Extent of knowledge of improved animal husbandry practices and socio-economical characteristics of dairy farmers of district Kheda, Gujarat

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ABSTRACT

Dairying provides millions of small and marginal farmers and landless labourers means of their subsistence. Most of the rural farmers, who keep dairy animals, do not follow modern dairy management practices. There is an urgent need to sensitize the dairy farmers about the modern technologies and scientific interventions in dairy production, in order to enhance milk yield and milk quality from dairy animals. The present study was taken up in Matar taluka of Kheda district of middle Gujarat with the specific objectives to study the knowledge and socio-economic status of the dairy farmers in adoption of some improved animal husbandry practices. Majority of the dairy farmers belonged to middle age group, obtained secondary education, had membership of social organizations, had marginal land holdings and depended upon canal irrigation. Majority had big size family with more than five members, one earning member and engaged in agriculture and animal husbandry. Most of the dairy farmers had high level of knowledge regarding breed improvement, nutritional management, water management, improved animal husbandry practices of milking management and disease control practices. The study showed that dairy farmers of the Matar taluka possessed medium to high level of knowledge regarding improved animal husbandry practices.

Keywords: Knowledge, improved animal husbandry practices, socio-economic status, dairy farmers

INTRODUCTION

India is predominantly an agrarian society where animal husbandry forms the backbone of national economy. Dairying provides millions of small and marginal farmers and landless labourers means of their subsistence. Milch animals are reared mainly through the utilization of crop residues; the milk production is essentially a subsidiary activity in agriculture. Livestock contributes about 9 per cent of the total GDP which is over ¼ of the GDP from agriculture sector. The dairy sector today provides approximately 70.0 million families the triple benefits of nutritious food, supplementary income and productive employment. Gujarat had 13,141 dairy cooperative societies consisting of 27,16,000 dairy farmers. The unique characteristic of Indian dairy industry is that the bulk of milk production is handled by

small milk producers who are illiterate and unaware of economic aspects of milk production. Therefore, there is a need for poverty alleviation through dairying as enterprise. However, most of the rural farmers who keep dairy animals, do not follow modern dairy management practices, which have been evolved through considerable quantum of research work carried out by the scientists during the past three decades. There is an urgent need to sensitize the dairy farmers to the modern technologies and scientific interventions in dairy production in order to enhance milk yield and milk quality from dairy animals.

Keeping the above problems in view, the present study was taken up with the specific objectives to study the knowledge and socio-economic status of the dairy farmers in adoption of some improved animal husbandry practices.

METHODOLOGY

The investigations were carried out in the randomly selected five villages of Matar taluka of Kheda district of middle Gujarat. The dairy farmers having dairying as their major or subsidiary occupation were randomly selected from these villages. For this purpose, a comprehensive list of dairy farmers was prepared with the help of secretaries of milk co-operative societies, artificial insemination worker, sarpanch and village extension worker. From this list, 10 respondents were selected randomly from each village. Thus the sample size of

randomly selected respondents was comprised of 50. The data were collected through the personal interview to get most authentic first hand information with the view of the objectives of the study. For data analysis, average, frequencies and percentages were used.

RESULTS AND DISCUSSION

Age: The data in Table 1 reveal that majority of the dairy farmers belonged to middle age group (52%) followed by old age group (30%). The respondents belonging to young age group were 18 per cent only. The reason for this finding might be that middle age is considered as productive time period in the life of an individual and moreover younger generation is less interested in taking up dairy farming as its occupation. This finding is similar to findings reported by Toppo (2005), Bhatt (2006) and Durgga (2009).

Education: It is evident from Table 1 that majority (62%) of the dairy farmers had obtained secondary education, whereas, 16 and 12 per cent of them had primary and graduate level education, respectively. Only 4 per cent people had higher secondary education and 6 per cent of respondents were illiterate. From the above finding it can be concluded that majority of dairy farmers (78%) were having primary or secondary level of education. The probable reason for this finding might be that the facility for primary to higher secondary education

available at the village and nearby cities might have encouraged the dairy farmers to study up to that level. Similar findings have been reported by Gour (2002), Bhatt (2006) and Durgga (2009).

Social participation: Social participation denotes extent to which an individual is actively involved in the affairs of the community. The data presented in Table 1 reveal that 90 per cent of the dairy farmers had membership/participation in rural social organizations like milk co-operatives society, gram panchayat, village co-operative society etc as important service providing organizations. This finding is in agreement with the findings of Khokhar (2008) and contradiction to these of Bhatt (2006) and Durgga (2009).

Use of source of information: Majority of the respondents used television, newspapers and posters/charts displayed in village level dairy cooperatives as a source of information of improved animal husbandry practices.

