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Relationship between Socio-Economic and Psychological Factors of Dairy Farmers with Days Open – A Study in Rural Karnataka

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ABSTRACT

Dairy farming is one of the important activities among the rural farmers. Days open which is from calving to next conception is normally linked with profitability in dairy cows. The study on relationship between socio-economic and psychological factors of dairy farmers with days open in crossbred cattle was purposively conducted in Bengaluru rural district of Karnataka. Four taluks viz; Devanahalli, Doddaballapur, Hoskote and Nelamangala were randomly selected and a total of 120 respondents were selected for the study. An exploratory research design and multistage random sampling technique was applied for the study and data were collected using a structured interview schedule. The study revealed that majority of the respondents were male (94.00%), middle aged (58.00%), with most (87.50%) of them as literates. More than half of the respondents lived in nuclear family (77.00%) with medium size family (51.67%). Respondents were having high farming experience (46.00%) but had no exposure to formal training. Animal husbandry and Agriculture (93.00%) was found to be their occupation and 50 per cent had low annual income and were marginal land holders (89.00%). Majority (58.00%) of the respondents were not growing any fodder and had medium livestock possession (50.00%) and with 40 per cent securing financial assistance. Majority (69.00%) of the respondents had medium economic motivation, risk orientation (60.00) and information seeking behaviour (71.00%). Among the socio economic variables of the respondents viz. family size, family type, annual income, economic motivation, land holding and education had a positive and significant correlation to the days open in dairy cattle which indicated socioeconomic characteristics had significant effect on adoption of scientific practices. Training programmes on suitable and scientific management practices will help the farmers in increasing production as well as in income generation.

Key words: *Crossbred Cattle, Psychological, Socio-economic, Days Open.*

INTRODUCTION

India is predominantly an agrarian society where animal husbandry forms the backbone of agricultural economy. Animal Husbandry plays an important role in the socio economic development of India. Distribution of livestock is more equitable compared to that of land. Livestock farming requires less capital and the management and production expenses are low compared to agriculture.

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Hence animal husbandry is carried out by all farmers regardless of their economic status and development of livestock sector would be more inclusive[11]. Karnataka state stands 6th in livestock population in India and in milk production stands 11th in the country i.e. 4.3 per cent to the total India's milk production. Hence, dairying has become an important source of income for millions of rural families and has assumed an important role in providing employment and income generating opportunities[1]. As per 19th livestock census (2012), Karnataka has 2.9 crore livestock and 5.3 crore poultry population accounting for 5.41 per cent and 7.33 per cent of country's livestock and poultry populations respectively. Days open which is from calving to conception is normally linked with profitability in dairy cows. Any delay in cow's conception can adversely impact the income. This is because the maintenance cost of the cow will be amplified and income through calf as a partial revenue will decline dramatically. Moreover, any pregnancy delay has an inverse influence on milk production and factors such as voluntary waiting period, AI techniques, management policies, herd size and production levels play an important role. Days open has been widely used as a success measure of dairy enterprise. The results of the study will be helpful in understanding the relationship between various factors of dairy farmers with days open and to educate them on importance of each factor that influences the performance of animals. With this background, the study was conducted with the objectives to assess the relationship between socio-economic and psychological factors of dairy farmers with days open in Bengaluru rural district.

MATERIALS AND METHODS

The study was conducted in the state of Karnataka with considerably high density of livestock population and Bangalore Rural district is purposively selected for the study since it has got predominant crossbred cattle population and dairy based activities. Four taluks viz; Devanahalli, Doddaballapur, Hoskote and Nelamangala were randomly selected for the study. Thirty livestock farmers from each of the four taluks of Bangalore rural district, possessing crossbred cows were considered randomly for the study. Thus a total of 120 respondents were selected for the study.

The study adopted an exploratory research design and multistage random sampling technique was used for selection of respondents. The interview schedule for the dairy farmers was developed and pre tested before administering in the main sample area. Rapport with the respondents was very essential and also played an important role in eliciting accurate responses from the respondents throughout the investigation. Keeping this in view prior to the collection of data, rapport building was done and information was collected. Data on socio-economic and psychological factors were collected through informal and friendly visits to the farmers' homes and farms in the early hours of the day and were subjected to statistical analysis.

