption level of respondents. Independent variables selected for the study were age, education, Size of land holding, Size of the family, Annual income, Extension participation, Experience in farming, Mass media participation, Social participation, Cosmopoliteness, Management orientation, Risk orientation, Innovativeness. The data were elicited from the respondent through pre-tested, structured interview schedule by personal interview method. Data were quantified and analyzed with the help of the statistical tests like frequency, percentage, mean, standard deviation, and chi-square.

Results and Discussion
Knowledge level of farmers about the selected farming systems: Perusal farming system wise knowledge level of farmers with respect to improved practices in selected farming systems is presented in the Table 1. Data revealed that 36.7 percent of respondents had medium knowledge level. Whereas, 33.3 percent of farmers had high and 30.0 percent of farmers had low knowledge level with respect to farming system-I. It was observed that little more than two-fifth (43.3%) of respondents had high knowledge level followed by 33.3 percent and 23.4 percent of farmers belonged to low and medium knowledge categories, respectively in case of farming system-II. With regard to farming system-III, exactly fifty percent of farmers had medium knowledge level. Whereas, 30 percent of farmers had high knowledge level. Followed by 20 percent of farmers had low knowledge level. The reasons might be due to the fact that most of the farmers had high educational level as it is observed from their profile. The farmers with high education level expose themselves to different mass media which provide the information about new technology. In addition, it is very clear that the variables like social participation and extension participation appeared to have influenced the knowledge level of farmers. This finding has been supported by Puspendra Singh Naruka and Sangram Singh (2003) [7].

Adoption level of farmers about the selected farming systems: The adoption of improved practices of selected farming systems depend on various factors such as farmers knowledge, situational factors, extent of support of change agent efforts, personal and social-psychological characteristics of farmers, innovativeness, complexities of practices and timely availability of inputs etc. However, it is true that all the recommended practices will not be adopted to some degree by all the members in a given social system. The findings of the study are presented in Table-2.

The results revealed that fifty percent of farmers had medium adoption level with respect to farming system-I followed by 36.7 percent and 53.3 percent of farmers had high and medium adoption level with respect to farming system-II and farming system-III, respectively.

Personal, Socio – Economic and Psychological Profile of farmers practicing selected farming systems
The Personal, Socio – Economic and Psychological Profile of farmers is depicted in the Table 3

Age
Under farming system-I and farming system-II, more number of farmers belonged to middle aged group (56.7%), whereas in farming system-III, forty percent of the respondents were old aged. This might be because most of the poor farmers will comes under rainfed condition, children of such farmer's will

be involved in agriculture, whereas, the farmers who followed irrigation/semi irrigated system will get more profit and make their children to involve in some other enterprises / government services. Thus, middle age farmers fell under irrigated and semi-irrigated systems.

Education
As high as 30.0 percent of the respondents were educated up to high school under farming system-I and 36.6 percent of respondents were educated up to Primary and middle school in farming system-II whereas, 43.4 percent of the respondents were illiterate under farming system-III. The probable reasons might be due to the facilities available for education in the study areas were up to middle school only and might be the illiteracy of their parents and non – realization of importance of formal education. These findings are in agreement with those findings of Shashidhar (2004).

Size of land holding
Regarding the size of land holdings, most of the farmers were having marginal land holdings (63.3%) under farming system-III. Little more than two-fifth (43.4%) and 36.6 percent of farmers had small land holdings both in case of farming system-I and farming system-II, respectively. However, the land holding distribution is matching with the general trends in the country. Since, the scope for increasing land holdings size are very much limited, it is desired that maximum utilization of available land is achieved through farming system practices, multiple cropping and intensive agriculture. This study is similar with the finding of Keshavamurthy (2005).

Size of the family
Exactly two-third (66.6%) of the farmers belonged to small family in case of farming system-III followed by (50.0%) and (63.3%) of the respondents had medium family size both in case of farming system-I and farming system-II as indicated in Table-3. The probable reasons behind these findings could be that young and middle age people would prefer to live in nuclear families and old aged people prefer joint family. Further, realization of the advantages of nuclear families in terms of running the family responsibilities and they have been practicing medium family size family. The study has been supported by Chandrani Saha (2008) [2].

Annual income
Majority (73.3%) of the respondents were from high and medium income categories in case of farming system-II and farming system-I. Whereas, two-third (66.6%) of the respondents were from medium income in case of farming system-III. The probable reasons, attributed for varied income categories of respondents, might be due to the small size of the land holdings and practicing other subsidiary occupations by the respondents. This findings has been supported by Sunil Dutt and Chole (2002) [10].

Extension participation
Little more than one-third (36.7%) of the respondents had medium extension participation in farming system-I. In case of farming system-II, about 43.0 percent of the respondents had high extension participation and 40 percent of the respondents had medium extension participation in farming system-III. Majority of respondents belong to medium category, this might be due to their eagerness in solving their

problems with extension workers and also interest in extension activities to gather recent information. The findings of the study are in agreement with the findings of Lakshmisha (2000) [4].