Land holding: Land holding is an important factor that determines the economic factor and potentiality of dairy farmers for adoption of new practices in dairy farming. It is apparent from Table 1 that 36 per cent of the dairy farmers were having 1 to 2 hectares of land holdings. Marginal land holding was 32 per cent followed by medium and big farmers (16 and 6% respectively) and 10 per cent dairy farmers

had no land. On the basis of the above results, it can be concluded that majority (80%) of the dairy farmers had only 1 to 4 hectares of land. This might be due to high density of population in Kheda district. Industrialization and urbanization may also have played an important role in reduction of per capita availability of land. This finding is in line with results reported by Bhatt (2006) and Durgga (2009).

Family size: The size of family plays an important role for taking a decision regarding adoption of an innovation thought and action of the individual members. Hence the family size of the respondent was studied. The data presented in Table 1 show that majority of respondents had big family and had more than five members. However, 46 per cent of respondents had small family size (up to 5 members).

Earning members: Most of the families had one earning member in family for their bread and butter followed by 28 per cent who had 2 earning members. Only 12 per cent family had more than 2 earning members in their family.

Irrigation: Majority (70%) of the respondents depended upon canal irrigation. Only 3 per cent respondents had their own bore wells and 6 per cent entirely depended upon rainfall.

Occupation: Data in Table 1 reveal that 78 per cent of the dairy farmers were

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Table 1. Distribution of dairy farmers according to their personal and socio-economic characteristics (n=50)

Sr No	Characteristics	Frequency	Percentage
1.	**Age**		
	Young (18 to 35 Years)	9	18
	Middle (36 to 50 Years)	26	52
	Old (above 50 Years)	15	30
2.	**Education**		
	Illiterate	3	6
	Primary education	8	16
	Secondary education	31	62
	Higher Secondary	2	4
	Graduate	6	12
3.	**Social participation**		
	Members	45	90
4.	**Use of source of information**		
	Newspaper	32	64
	Poster/chart	27	54
	Radio	18	36
	Television	38	76
	Godarshan/Krishigovidhya	4	8
5.	**Land holding**		
	Landless farmers	5	10
	Marginal farmers	16	32
	Small farmers	18	36
	Medium holding farmer	8	16
	Big farmer	3	6
6.	**Family size**		
	Small family (up to 5 persons)	23	46
	Big Family(above 5 persons)	27	54
7.	**Earning members in the family**		
	1	30	60
	2	14	28
	>2	6	12

8.	Irrigation facility		
	No irrigation facility	6	12
	Canal and bore well	6	12
	Canal	35	70
	Bore well	3	6
9.	Occupation		
	Animal husbandry	3	6
	Agriculture and animal husbandry	39	78
	Agriculture, animal husbandry and service	2	4
	Agriculture and animal Husbandry and business	6	12
11.	No of animals possessed		
	Only cow	2	4
	Only buffalo	38	76
	Both buffalo and cow	10	20

engaged in agriculture and animal husbandry only. The persons having agriculture, animal husbandry and government service or private employment were 4 per cent and 12 per cent were engaged in business along with agriculture and animal husbandry. This indicates that majority (80%) of the respondents were dependent on agriculture, dairy farming and related occupations under two or three tier production system. These findings are in conformity with the findings of Gour (2002) and Durgga (2009).

Animal wealth: Data in Table 2 indicate that majority (76%) respondents had buffalo as a dairy animal followed by 20 per cent respondents rearing a cow and buffalo both and only 4 per cent respondents had only cow for their livelihood. It indicates that all respondents had small size herds and not aware of the importance of crossbred cow rearing and dairy business, which could provide them standby income in all seasons. These findings are contrary to the findings of Gour (2002).

Contact with extension education agencies: Contact with extension agencies of the dairy farmers is an important factor in getting latest information related to dairy farming. Hence data regarding contact of respondents with the extension agencies were collected and are summarized in Table 3. It is apparent from the table that majority of the farmers were found to have contact with the officers of dairy cooperatives, subject matter specialist of Krishi Vigyan Kendras followed by government veterinary doctors and village extension workers for getting information of improved animal husbandry practices which shows that the farmers might have taken interest in various effective transfer of technology

Table. 2 Contact with extension agencies

Sr No	Extension worker	Visiting		Never visiting	
		Frequency	Percentage	Frequency	Percentage
1	Veterinary officer	14	28	36	72
2	Livestock inspector	2	4	48	96
3	Deputy Director (AH)	3	6	47	94
4	Extension worker	14	28	36	72
5	SMSs of KVK	41	82	9	18
6	Officer of dairy cooperatives	41	82	9	18

services provided by extension agencies of state agriculture department, Amul dairy, state animal husbandry department, veterinary college, Krishi Vigyan Kendra, etc. Similar finding were reported by Gour (2002), Bhatt (2006) and Khokhar (2008).