RESULTS AND DISCUSSION

Socio-economic factors of dairy farmers

The socio-economic factors of dairy farmers were depicted in the Table 1. It revealed that, among the respondents, majority belonged to the middle age group (58.00%), indicating more of middle aged farmers taking up dairying as income generating activity as they possessed more physical vigour and could shoulder more family responsibilities. Middle age is considered as the productive earning period in the life of an individual whereas younger generation is more exposed to diverse occupations and is moving towards cities/towns. The results were in line with the findings of Rathod *et al*[14]., and Rajput *et al*[12]. The result of this study was contrasting with the findings of Vidya *et al*[18]., who reported prominence of old age group in dairying in their study. The results revealed that, majority (94.00%) of the respondents are male indicating that males in the family are decision makers and more cosmopolite in nature. These findings are well supported by the results of

Jagadeeswary *et al*[6]. In case of literacy, 87.50 per cent of the respondents were literates having education of different levels. This indicated that respondents had accessibility to education and realized its importance in decision making process. The findings of the study were in agreement with the findings of Mujahida and Aparna[9] who reported that, majority of the respondents had primary school education. Majority of the dairy owners (46.00%) belonged to high farming experience (more than 20 years) indicating that, most of the farmers continued the tradition of agriculture and animal husbandry as it provided stable and sustainable income. These findings are slightly different from those of Gupta *et al*[5]., who reported medium farm experience (10-14 years). It could be observed from Table 1 that, more than half (77.00%) of the livestock farmers lived in nuclear family and 38.33 per cent of the respondents had small family size, indicating the trend of fragmentation of large families in the social system. The findings of the present study were in consonance with the findings of Jagadeeswary *et al*[6].

Table 1: Distribution of dairy farmer based on the social characteristics (N =120)

Characteristics	Frequency	%
Age group		
Young (23-40)	15	13.00
Middle (40- 57)	70	58.00
Old (57-64)	35	29.00
Gender		
Male	113	94.00
Female	7	6.00
Education		
Illiterate (no formal education)	15	12.50
Primary school (1^{st}- 5^{th})	40	33.40
Middle school (6^{th} - 7^{th})	19	15.80
High school (8^{th} - 10^{th})	33	27.50
Higher secondary (11^{th} - 12^{th})	7	5.80
Graduation (U.G degree completion ,P.G.,Ph.D)	6	5.00
Experience in dairy farming		
Low (0-10)	15	12.50
Medium (11-20)	50	41.67
High (>20)	55	45.83
Family type		
Joint	28	23.00
Nuclear	92	77.00
Family size		
Small (2-5)	46	38.33
Medium (6-9)	62	51.67
Large (10-13)	12	10.00
Occupation		
Animal husbandry only	2	2.00
Animal husbandry and Agriculture	112	93.00
Animal husbandry and Others	6	5.00
Exposure to training		
Yes	0	0.00
No	120	100.00
Information seeking behaviour		
Low (45-50)	25	21.00
Medium (51-55)	85	71.00
High (56-60)	10	8.00
Fodder grown		
Grown	70	58.00
Not grown	50	42.00

The data furnished in Table 1, indicated that majority (93.00%) of the respondents had Agriculture and animal husbandry as their main occupation. This could be attributed to the fact that both the activities of agriculture and animal husbandry are interdependent and the respondents were convinced of the advantage of integrated farming system. These findings are in conformity with the findings of Gour[4] and Durgga[2]. It also revealed that, none of the farmers had any formal training with regard to dairying. It indicated lack of motivation among respondents in accessing the available formal training facilities. Contrary findings were reported by Saidur and Jancy[17] in their study area. Majority of the dairy farmers (71.00%) possessed medium information seeking behaviour, indicating a positive trend towards dairy enterprise. Similar finding were reported by Gour[4] and Khokhar[7]. Most of the respondents (58 %) were growing fodder for their cattle in their land holdings, indicating awareness among the dairy farmers on the importance of green fodder production and feeding. Sabapura *et al*., reported that more than 50 per cent of respondents utilized land for fodder production.

Economic characteristics of dairy farmers

The distribution of dairy farmers based on economic characteristics was depicted in Table 2. It revealed that, majority of the respondents (89.00%) were marginal farmers indicating fragmentation of land holdings. These findings were well comparable with the findings of Rathod *et al*[14]., who revealed that majority of the dairy farmers possessed medium land holding but contrary to the findings reported by Mande and Thombre[8] who reported that majority (28.33%) had semi medium land holding in their study area. The results were in consonance with the findings of Sabapara *et al*[16]., who reported from their study that more than 50 per cent of the respondents utilized land for fodder production whereas the findings of Jagadeeswary *et al*[6]., were contrary with the present findings, who reported that none of the farmers cultivated fodder. The result indicated that, majority (50.00%) of the respondents had income below 1,50,000 rupees per year. Since the study was conducted in rain fed agriculture area and majority of the respondents had marginal land holdings, they could harvest only one crop a year and consequently their annual income was low. The results were in line with the findings of Jagadeeswary *et al*[6]., who reported low annual income of dairy farmers in their study area. Contrary findings were reported by Mande and Thombre[8] who reported medium annual income in their study area. Majority (87.5%) of the respondents possessed small and medium crossbred cattle possession. Since the livestock rearing is a labour intensive enterprise and the availability of labour force within and outside the family was meager, the above trend was observed. Gami *et al*[3]., reported similar findings whereas the findings of Nishi *et al*[10]., reported that, majority of the respondents had medium crossbred cattle possession. Most of the dairy owners (60.00%) had not sought any financial assistance from the financial institutions indicating lack of motivation in expanding their enterprise.

