



ISSN (E): 2277-7695  
ISSN (P): 2349-8242  
NAAS Rating: 5.23  
TPI 2023; 12(5): 2644-2647  
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Received: 08-03-2023

Accepted: 16-04-2023

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## An analysis of the socio-economic profile of dairy farmers feeding mineral mixture

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### Abstract

One of the most crucial components is feeding the animals, which accounts for 60 to 70 percent of the entire cost of dairy farming. An important additive in animal feed to meet the animal's need for minerals is mineral mixture. The minerals are essential for many metabolic processes that impact growth, feed conversion efficiency, immunity, and reproduction.

A study related to the socio-economic profile of dairy farmers practicing feeding of mineral mixture was conducted on 200 dairy farmers in Hisar district of Haryana. The data was collected personally through structured interview schedule. Results of the study revealed that majority of the respondents were middle aged, had medium annual income, low formal education, belonged to joint family system, raising medium herd size, medium level of milk production and low experience in dairy farming. Majority exhibited low social participation, medium level of extension contact, least participation in training, low mass media exposure, medium level of economic motivation, change proneness and scientism.

**Keywords:** Dairy farmers, feeding, mineral mixture and socio-economic profile

### Introduction

Feeding of livestock is the most important factor as it contributes 60 to 70 percent of the total cost of dairy farming. Given the shrinking amount of land accessible for the production of fodder, there is a notable strain from livestock on the overall amount of feed and fodder available. The nation has a net shortfall of 44 percent of concentrate feed ingredients, 10.95 percent of dry crop leftovers, and 35.60 percent of green fodder (Pandey, 2010) [8]. Balanced and nutritional feed plays an important role in any livestock development programme. The ideal expression of genetic potential for milk production in dairy cows depends on sufficient availability of nutrients. Supplementation with adequate amount of good quality mineral mixture in their ration is always needed to fulfil their daily needs. Requirement for minerals is determined by several factors including age, stage of pregnancy and stage of lactation. Adoption of feed and fodder related innovations is greatly influenced by the socio-economic profile of dairy farmers. Thus, it necessitates studying the socio-economic profile of dairy farmers.

### Materials and Methods

The present study was conducted in Hisar district of Haryana in 2021 to find out socio-economic profile of dairy farmers feeding mineral mixture. Hisar district consists of Nine Blocks. Five blocks were selected randomly for present study namely: Adampur, Agroha, Barwala, Hansi-I and Hisar-II. Two villages were selected randomly from each Block. Therefore, 10 villages were selected from the selected five Blocks of Hisar district of Haryana. Kamri and Satroad from Hisar I, Khedi Gagan and Dhanipal from Hansi I, Siswal and Mandi Adampur from Adampur, Agroha and Mirpur from Agroha, Bhaini-Badshapur and Nayagaon from Barwala were selected that had dairy farming as a component in their farming system. Basis of selection of dairy farmers was by lottery method. Therefore, 200 respondents were constituted the sample size of the study. The data were collected with the help of pre-tested interview schedule. Appropriate statistical tools like frequency, percentage, mean and standard deviation were used to analyze the data and same were interpreted to address the objective.

## Results and Discussion

### Age

It was found that majority (44.50%) of the respondents were middle aged followed by young (38.00%) and old (17.50%). Middle age is considered as productive time period in the life of an individual; moreover, younger generation is innovative in taking up dairy farming to new stature. Mean age found to be 41 years and observed range was 24 to 70 years indicating that the dairy farmers of all age groups were fairly represented in the study.

### Gender

It was found that fifty seven percent of respondents were female followed by male i.e. 43 percent. The equality relates to the rights, opportunities and worth of men and women to participate in different spheres of life. It indicates that women farmers play a major role in animal husbandry. Similar to the present observations Saha *et al.* (2010) [14] reported that majority in female group was involved in the dairy activities when compared to the male group.

### Educational qualification

Education in a society is a primary requirement for its socio-economic development. Formal education provides wide exposure to new technologies. The respondents had low formal education and majority (72.50%) of them were more or less educated up to high school level. Surprisingly, nearly one fourth of them were illiterate. More than half (57.00%) of the respondents were female. Similar to the present observations Sabapara *et al.*, (2016) [13] found that majority (37.00%) were illiterate followed by primary, (29.67%), secondary (28.33%) and above secondary up to college level (5.00%) respectively. Educational level was poor because respondents got generally involved themselves to agricultural sectors as compare to service sectors.

