

## SOCIO-ECONOMIC AND PSYCHOLOGICAL CHARACTERISTICS OF DAIRY CONTRACT FARMERS

S. R. KALAIVANI, K. M. SAKTHIVEL<sup>\*1</sup>, N. NARMATHA,  
D. THIRUNAVUKKARASU AND V. UMA

*Department of Veterinary and Animal Husbandry Extension Education  
Tamil Nadu Veterinary and Animal Sciences University  
Chennai -600 005, Tamil Nadu*

With the increased participation of private players in milk procurement in the form of contractual arrangement, a study was undertaken to know the socio-economic and psychological characteristics of 120 dairy contract farmers in Namakkal district of Tamil Nadu. The ex-post facto design research design was employed for the study and the data were collected from December 2014 to March 2015. The study revealed that majority of dairy contract farmers were male, marginal farmers, belonged to old age and low income group. Majority of the respondents were from nuclear family and had family size of up to 5 members. More than half of the family members of the respondents belonged to medium education and had crop farming plus dairy farming as their occupation. More than half of the respondents had medium level of dairy farming experience and had upto 3 years of contract farming experience. More than half of the respondents were member in one social organisation and had low level of extension agency contact. More than two-third (69.17 %) of the respondents produced and sold milk up to 20 litres and vast majority (90.83 %) of the respondents family consumed up to 2 litres of milk. More than half of the respondents belonged to high level of cosmopolitaness (52.50 %), risk orientation (60.00 %) and scientific orientation (79.17 %) categories. These characteristics of farmers should be considered while organizing extension programmes for contract dairy farmers.

**Key words:** Dairy contract farmers and contract dairy farming, Socio-economic and psychological characteristics

Seven million farm families are the major stakeholders in milk production in India. They account for 146.3 million tonnes of milk during 2014-15. Though India has emerged as the largest milk producer in the world but only 20 % of its milk production

is being processed by the organized sector (Rajendran and Mohanty, 2004). Until 2002, cooperatives were the dominant players in milk procurement in the organized sector. With liberalization of the dairy industry, private sector participation in milk

---

\*Corresponding Author

<sup>1</sup>Veterinary College and Research Institute, Orathanadu

procurement has increased through contract farming. The shortcomings of the cooperative system were converted into advantages in the dairy contract system. This was essential to face the competition from the cooperatives and facilitated the contract system to retain farmers (Thirunavukkarasu and Sudeepkumar, 2005).

In contract dairy farming, the contract firm offers compulsory market outlet for milk, with or without the supply of intermediate inputs, veterinary and extension services and milking service for the dairy farmers through the collection centre or agent (Ponnusamy and Walli, 2007). Every dairy farmer is not inclined towards contract dairy farming. Those farmers who come forward to get involved in dairy farming are mostly risk takers, cosmopolitan and progressive in nature. It will be worthwhile to understand the characteristics of these farmers in order to promote commercial outlook among them. Keeping these things in mind, a study was undertaken to assess the socio-economic and psychological characteristics of dairy contract farmers in Namakkal district of Tamil Nadu.

## **MATERIALS AND METHODS**

The study was conducted purposively in 'Namakkal' district of Tamil Nadu as Namakkal is one of leading milk production district in the state. Namakkal district consists of six taluks viz., Namakkal, Tiruchengode, Rasipuram, ParamathiVelur, Komarapalayam and Kollihills. Out of six

taluks, Namakkal taluk was selected, as it has more number of private dairies with highest volume of milk procurement. Namakkal taluk consists of five blocks viz., Namakkal, Puduchatram, Sendamangalam, Erumapatti and Mohanur. Out of five blocks, four blocks namely Puduchatram, Sendamangalam, Erumapatti and Mohanur were selected excluding Namakkal block since it is more urban in nature. The ex-post facto design research design was employed for the study since the variables chosen have already occurred and the data were collected from December 2014 to March 2015. Private milk procurement agencies which were operating in these four blocks of Namakkal taluk were listed out. From the list, 30 respondents from each block were randomly selected as sample thus constituting the total sample size of 120 for the study. An interview schedule was prepared by listing out the socio-economic and psychological characteristics in consultation with subject matter specialists, progressive farmers and from literature sources. In the present study, herd size was arrived by taking the number of milch animal per household at the time of investigation and the scoring procedure suggested by Ensminger (1980) was used. Frequency and percentages were used to interpret the data.

## **RESULTS**

The socio-economic and psychological characteristics of dairy contract farmers are depicted in Table 1.