Experience in farming
The results revealed that 36.7 percent of the respondents had low and high farming experience both in case of farming system-I and farming system-II, respectively. About 43.0 percent of the respondents had high farming experience in the case of and farming system-III. The possible reasons could be that age is an appropriate indicator which shows their level of experience in agriculture and subsidiary enterprises, because the farmers usually start working in their farms at an early age or since time of childhood and adolescence they have higher experience in solving the risks and uncertainty that will occur in farming. This findings has been supported by Pankaja (2004) [6].

Mass media participation
Most (60.0%) of the respondents belonged to medium mass media exposure category in case of farming system-III and 40 percent of farmers belonged to low mass media exposure category with regard to farming system-II. In case of farming system-I most (43.4%) of the respondents belonged to medium mass media user category. This indicates that use of mass media helps in getting information about different farming systems so that they can get knowledge and adopt the new technologies regarding the improved practices. These findings are supported with those of Sunil Dutt and Chole (2002) [10].

Social participation
Little less than half (43.4%) and 36.7 percent of farmers had medium social participation in the case of farming system-I and farming system-II and forty percent of respondents had low social participation in case of farming system-III. The probable reasons for the above trend might be more number of social organizations in the villages and more over farmers always want to save money and stabilize the family economically by getting advantages from social organizations. The findings of the study is in agreement with the findings of Chandrani Saha (2008) [2].

Cosmopoliteness
Nearly fifty (43.4%) percent of the respondents were had high level of cosmopoliteness both in case of farming system-I and farming system-II. It was also observed that 43.4 percent of the respondents had low level of cosmopoliteness in farming system-III. Cosmopoliteness is the degree to which rural people are oriented outside the community to seek information. Majority of the respondents fall under high category due to many factors such as more proximity to the city and good transportation facilities, social values and customs. This findings has been supported by Keshava Murthy (2005) [3].

Management orientation
Little less than fifty (43.4%) percent of the respondents had high management orientation in farming system-I followed by 43.4 percent and 56.7 percent of the respondents had low and medium level management orientation, respectively in farming system-II and farming system-III. This might be due to their high educational level, social participation and more exposure to mass media. These findings are in confirmation with those findings of Nagesh (2005) [5].

Risk orientation
Nearly fifth (43.4%) percent of the respondents had high risk orientation with regard to farming system-I. In case of farming system-II, 36.7 percent of the respondents had medium and 43.3 percent of respondents had medium risk orientation in case of farming system-III. Risk orientation is the quality of any individual to excel in their activities, which might have influence on adoption of farming system practices. These findings are in confirmation with those findings of Saravana Kumar (1996) [8].

Innovativeness
The results of the study (Table-3) revealed that nearly fifty (46.6%) percent of respondents had high level of innovativeness both in case of farming system-I and farming system-II. In case of farming system-III, it was depicted that fifty percent of respondents had medium level of innovativeness. This might be due to their educational level, interest towards new technologies etc. These findings are in confirmation with those findings of Chandrani Saha (2008) [2]. Form this we can conclude that majority of the farmers from all the three farming system belong to middle and lower category of age, education, size of land holding, size of the family, annual income, extension participation, experience in farming, mass media participation, social participation, cosmopoliteness, management orientation, risk orientation and innovativeness.

Table 1: Knowledge level of respondents with respect to improved practices in selected faming systems (n=90)

S. No	Knowledge	Respondents						X^2
		Farming system-I (n=30)		Farming system-II (n=30)		Farming system-III (n=30)		
		No.	%	No.	%	No.	%	
1	Low (< 57.69)	09	30.00	10	33.33	06	20.00	
2	Medium (57.60-70.28)	11	36.67	07	23.34	15	50.00	18.17**
3	High (> 70.28)	10	33.33	13	43.33	09	30.00	
	Total	30.0	100.0	30.0	100.0	30.0	100.0	

Mean = 63.98   SD = 12.59
** Significant at 1%

Table 2: Adoption level of respondents with respect to improved practices in selected farming systems

S. No.	Adoption	Respondents						X^2
		Farming system-I (n=30)		Farming system-II (n=30)		Farming system-III (n=30)		
		No.	%	No.	%	No.	%	
1	Low (< 51.25)	05	16.7	10	33.3	08	26. 7	
2	Medium (51.25-63.60)	15	50.0	09	30.0	16	53.3	18.57**
3	High (>63.60)	10	33.3	11	36.7	06	20.0	
	Total	30.0	100.0	30.0	100.0	30.0	100.0	

Mean = 57.42   SD = 12.35
** Significant at 1%

Table 3: Personal, Socio – Economic and Psychological profile of farmers practicing selected farming systems