### Experience in dairy farming

A perusal of data in Table reveals that average experience of the dairy farmers in dairy farming was 2.18 years with wide range from more than 5- 10 years. Among the dairy farmers, majority (40.50%) of the respondents had high dairy farming experience (>10 years) while 36.50 percent of them had medium (5-10 years) and 23.00 percent had low (>5 years) dairy farming experience. In the overall analysis, majority (40.50%) of the dairy farmers had high experience in dairy farming, while 36.50 percent of them were in the medium and 23 percent had low experience in dairy farming. Further 40.50 percent of the total dairy farmers had more than 10 years of experience in dairy farming. Similar results were also reported by Gulkari *et al.*, (2014) [2].

### Family type

More than half the numbers (53.50%) of the respondents were having joint family system where as less than half (46.50%) belong to nuclear family. This indicates that dairy farming requires a team work and joint family system provide stability that is required for its sustainability. The results of Mane *et al.*, (2015) [6] is somewhat different to these findings. They observed that more than half of the farmers were of medium family size followed by small family size, while seventeen percent belonged to the category of large family size.

### Annual income

The average annual income of the respondents was Rs. 5.31 lakh. Majority (58.00%) of dairy farmers were in the medium

income category followed by low-income category (24.50%) and high-income category (17.50%). The results are contrary to findings of Prakash *et al.*, (2003) [10] and Khode *et al.* (2009) [5] who reported that about fifty percent of the farmers belonged to low income

### Herd size

Most of the respondents (44.50%) had medium herd size i.e., 3 to 5 animals, followed 32.50 percent who had large herd size (> 5), while 23 percent of them had small herd size (1-2). Similar to the present observations Mane *et al.*, (2015) [6] found that majority possessed medium herd size. This indicates that medium herd size is more conducive to the mixed farming system which is lifeline for livelihood in the present small land holding conditions.

### Total milk production per day

More than half (57.50%) of dairy farmers had medium level of milk production (10-12 kg) per day followed by Twenty three percent of dairy farmers who had high level of milk production (> 22Kg). This is an indicator that livestock play vital role not only in fulfilling the nutritional requirement of family but as a source of income also. Contrary to this Khode *et al.*, (2017) [4] reported that majority (51.25%) of the respondents had low milk production followed by medium (27.50%), whereas 21.25 percent respondents produced daily milk production more than 5 litres of milk per day.

### Social participation

Majority (88.00%) of the respondents had no participation in different organisation. However, twelve percent of the respondents were having social participation in one or more organizations. The respondents in general exhibited poor social participation indicating that mutual exchange of information among peer groups may have limited improvement scope. Similar results were also reported by Mane *et al.*, (2015) [6] that majority of farmers had medium, followed by low and high level of social participation and use of source of information. It is fact that source of information will have positive impact on knowledge of dairy farmers. Saha *et al.*, (2010) [14] also reported in their study that about 70 percent of the farmers were not linked with any social institutions.

### Training

It was observed that majority (90.00%) of the respondents had not attended training regarding animal husbandry practices, whereas 10 percent of the respondents attended training on dairy farming. It was also found that out of 114 females only 12 attended training programmes. It is evident that participation of dairy farmers in training programmes is very less. It implies that sincere efforts are required to provide need-based training programmes which will help in adopting new technologies for improving productive and reproductive performance of their dairy animals. Similar to the present observations Sarita *et al.*, (2017) [15] majority of the respondents (97.20%) had no training participation while minority (2.80%) had participation in training.

### Extension Contact

It is evident from the Table that less than half the number (47.00%) respondents were having medium level (4-7) of extension contact, whereas 40 percent of dairy farmers had

low level (>3) of extension contact. Only 13 percent respondents had high (>7) extension contact. It reflects that dairy farmers had very low extension contact which is not a healthy indicator of all-round development. The findings of the study are in conformity to that of Raju *et al.*, (2005) [11]. Prasad (2013) [9] reported medium level (63.33%) of channels of information followed by high (19.17%) and low (17.50%). Sarita *et al.*, (2017) [15] revealed that majority of dairy farmers were having low extension contact as well as low level of mass media exposure.

### Mass media exposure

It refers to the exposure and use of different mass media for getting information by the respondents. About 70 percent of the respondents were having low to medium level of mass media exposure. This is an indicator that majority exhibited low mass media exposure. Meena *et al.*, (2009) [7] established that to enable the farmers for gaining knowledge on scientific feeding practices of dairy animals, it is necessary to upsurge the risk-taking ability, favorable attitude towards dairy farming, mass media exposure and source of information organizing campaigns, field day, demonstration, exhibitions, Kisan Gosthi, Kisan Mela, extension talk etc. for up-to-date knowledge on scientific feeding practices of dairy animals.