**Table 1. Socio-economic and psychological characteristics of dairy contract farmers**

Sl No	Variable	Category	Frequency	Percentage
1	Age (in years)	Young (Upto 35 years)	5	4.17
		Middle (36 -50 years)	68	56.67
		Old (above 50 years)	47	39.16
2	Sex	Male	91	75.83
		Female	29	24.17
3	Education	Illiterate	14	11.67
		Functionally literate	13	10.83
		Secondary education	26	21.67
		Collegiate education	12	10.00
4	Family education status	Low (1-2.67)	18	15.0
		Medium (2.68-4.34)	61	50.8
		High (4.35-6)	41	34.2
5	Family type	Nuclear	89	74.17
		Joint	31	25.83
6	Family size	Upto 5 Members	104	86.67
		More than 5 Members	16	13.33
7	Land holding	Landless	13	10.83
		Upto 2.5 acres	60	50.00
		2.51 to 5.0 acres	35	29.17
		More than 5 acres	12	10.00
8	Occupation	Dairy alone	1	0.83
		Dairy+crop farming	67	55.83
		Dairy+crop farming +others	52	43.33
9	Annual income (Rs)	Low (1-2.6 Lakh)	92	76.67
		Medium (2.7-4.3 Lakh)	24	20.00
		High (4.4-6 Lakh)	4	3.33
10	Herd size	Low (1-8.2 cattle unit)	104	86.67
		Medium (8.3-15.4 cattle unit)	13	10.83
		High (15.5-22.6 cattle unit)	3	2.50
11	Dairy farming experience (Years)	Low (Upto years 10)	9	7.50
		Medium(11-20 years)	66	55.00
		High (More than 20 years)	45	37.50
12	Contract farming experience	Upto 3 years	72	60.00
		4-5 years	33	27.50
		Above 5 years	15	12.50

**Table 1. Socio-economic and psychological characteristics of dairy contract farmers (Contd..)**

Sl No	Variable	Category	Frequency	Percentage
13	Milk production	Up to 20 Litres	83	69.17
		21-40 Litres	24	20.00
		41-60 Litres	9	7.50
		Above 60 Litres	4	3.33
14	Milk sale	Up to 20 Litres	83	69.17
		21-40 Litres	24	20.00
		41-60 Litres	9	7.50
		Above 60 Litres	4	3.33
15	Material possession	Television	120	100.00
		Two-wheeler	119	99.17
		Four-wheeler	31	25.83
		Milking machine	0	0.00
		Chaff cutter	15	12.50
		Brush cutter	4	3.33
16	Social participation	No membership	40	33.33
		Member in one organisation	67	55.83
		Member in more than one organisation	13	10.83
		Office bearer in any organisation	0	0
17	Extension participation	Group meetings	23	19.16
		Demonstrations	0	0
		Field visits	0	0
		Trainings	26	21.67
		Exhibitions	0	0
18	Extension agency contact	Low	64	53.34
		Medium	49	40.83
		High	7	5.83
19	Mass media exposure	Low	30	25.00
		Medium	55	45.83
		High	35	29.17
20	Cosmopolitaness	Low	23	19.17
		medium	34	28.33
		High	63	52.50
21	Risk orientation	Low	4	3.33
		Medium	44	36.67
		High	72	60.00
22	Scientific orientation	Low	16	13.33
		Medium	9	7.50
		High	95	79.17

**Age:** The age of respondents ranged from 28 to 75 years and the average age was 49 years. The data in Table 1 reveals that that 39.16 % of the dairy contract farmers belonged to old age group (above 50 years), while 56.67 % of them were in middle age group (36-50 years) and only 4.17 % were in young age group (upto 35 years).

**Sex:** It could be depicted from Table 1 that three-fourth (75.83 %) of the respondents was male and the remaining 24.17 % were female.

**Education:** About one-third (35.83 %) of the respondents had middle school education, 21.67 % had secondary school education, while 11.67 % were illiterates, 10.83 % were functionally illiterates and an equal proportion (10.00 %) had primary school and collegiate education.

**Family education status:** About half (50.80 %) of the respondents family members belonged to medium education category followed by high (34.20 %) and low (15.00 %) education categories.

**Family type:** Nearly three-fourth (74.17 %) of the respondents was from nuclear family, while the rest 25.83 % were from joint family. This finding derives support from the findings of Sathyanarayan *et al.* (2010).

**Family size:** Majority (86.67 %) of the respondents had up to five members in their family whereas the remaining 13.33% had more than five members in their family.

