Original Research

Socio-Economic Status and Problems Faced by Dairy Farmers of Sardhana Block of Meerut District

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Rec. Date:	Jul 24, 2018 09:29
Accept Date:	Feb 08, 2019 16:26
DOI	10.5455/ijlr.20180724092907

Abstract

Socio-economic status is a measurement of economic and social position of an individual in the society. It influences the accessibility to the resources, livelihood pattern, food and nutritional security. The present study was conducted in Jhitkari, Chhabariya and Chandana villages of Sardhana block of Meerut district with the objectives to find out the socio-economic status and to identify problems faced by dairy farmers. The data was collected from 120 farmers, 40 from each village. The result indicated that majority of the farmers belonged to the age group 36-50 years; the agriculture along with dairying was their main occupation and education level of 78 percent of dairy farmers was above high school. The average annual income from animal husbandry and agriculture was Rs. 46,000/- and Rs.1, 33,000/-respectively; the average total annual income from all sources was Rs.1, 84,000/-. The problems identified in selected villages were lack of knowledge about modern technologies, unavailability of veterinarian/ para-vet, infertility in dairy animals, lack of agricultural market etc.

Key words: Agricultural Market, Dairying, Income, Infertility, Meerut, Socio-Economic Status

How to cite: Prasad, N., Kumar, S., Pande, M., Soni, Y., Saha, S., Chand, N., & Arya, S. (2019). Socio-economic Status and Problems Faced by Dairy Farmers of Sardhana Block of Meerut District. International Journal of Livestock Research, 9(4), 120-128. doi: 10.5455/ijlr.20180724092907

Introduction

Livestock plays an important role in Indian economy. About 20.5 million people depend upon livestock for their livelihood. Livestock provides livelihood to two-third of rural community. It also provides employment to about 8.8 per cent of the population in India. India has vast livestock resources. Livestock sector contributes 4.11 per cent GDP and 25.6 per cent of total agriculture GDP (19th Livestock Census, 2012). India's livestock sector is one of the largest in the world. Total livestock population in India is 512.05 million. Contribution of cattle is 190.9 million (37.28%) and buffalo is 108.7 million (21.23%). India is producing about 155.5 million tons of milk. India rank is first in milk production in the world (19th Livestock

Census, 2012). Socio-economic is a combined measurement of economic and social position of an individual compared to others in society. It influences the accessibility to the resources, livelihood pattern, food and nutritional security. Dairying is a secure path and future of our rural development and it can contribute substantially to farmer's income (Gangasagare and Karanjkar, 2009) but in order to improve the economic condition of dairy farmers, it is of utmost importance to know their prevailing status which will help in identifying the major technological problems being faced by them in dairy farming. High milk production can be achieved by providing good health and comfortable environment to the dairy animals. Thus, it was imperative to know the current scenario of dairy farming in these villages. In this context, a survey was conducted to find out the socio-economic status and to identify problems faced by dairy farmers in the villages.

Materials and Methods

For the selection of the districts, blocks, villages and ultimate sample respondents the multistage stratified random sampling technique was considered. The Meerut district was selected purposively. Thereafter, one block namely Sardhana was selected purposively from the selected district. In next stage, three villages viz. Jhitkari, Chhabariya and Chandana were selected purposively from the selected block. Selection criteria of villages was based on location and population of farming community, feasibility of regular follow-up, response of village Gram Pradhan and progressive farmers and perception and problems faced by the farmers pertaining to agriculture and livestock sector. Further, 40 respondents were selected randomly from each selected village, making a total of 120 respondents.

Fig.1: Geographical location of experimental station

A suitable interview schedule was developed for dairy farmers. The contents of interview schedule contained address of farmers, age, occupation, education, family size, farm size, material possession, herd size, milk production, annual income from animal husbandry, total annual income from all sources and

 DOI 10.5455/ijlr.20180724092907

major problems of farmers. All these selected variables were included in the schedule. The suitable indices were also developed for the measurement of variables**.** The scale developed by researchers was included in the schedule. The interview schedules, so developed, were pre-tested on similar respondents in non-sample area to work out their reliability and validity. The suitable modification was made in the schedules accordingly. With the help of interview schedule so developed, the data was collected from dairy farmers personally by the researcher at the convenient place and time. Some informal discussion pertaining to the study was carried out.