Table 2: Distribution of dairy farmers based on economic characteristics (N =120)

Characteristics	Frequency	Percentage (%)
Land holding		
Landless farmer (no land)	5	4.00
Marginal farmer (below 1 ha)	107	89.00
Small farmer (1 -2 ha)	6	5.00
Semi medium farmer (2-4 ha)	2	2.00
Medium farmer (4-10 ha)	0	0.00
Large farmer (more than 10 ha)	0	0.00
Annual income		
Low (50,000-1,50,000)	63	50.00
Medium (1,50,000-2,50,000)	37	33.00
High (2,50,000-3,50,000)	20	17.00
Crossbred cattle possession		
Low (1-5)	45	37.5
Medium (5-9)	60	50.00
High (9-13)	15	12.50
Financial assistance		
Yes	48	40.00
No	72	60.00

Psychological characteristics of dairy farmers

The distribution of dairy farmers based on psychological characteristics was depicted in the Table 3. The table indicated that majority (69.00%) of the respondents had medium economic motivation, as dairy farming provided assured and regular source of income. Vranda[19] observed contrary findings of high economic motivation whereas similar findings were reported by Vidya *et al*[18]. The result clearly showed that, majority (60.00%) of the farmers had medium risk orientation indicating that, the respondents could be motivated by extension agencies for further expansion of their dairy enterprise. The results of the study are in line with the results of Ranuji[13], but contrary to the findings of Ravikumar *et al*[15]., who reported high level of risk orientation in their study area.

Table 3: Distribution of dairy farmers based on psychological characteristics (N =120)

Characteristics	Frequency	Percentage (%)
Economic motivation		
Low (23-25)	28	23.00
Medium (26-28)	83	69.00
High (29-31)	9	8.00
Risk orientation		
Low (9-15)	8	7.00
Medium (16-21)	72	60.00
High (22-27)	40	33.00

Days open: The distribution of crossbred cattle based on days open was depicted in Table 4. From the table, it revealed that, majority (52.00 %) of the animals had medium days open (147-207) followed by low (28%) and high (20%) days open.

Table 4: Distribution of crossbred cattle based on days open

Sl. No	Category	Frequency	Percentage (%)
1	Low (86-146)	34	28
2	Medium (147-207)	62	52
3	High (208-268)	24	20

Relationship between socio-economic and psychological characteristics with days open

A perusal of the Table 5 revealed that, among the socio economic variables crossbred cattle possession (0.269), annual income (0.2302), family size (0.2256), education (0.2111), land holding (0.194), family type (0.1903) and economic motivation (0.1612) had a significant correlation to the days open. Family size and family type had a positive relationship indicating that increase in size of the family will ensure availability of man power for managemental activities. Education had a significant correlation indicating the advantage of having higher knowledge. Dairy farmers with large holding may be having land availability for growing fodders ensuring availability of fodder throughout the year.

Table 5: Relationship of socioeconomic and psychological characteristics with days open (N =120)

Sl. No	Variables	Pearson's r value
1	Age	-0.1047^{ns}
2	Gender	0.01299^{ns}
3	Education	0.2111*
4	Family Type	0.1903*
5	Family Size	0.2256**
6	Occupation	-0.05284^{ns}
7	Land Holding	0.194*
9	Annual Income	0.2302**
10	Crossbred Cattle possession	0.2690**
11	Information Seeking Behaviour	-0.1441^{ns}
12	Economic Motivation	0.1612*
13	Risk Orientation	-0.2651**

* denotes extent of significance, ns-non significant

CONCLUSION

The present study on relationship between socio-economic and psychological characteristics of dairy farmers with days open in Bengaluru rural district revealed that, majority of the respondents in the present study were male (94.00%), middle aged (58.00%), with most (87.50%) of them literates. More than half of the respondents lived in nuclear family (77.00%) with medium size family (51.67%). Respondents were having high farming experience (46.00%) but had no exposure to formal training. Animal husbandry & Agriculture (93.00%) was found to be their occupation and 50 per cent had low annual income and were marginal land holders (89.00%). Majority (58.00%) of the respondents were not growing any fodder and had medium livestock possession (50.00%) and with 40 per cent securing financial assistance. Majority (69.00%) of the respondents had medium economic motivation, risk orientation (60.00) and information seeking behaviour (71.00%). Among the socio economic variables of the respondents viz. family size, family type, annual income, economic motivation, land holding and education had a positive and significant correlation to the days open in dairy cattle which indicated socioeconomic characteristics had significant impact on adoption of scientific practices. Younger generation farmers have to take interest in dairy activity, for which suitable extension strategies should be developed. Knowledge building activities like meetings, discussions, mass media, etc. are to be planned and conducted by extension agencies to increase knowledge and thereby adoption of recommended practices. Training programmes on improved management practices will help the farmers to overcome certain management problems like heat stress, infections etc. Adoption of suitable and scientific managemental strategies for cattle farming will substantially help in increase of production as well as income generation.

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