**Land holding:** About half (50.00 %) of the respondents were marginal farmers followed by small (29.17 %), landless (10.83 %) and large (10.00 %) farmers. This finding derives support from the finding of Rathod *et al.* (2011).

**Occupation:** More than half (55.84 %) of the respondents had crop farming plus dairy farming as their occupation, 43.33% had crop farming plus dairy farming and others as their occupation and a negligible 0.83 % had dairy farming alone as their occupation.

**Annual income:** More than three-fourth (76.67 %) of the respondents belonged to low income category (1-2.6 lakhs) followed by medium (20.00 %) and high (3.33 %) income categories with 2.6-4.3 lakhs and above 4.3 lakhs of annual income respectively. This finding is in line with the finding of Rathod *et al.* (2011)

**Herd size:** Majority (86.67 %) of the respondents had small herd size followed by medium (10.83 %) and large (2.50 %) herd size. This derives support from the findings of Mande and Thombre (2009).

**Dairy farming experience:** About 55.00% of the respondents had medium level (11-20 years) of experience, whereas 37.50% and 7.50 % had high (more than 20 years) and low (up to 10 years) levels of experience respectively.

**Contract farming experience:** About three-fifth (60.00 %) of the respondents had up to 3 years of experience in contract farming followed by 4 to 5 years (27.50%) and above 5 years (12.50 %) of experience in contract farming.

**Milk production:** More than two-third (69.17 %) of the respondents produced up to 20 litres of milk followed by 20.1-40 litres (20.00 %), 40.1-60 litres (7.50 %) and above 60 litres (3.33 %) of milk. The results are in line with the finding of Sathyanarayan *et al.* (2010).

**Milk sale:** More than two-third (69.17 %) of the respondents sold milk up to 20 litres followed by 20.1-40 litres (21.67 %), 40.1-60 litres (5.83 %) and above 60 litres (3.33%).

**Material possession:** Cent per cent of the respondents had television and vast majority (99.17 %) had two-wheeler. More than one-fourth (25.83%) had four-wheeler, 12.50 % possessed chaff cutter, 3.30 % possessed brush cutter and none of the respondents possessed milking machine.

**Social participation:** More than half (55.84 %) of the respondents were member in one organisation, one-third (33.33 %) of respondents were not member in any organisation and 10.83 % of them were members in more than one organisation. None of them were office bearers in any organisation. This result is line with the finding of Gopi (2012).

**Extension participation:** The study revealed that 21.67 % of the respondents participated in training programmes and 19.16 % participated in group meetings. None of the respondents participated in demonstrations, field visits and exhibitions.

**Extension agency contact:** About 53.34 % of the respondents had low level of extension agency contact followed by medium (40.83 %) and high (5.83 %) levels of extension agency contact. This finding derives support from the findings of Singh and Dalal (2006).

**Mass media exposure:** About 45.83 % of the respondents had medium mass media exposure followed by high (29.17 %) and low (25.00 %) mass media exposure. This

result is in line with the finding of Vidya *et al.* (2009).

**Cosmopoliteness:** More than half (52.50 %) of the respondents belonged to high cosmopoliteness category followed by 28.33 % and 19.17 % in medium and low cosmopoliteness categories respectively. The result is in accordance with the finding of Gopi (2012).

**Risk orientation :** Nearly two-third (60.00%) of the respondents possessed high level of risk orientation followed by medium (36.67 %) and low (3.33 %) levels of risk orientation. This result is in line with finding of Kumar *et al.* (2013).

**Scientific orientation:** It is clearly noted that more than three-fourth (79.17 %) of the respondents possessed high level of scientific orientation followed by low (13.33 %) and medium (7.50 %) levels of scientific orientation.

## DISCUSSION

The adoption of new technologies depends not only on the perceived attributes of technologies but also on the socio-economic and psychological characteristics of the farmers to an extent. In the present study, majority of dairy contract farmers were male, marginal farmers and belonged to middle and old age group. Regarding the sex of the respondents, it is quite interesting to note that most of the activities in animal husbandry were carried out by the women but the responses given by female respondents in the study were only 24.00 %. Even though the women are taking care of most of the animal husbandry activities, the ownership of productive capital and information shared

with outsider is mostly by men in Indian culture and this might be the reason for more number of male respondents. Middle and old age group of the respondents reflect the withdrawal of youth from dairy farming activities and this might be attributed to absorption of youth in non-farm sector like transport, construction, etc. in and around the study area.

Dairy farming activities are predominantly noticed among the farmers who have maximum of secondary level education and less participation among collegiate, might be attributed to shift of farmers from farming to non-farm sector. Further, middle and young age people move out for employment in non-farm sector and they settle their life in the work place itself which could be the possible reasons for more number of nuclear families. Nuclear type of family is the current trend in India as reflected in the study area.