After collection of information, the classification and tabulation of data was done keeping in view the objectives of the study. The suitable statistical analysis of data using SPSS-16.0 software such as mean, standard deviation, frequency and percentages were applied to draw meaningful inferences.

Results and Discussion

Socio-Personal and Economic Profile of the Dairy Farmers

Age

Results in Table 1 revealed that most of the dairy farmers belonged to middle age group (53.33%) ranging from 36 to 50 years followed by old (40%) age group ranging above 50 years and only 6.67 per cent had young (up to 35 years) age group. The middle aged group farmers were enthusiastic and have more work efficiency to get involved in agricultural related livelihood activities for earning. Moreover, given that with the higher level of age, the experience in a particular field increase, more the age more is the experience in cattle rearing and hence more is the production of milk. They work with commitment and involvement. These might be the probable reasons for more number of the respondents to be found in the middle and old aged group. The findings were supported by Shanthamani (2007), Puspa *et al.* (2015) and Belakeri *et al.* (2017).

Table 1: Age (N=120)

Variable	Categories	Score range	Frequency	Percentage
Age (years)	Young	Up to 35	8	6.67
	Middle	36-50	64	53.33
	Old	Above 50	48	40
	Mean ± Std Dev		49.02 ± 10.56	
	Std Error		0.96	

Occupation

The results presented in Table 2 depicted that majority (80%) of dairy farmers had agriculture as their main occupation followed by dairying (9.17%), service (5.83%) and only 5 per cent had business as main occupation. The survey also reported that majority (79.16%) of dairy farmers had dairying as subsidiary occupation followed by business (10.84%), agriculture (10%) as subsidiary occupation and no dairy farmers

DOI 10.5455/ijlr.20180724092907

had service as subsidiary occupation. It is clear from the results that dairy farmers having agriculture, business and services as main occupation were undertaking the dairying as subsidiary occupation while dairy farmers having dairying as main occupation were having agriculture as subsidiary occupation. Similar findings were reported by Singh and Dubey (1978) and Kumar *et al.* (2015).

Table 2: Occupation (N=120)

Variable	Categories	Frequency	Percentage
Occupation (main)	Agriculture	96	80
	Dairying	11	9.17
	Business	6	5
	Services	7	5.83
Occupation (Subsidiary)	Agriculture	12	10
	Dairying	95	79.16
	Business	13	10.84
	Services	0	0

Education

The data in the Table 3 indicated that majority (37.50%) of dairy farmers had high school level of education followed by graduation and above (20.83%), intermediate (20%), middle school (17.50%) and 4.17 per cent had just primary schooling. None of the respondent in the selected villages was illiterate. Education of the farmers will be a foundation for adopting new technologies. A higher level of education provides the knowledge and easy understanding and acquiring of knowledge on the technique of cattle rearing and increasing milk production. The similar findings were reported by Parvathamma (2006) and Belakeri *et al.* (2017) which revealed that more number of farmers was educated up to high school level.

Table 3: Education (N=120)

Variable	Categories	Frequency	Percentage
Education	Illiterate	0	0
	Primary school	5	4.17
	Middle school	21	17.5
	High school	45	37.5
	Intermediate	24	20
	Graduate and above	25	20.83

Family Size

Results in Table 4 depicted that majority of dairy farmers had medium (53.33%) size families (5-10 members) followed by 45 per cent had small size (up to 5 members) and 1.67 per cent had large size (above 10 members) families. Similar findings were reported by Belakeri *et al.* (2017) and Sachan *et al.* (2018). The findings also supported by Tripathi and Kunwar (2015) who reported that majority of farm women were from medium (45.60%) sized families.