S. No	Variables	Category	Respondents						X^2 test
			Farming system-I (n=30)		Farming system-II (n=30)		Farming system-III (n=30)		
			No.	%	No.	%	No.	%	
1	Age	Young (35 years)	06	20.0	06	20.0	08	26.6	4.55[NS]
		Middle (36-50)	17	56.6	17	56.6	10	33.4	
		Old (above 50)	07	23.4	07	23.4	12	40.0	
2	Education	Illiterate	08	26.6	10	33.4	13	43.4	5.83[NS]
		Primary and middle school	07	23.4	11	36.6	10	33.4	
		High school	09	30.0	05	16.6	05	16.6	
		Collage	06	20.0	04	13.4	02	06.6	
3	Size of land holding	Marginal (< 2.5 acres)	12	40.0	11	36.6	19	63.3	10.48[NS]
		Small (2.5-5.0 acres)	13	43.4	11	36.7	11	36.7	
		Big (>5.0 acres)	05	16.6	08	26.7	0	00.0	
4	Size of the family	Small (< 4)	07	23.4	02	06.7	20	66.6	31.10**
		Medium (4-8)	15	50.0	19	63.3	02	06.6	
		Big (> 8)	08	26.6	09	30.0	08	26.8	
5	Annual income	Low (< 10267.37)	06	20.0	0	0.0	07	23.4	41.71**
		Medium (10267.37-71732.63)	22	73.3	8	26.6	20	66.6	
		High(>71732.63)	02	06.7	22	73.4	03	10.0	
6	Extension participation	Low (< 5.44)	10	33.3	11	36.6	10	33.4	3.60 [NS]
		Medium (5.44-8.62)	11	36.7	06	20.0	12	40.0	
		High (> 8.62)	09	30.0	13	43.4	08	26.6	
7	Experience in farming	Low (< 16.16)	11	36.7	10	33.4	09	30.0	0.68[NS]
		Medium (16.16-24.58)	09	30.0	09	30.0	08	26.6	
		High (>24.58)	10	33.3	11	36.6	13	43.4	
8	Mass media participation	Low (< 6.98)	6	20.0	12	40.0	08	26.6	8.45[NS]
		Medium (6.98-11.12)	13	43.3	09	30.0	18	60.0	
		High (> 11.12)	11	36.7	09	30.0	04	13.4	
9	Social participation	Low (< 8.98)	09	30.0	09	30.0	12	40.0	1.31[NS]
		Medium(8.98-13.04)	13	43.4	11	36.7	10	33.4	
		High (>13.04)	08	26.6	10	33.3	08	26.6	
10	Cosmopoliteness	Low (<11.05)	09	30.0	09	30.0	13	43.3	4.76[NS]
		Medium (11.05-14.82)	08	26.6	08	26.6	11	36.7	
		High (> 14.82)	13	43.4	13	43.4	06	20.0	
11	Management orientation	Low (< 10.70)	08	26.6	13	43.4	04	13.3	10.20*
		Medium (10.70-13.77)	09	30.0	08	26.6	17	56.7	
		High (> 13.77)	13	43.4	09	30.0	09	30.0	
12	Risk orientation	Low (< 33.32)	12	40.0	09	30.0	09	30.0	5.41[NS]
		Medium (33.32-41.78)	05	16.6	11	36.7	13	43.4	
		High (> 41.78)	13	43.4	10	33.3	08	26.6	
13	Innovativeness	Low (< 28.26)	09	30.0	07	23.4	08	26.6	6.40[NS]
		Medium (28.26-31.76)	07	23.4	09	30.0	15	50.0	
		High (> 31.78)	14	46.6	14	46.6	07	23.4	

* Significant at 5% level
** Significant at 1% level
NS; Non-Significant

References
1. Anastasi A. Psychological testing.Macmillan Company, New York. 1961, 428-436.
2. Chandrani Saha. A study on sustainability of farming systems and livelihood security among rural households in Tripura. M.Sc (Agri) Thesis, University of Agricultural Sciences, Bangalore, 2008.
3. Keshava Murthy NN. A study on contract farming in Gherkin production. M.Sc (Agri) Thesis, University of Agricultural Sciences, Dharwad, 2005.
4. Lakshmisha. Impact of cashew demonstration on knowledge, adoption and yield levels of farmers in Dakshina Kannada district. M.Sc (Agri) Thesis, University of Agricultural Sciences, Bangalore, 2000.
5. Nagesha PN. Study on entrepreneurial behaviour of vegetable seed producing farmers of Haveri district.

M.Sc.(Agri) Thesis. University of Agricultural Sciences, Dharwad, 2005.

6. Pankaja HK. A study on knowledge, adoption and sources of information consultancy by vanilla growers. M.Sc (Agri.) Thesis, University of Agricultural Sciences, Bangalore, 2004.

7. Puspendra Singh Naruka, Sangram Singh. A study on knowledge level of soybean growers about improved soybean production technology. Maharashtra Journal of Extension. Education. 2003; 22:1- 4.

8. Saravana Kumar. A study of the management of mango growers by farmers in Krishnanagar taluk of Dharmapuri district, Tamil Nadu. M.Sc (Agri) Thesis, University of Agricultural Sciences, Dharwad, 1996.

9. Sengupta T. A simple scale for selection of farmers for yielding varieties programme on rice. Indian Journal of Extension. Education. 1967; 3:107-115.

10. Sunil Dutt J, Chole RA. Study on adoption of sericultural practices by sericulturists. Indian Journal of Sericulture. 2002; 41(1):1-6.