The landholding pattern of the dairy contract farmers reflects the national scenario wherein majority of the farmers belonged to small and marginal category. Crop farming does not provide steady income throughout the year due to its seasonal nature of enterprise. Hence, the respondents pursued dairy farming as a subsidiary occupation (Thirunavukkarasu and Sudeepkumar, 2006). Majority of the dairy farmers are marginal farmers and they receive meagre income from crop farming and other sources. This might be the reason for low level of annual income. The respondents informed that they mostly used family labour for crop and dairy farming activities and this prompted them to maintain small herd size.

Most of the respondents were in middle age and they were having dairying along with crop farming as traditional occupation and this might be the reason for high level of experience in dairy farming. Contract farming in dairying is getting prominence in the recent past, due to which majority of respondents were having less than three years of experience in dairy contract farming. Small herd size might be attributed for low level of milk production while low level of milk consumption might be due to small family size. The respondents reported that use of milking machine for small herd size is not economical and this might be the reason for absence of milking machine in the study area. Dairy cattle being one of the major livestock reared by the respondents, most of them would have become members of dairy co-operatives to avail the service of this institution. This might be the reason for more number of respondents having membership in one organisation.

Most of the respondents are marginal and small farmers, utilising family labour for their farming activities, so they were not getting enough opportunities and spare time for participating in extension programmes like exhibitions, field trips and demonstrations. The respondents opined that they contact the extension officials only when there is an emergency, which might be the reason for low level of extension agency contact (Ponnusamy *et al.*, 2017). All the respondents were getting regular information through television programmes and fellow progressive farmers at milk collection centre which might be the

rationale for high cosmopolitanness. The high level of risk taking ability of the farmers would have motivated them to enter into contract farming system. Experience and risk taking ability of the respondents

play major roles in developing scientific attitude towards dairy farming. These characteristics of farmers need should be considered while organizing extension programmes for contract dairy farmers.

## REFERENCES

- Ensminger ME, 1980. Dairy cattle science. 3rd ed., Interstate publishers Inc. Illinois
- Gopi R, 2012. Information dynamics in transfer of dairy farming technologies. Unpublished M.V.Sc thesis. Tamil Nadu Veterinary and Animal Sciences University, Chennai
- Kumar RS, Rangasamy M, Mohammed, A and Jaisridhar P, 2013. Marketing behaviour of dairy farmers in Tamilnadu. J Global Communi, 6(1): 19-23
- Mande JV and Thombre BM, 2009. Adoption of cattle rearing practices by dairy cattle owners in Latur district. J Dairy Foods Home Sci, 28(3&4): 176-180
- Ponnusamy K and Walli TK, 2007. Contract dairy farming versus dairy cooperatives-relative strengths and weaknesses. Indian Dairyman, 59 (4): 53-60
- Ponnusamy K, Chauhan AK and Meena S, 2017. Testing the effectiveness of Pasu Sakhi: An innovation for resource poor farm women in Rajasthan. Indian J Anim Sci, 87 (2): 229-233
- Rajendran K and Mohanty S, 2004. Dairy co-operatives and milk marketing in India: constraints and opportunities. J Food Distrib Res, 35(2)
- <http://ageconsearch.umn.edu/bitstream/27233/1/35020034.pdf>
- Rathod PK, Landge S, Nikam TR and Vajreshwari S, 2011. Socio-personal profile and constraints of dairy farmers. Karnataka J Agricult Sci, 24(4): 619-621
- Sathyanarayan K, Jagadeeswary V, Murthy VC, Ruban SW and Sudha G, 2010. Socio economic status of livestock farmers of Narasapura village - a benchmark analysis. Vet World, 3(5): 215-218
- Singh SP and Dalal RS, 2006. Extension contact and mass media exposure among buffalo owners. Indian J Dairy Sci, 59(3): 191-195
- Thirunavukkarasu D and Sudeepkumar NK, 2005. Milk marketing options for the dairy farmers in open economy and their choice in Tamil Nadu, India. Livest Res Rural Dev, 17(8)
- Thirunavukkarasu D and Sudeepkumar NK, 2006. Comparative profile of milk producers in different marketing systems. J Rural Dev, 1(25): 49-65
- Vidya P, Manivannan C and Sudeepkumar NK, 2009. Situational and psychological profile of dairy farmers of Kannur district of Kerala. J Vet Anim Sci, 40: 37-39