DOI 10.5455/ijlr.20180724092907

Table 4: Family size (N=120)

Variable	Categories	Frequency	Percentage
Family size	Small (Below 5)	54	45
	Medium (5-10)	64	53.33
	Large (Above 10)	2	1.67

Landholding

Results presented in Table 5 revealed that about half of the dairy farmers had large (above 6 acre) farm size followed by small (17.50%) farm size (2.1 to 4 acres) and16.67 per cent had marginal (up to 2 acres) and medium (4.1 to 6 acres) each as their land holding.

Table 5: Farm size (N=120)

Variable	Categories	Frequency	Percentage
Farm size/ Land holding (in acres)	Up to 2.0	20	16.67
	2.1-4.0	21	17.5
	4.1-6.0	20	16.67
	Above 6.0	59	49.16

Materials Possession

Survey data in Table 6 indicated that majority of dairy farmers had bullock cart (95%), tractor (68.33%), sprayer (65%) of materials possession followed by cultivator (12.50%) and leveller (6.67%).The raise in family income increases the possession of assets since man has no end to his needs and wants. If one need is fulfilled at the same time another need arises. The results of the study of Arunbabu (2005) and Hiremath (2007) were in conformity with the findings of the present study.

Table 6: Materials possession (N=120)

Variable	Categories	Frequency	Percentage
Materials possession	Bullock cart	114	95
	Leveller	8	6.67
	Seed drill	1	0.83
	Sprayer	78	65
	Cultivator	15	12.5
	Tractor	82	68.33

Herd Size

Results in Table 7 revealed that the majority (53.33%) of dairy farmers had small (up to 3 milch animals) herd size followed by medium (39.17%) herd size (4-6 milch animals) and only 7.5 per cent had large (above 6 milch animals) herd size. The similar findings were reported by Kumar (2005). However, Sachan *et al.* (2018) reported that majority (66.00%) of the respondents had medium (3-5 animals) herd size which was contrary to above findings.

DOI 10.5455/ijlr.20180724092907

Table 7: Herd size (N=120)

Variable	Categories	Frequency	Percentage
Herd size of milch animals	Small (Up to 3)	64	53.33
	Medium (4 – 6)	47	39.17
	Large (Above 6)	9	7.5

Milk Production

Results presented in Table 8 revealed that majority (75%) of dairy farmers had high (above 10 kg/day) milk production followed by medium (20.83%) milk production (5-10 kg/day) and only 4.17 per cent had low (upto 5 kg/day) milk production. These results were in conformity with the findings of Sathyanarayan *et al.* (2010).

Table 8: Milk production (N=120)

Variable	Categories	Frequency	Percentage
Milk Production	Up to 5	5	4.17
	5-10	25	20.83
(In kg/day)	Above 10	90	75

Annual Income from Animal Husbandry

It is clear from the Table 9 that most (65%) of the dairy farmers had medium annual income (Rs.13,000 to Rs.80,000) from animal husbandry followed by high (20%) annual income (above Rs. 80,000) and only 15 per cent had low (below Rs.13000) annual income from animal husbandry. Therefore, average annual income from animal husbandry was Rs.45970 ± Rs.33480.

Table 9: Annual income from animal husbandry (N=120)

Variable	Categories	Farmers (N=120)	
		Frequency	%
Annual Income from Animal Husbandry in Rupees (000)	Up to 13	18	15
	13 – 80	78	65
	Above 80	24	20
	Mean ± Std. Dev.	45.97±33.48	

Annual Income from Agriculture

The results in Table 10 revealed that more than 75 per cent of the dairy farmers had medium (Rs.39000 to Rs.226000) annual incomes from agriculture followed by high (above Rs.226000) annual income (14.17%) and only 10 per cent had low (up to Rs.39000) annual incomes from agriculture. Therefore, average annual income from agriculture was Rs.132850 ± Rs.93450.