Average performance of milch animals: The data presented in Table 3 indicate age at first calving, average milk production and number of lactations of local and crossbred cows and buffalos. In case of average age of first calving of local cow, crossbred cow and buffalo was observed above the five years, whereas, average lactation of dairy animal, in case of local cow, it was observed that 4 per cent respondents had animals of 1 to 2 number of lactations followed by 2 equal number of respondents (2 %) had animals of 3 to 4 lactations and above 4 number of lactations. While in crossbred cow, it was found that 6 per cent respondents had animals of 3 to 4 lactations followed by 1 to 2 lactations and above 4 number of lactations had 4 and 2 per cent,

respectively. Whereas, in case of buffalo, majority of respondents (36%) had animals of 3 to 4 number of lactations followed by 26 per cent respondents had animals of 1 to 2 number of lactations and 16 per cent dairy farmers had animals with more than 4 lactations.

The average milk production per day per animal is considered in case of local cow. Six per cent respondents had animals of 6 to 10 l/day followed by 4 per cent had animals of up to 5 l/day capacity. In case of crossbred cow, all the respondents (12%) had animals of above 10 l/day capacity. Whereas, in case of buffalos, majority (54%) respondents had animals up to 5 l milk/day followed by 30 per cent respondents had 6 to 10 l/day and 8 per cent respondents had capacity of more than 10 l milk production per day.

The knowledge of an innovation is prerequisite for adoption. A higher knowledge of technical nature of improved

Table 3. Average performance of dairy animals

Sr No	Particulars		Local cow		Crossbred cow		buffalo	
			Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
1.	Age at first	0 to 3	0	0	0	0	1	2
	calving (in years)	3 to 5	0	0	0	0	1	2
		Above 5	4	8	6	12	36	72
2.	No of lactations	1 to 2	2	4	2	4	13	26
	(in years)	2.1 to 4	1	2	3	6	18	36
		Above 4	1	2	1	2	8	16
3.	Average milk	up to 5 litre	2	4	0	0	27	54
	production	6 to 10 litre	3	6	0	0	15	30
	(litre/day/animal)	above 10	1	0	0	6	12	4	8

practices would lead to a higher adoption possibly because knowledge is inert. For measuring the knowledge regarding improved practices of animal husbandry knowledge scale was developed. On the basis of information collected for this purpose, respondents were classified into three groups (high, medium and low) as shown in Table 4.

It is evident from the table that 72 per cent respondents had high level of knowledge regarding breed improvement followed by 16 per cent medium and 12 per cent low level knowledge. 64 per cent dairy farmers had high level, 10 per cent had medium and 26 per cent respondents had knowledge regarding calf management. With regard to nutritional management, 74 per cent respondents had high level, 10 per cent medium level and 16 per cent low level of knowledge. Majority (92%) respondents

had high level of knowledge regarding water management followed by 6 and 4 per cent respondents had medium and low level of knowledge, respectively. 86 per cent dairy farmers had high level of knowledge regarding animal shed management followed by 10 per cent medium level and 6 per cent low level of knowledge. Regarding improved animal husbandry practices of milking management 70 per cent had high level, 10 per cent medium level and only 20 per cent respondents having low level of knowledge. In the same trend, 70 per cent had high level of knowledge regarding improved disease control practices followed by 6 per cent medium and 24 per cent low level of knowledge. It is clear from Table 4 that 82 per cent respondents had high level, 8 per cent had medium and 10 per cent low level of knowledge regarding improved reproductive practices.

Table 4. Distribution of the dairy farmers on the basis of knowledge about improved animal husbandry
practices

Sr No	Improved animal husbandry practices	Knowledge					
		High		Medium		Low	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
1.	Breed improvement	36	72	8	16	6	12
2.	Calf management	32	64	5	10	13	26
3.	Nutritional management	37	74	5	10	8	16
4.	Water management	46	92	3	6	2	4
5.	Animal shed management	43	86	5	10	3	6
6.	Milking management	35	70	5	10	10	20
7.	Disease control practices	35	70	3	6	12	24
8.	Reproductive practices	41	82	4	8	5	10

However, 26 per cent dairy farmers had low knowledge regarding calf management followed by disease control practices (24%) and milking management (20%) which needs special attention about imparting trainings for improvement in knowledge of dairy farmers regarding improved animal husbandry practices.

CONCLUSION

The data reveal that majority of the dairy farmers (52%) belonged to middle age group, had obtained secondary education, had membership/participation of rural social organizations and were using television, newspapers and posters/charts displayed in village level dairy cooperatives as a source of information of improved animal husbandry practices. Majority of the dairy farmers (36%) had marginal land holding, depended upon canal irrigation, big size family and had members more than five and had one earning member in the family for their bread and butter and engaged in agriculture and animal husbandry only and buffalo as a dairy animal with average age of first calving was more than five years and of 3 to 4 numbers of lactations with 5 l milk production per day. Most of the dairy farmers had high level of knowledge regarding breed improvement, nutritional management, water management, improved animal husbandry practices of milking management and improved disease control practices. Most of the respondents had knowledge regarding improved reproductive practices. It is concluded that dairy farmers of the Matar taluka possessed medium to high level of knowledge regarding improved animal husbandry practices.

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