### Economic motivation

The information in Table depicts that majority (53.50%) of the respondents belonged to medium level of economic motivation, whereas 29 percent of them had low level of economic motivation and only 17.50 percent of the total were found to have high level of economic motivation. The reason behind medium and low economic motivation may be that due to low economic back ground coupled with small and marginal land holdings and costly inputs. Dairying is considered as a means of supplementary income and contribution in balance diet of the family. Sarita *et al.*, (2017) [15] also revealed that maximum numbers of respondents (74.80%) were found to have medium level of economic

motivation. On the contrary, it is essential that farmers need to be oriented towards dairy farming as a viable economic activity as majority of their income is derived from this sector which in turn is responsible for their economic upliftment. Rathod *et al.*, (2011) [12] found that 72 percent of the dairy farmers had medium economic orientation followed by 16 percent farmers in high economic orientation category. This finding is also in conformity with the findings reported by Vidya *et al.*, (2009) [16]. Kacharo (2007) [3] conducted a study in Ethiopia and observed that majority of the women dairy farmers (63.80%) were having low economic motivation.

### Change proneness

The information in Table depicts that 38.50 percent of the respondents had medium level of change proneness whereas 38 percent of them had high level of change proneness. Only 23.50 percent were found to have low level of change proneness. This is the positive point that three-fourths respondents had medium to high change proneness. Similar to this Sarita *et al.*, (2017) [15] also noticed that maximum numbers of respondents (68.40%) were found to have medium level of change proneness followed by low (19.60%) and high (12.00%) level of change proneness. The findings are also in accordance with that of Durgga (2009) [1] who reported that nearly two-third (65.00%) of the dairy farmers had medium innovation proneness.

### Scientism

The information presented in Table depicts that majority (55.00%) of the respondents belonged to low level of scientism whereas 45 percent of them had high level of scientism. Overall analysis also revealed that majority (45%) of respondents were found to have low level followed by high level of scientism. Low literacy rate may be the reason behind this as one fourth respondents were illiterate. Moreover, this may be an indicator that farmers are taking up the dairy farming as a source of balanced diet supplement and income source.

**Table 1: Socio-economic profile of respondents**

Sr. No	Variables	Mean & SD	Frequency	Percentage	
1	Age	Mean = 40.89 SD = 10.49	Young (< 35)	76	38.00
			Middle age (35-51)	89	44.50
			Old age (>51)	35	17.50
2	Gender	Mean = 1.50 SD = 0.50	Male	86	43.00
			Female	114	57.00
3	Educational Qualification	Mean = 1.89 SD = 1.45	Illiterate (0)	55	27.50
			Primary (1)	25	12.50
			Middle (2)	39	19.50
			High school and Sec. (3)	50	25.00
			Graduate and above (4)	31	15.50
4	Experience in dairy farming	Mean = 2.18 SD = 0.78	Low (<5 yrs.)	46	23.00
			Medium (5-10 yrs.)	73	36.50
			High (>10 yrs.)	81	40.50
5	Family type	Mean = 1.54 SD = 0.50	Nuclear (1)	93	46.50
			Joint (2)	107	53.50
6	Annual income	Mean = 5.31 SD = 3.49	Low (< 3)	49	24.50
			Medium (3-8)	116	58.00
			High (>8)	35	17.50
7	Herd size	Mean = 2.10 SD = 0.74	Small (1-2)	46	23.00
			Medium (3-5)	89	44.50
			Large (>5)	65	32.50
8	Total milk production / day	Mean = 16.21 SD = 7.01	Low (<9)	39	19.50
			Medium (9- 22)	115	57.50

			High (>22)	46	23.00
9	Social participation	Mean = 0.26 SD = 0.78	Low (0)	176	88.00
			High (>1)	24	12.00
10	Training	Mean =0.10 SD =0.30	Not attended (0)	180	90.00
			Attended (1)	20	10.00
11	Extension contact	Mean =4.47 SD =2.07	Low (>3)	80	40.00
			Medium (3-7)	94	47.00
			High (> 7)	26	13.00
12	Mass media Exposure	Mean =4.88 SD =2.32	Low (<3)	61	30.50
			Medium (3-7)	94	47.00
			High (>7)	45	22.50
13	Economic Motivation	Mean = 21.75 SD = 4.67	Low (<17)	58	29.00
			Medium (17 - 25)	107	53.50
			High (>25)	35	17.50
14	Change proneness	Mean =12.94 SD =2.76	Low (<10)	47	23.50
			Medium (11- 13)	77	38.50
			High (>13)	76	38.00
15	Scientism	Mean =17.28 SD =5.23	Low (<18)	110	55.00
			High (>18)	90	45.00

### Conclusion

Majority of the respondents were middle aged, low formal education, one fourth of them were illiterate, hails from joint family system, raising medium herd size, least participation in training, had medium level of milk production and low experience in dairy farming. Majority exhibited low social participation, medium level of extension contacts, low mass media exposure, therefore it is suggested that dedicated mass campaign and focused extension efforts to promote mineral mixture feeding.

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