DOI 10.5455/ijlr.20180724092907

Table 10: Annual income from agriculture

Variable	Categories	Farmers (N=120)	
		Frequency	Percentage
Annual income from Agriculture in Rupees (000)	Up to 39)	12	10
	39 – 226	91	75.83
	Above 226	17	14.17
	Mean ± Std. Dev.	132.85±93.45	

Total Annual Income of the Dairy Farmers from All Sources

The results presented in Table 11 depicted that most of the dairy farmers had medium (84.16%) total annual incomes (Rs.57000 to Rs.311000) from all sources followed by low (below Rs.57000) total annual incomes (8.34%) and only 7.50 per cent had high(above Rs.311000) total annual incomes from all sources. Therefore, average total annual income from all sources was Rs.183860 ± Rs.127450. Similar findings were observed by Lokhande (2009), Rani (2010), Prasad *et al.* (2017) and Sachan *et al.* (2018).

Table 11: Total annual income (N=120)

Variable	Categories	Farmers (N=120)	
		Frequency	%
Total Annual Income in Rupees (000)	below 57	10	8.34
	57 – 311	101	84.16
	Above 311	9	7.5
	Mean ± Std. Dev.	183.86±127.45	

Source of Water

The data in Table 12 revealed that more then 40 per cent of dairy farmers were use tube well and canal both as source of water followed by 30 per cent were use tube well and 28.33 per cent of dairy farmers were use canal as source of water. Water plays an important role in the human life. In the case of animals particularly cows, water is an essential item. The use of water starts from the cleaning the cows to feeding them. The quantum of water usage is also more than what is required for men. Hence, an understanding of the source of water becomes essential.

Table 12: Source of water used by dairy farmers

Variables	Categories	Farmers (N=120)	
		Frequency	Percentage
Source of water	Tube well	36	30
	Tube well & Canal both	50	41.67
	Canal	34	28.33

Problems Identified in Villages of Sardhana Block (N=120)

Results in Table 13 depicted that major problems identified in villages were lack of knowledge about modern technologies (96.67%), unavailability of veterinarian/para-vet (94.16%), unavailability of veterinary hospital/dispensary (94.16%), not getting the right price for crops/less income from agriculture

 DOI 10.5455/ijlr.20180724092907

(90%), infertility in milch animals (70%), lack of agricultural market (67.50%), disease in crops (58.33%), lack of agricultural insurance (35.83%) and unavailability of soil testing facility (25%).

Table 13: Major problems identified in villages (N=120)

S. No.	Problems of Dairy Farmers	Frequency	Percentage
1	Disease in crops	70	58.33
2	Lack of agricultural market	81	67.5
3	Infertility in milch animals	84	70
4	Lack of knowledge about modern technologies	116	96.67
5	Not getting the right price for crops/less income from agriculture	108	90
6	Unavailability of soil testing facility	30	25
7	Lack of agricultural insurance	43	35.83
8	Unavailability of Veterinary Hospital/dispensary	113	94.16
9	Unavailability of Veterinary Doctor/Livestock Assistant	113	94.16

Conclusion

Dairy farming is a source of income generation. Results of baseline survey revealed that the dairy farmers were mostly of the age group of below 50 years, most of dairy farmers had agriculture along with animal rearing as their main occupation, educational qualification up to high school and above, medium family size, above 6 acres of landholding, bullock cart and tractor as material possession, most of dairy farmers had up to 3 milch animals in their herd, above 10 kg/day milk production, Rs.100000 to Rs.441000 total annual incomes from all sources. Problems faced by dairy farmers in villages were lack of knowledge about modern technologies, unavailability of veterinary hospital/dispensary, infertility in milch animals, lack of agricultural market etc.

Acknowledgements

The authors are thankful to Division of Agricultural Extension, ICAR for Farmer-FIRST Project and Director, ICAR-Central Institute for Research on Cattle, Meerut for providing necessary facilities and financial support for conducting the study (Institute Project No. OXX03793).

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DOI 10.5455/ijlr.20180724092907