



Personal, Socio-Economic Characteristics of Dairy Animal Owners and their Relationship with Knowledge of Dairy Husbandry Practices in Surat District of Gujarat

G. P. Sabapara^{1*}, A. B. Fulsoundar¹ and V. B. Kharadi²

¹*Department of Livestock Production and Management,*

²*Department of Animal Genetics & Breeding, Vanbandhu College of Veterinary Science and A. H., Navsari Agricultural University, Navsari-396 450, Gujarat, INDIA*

**Corresponding author: GP Sabapara; Email: gpsabapara@gmail.com*

Received: 03 June, 2014

Accepted: 10 October, 2014

ABSTRACT

To study the knowledge of dairy animal owners in improved dairy husbandry practices a field survey in Surat district was conducted during March, 2013 to January, 2014. Data were collected through personal interview from randomly selected 300 dairy animal owners from randomly selected five talukas out of nine talukas of Surat district with the help of pre-tested structured schedule. The present study revealed that majority of the dairy farmers were belonged middle to old age group, literate, nuclear type of family having more number of children making big size family. Majority of the respondents were from scheduled tribe and other backward category having medium level of extension contacts and mass media exposure with membership in one organization. Majority of the respondents were falling under marginal to small categories farmers with small herd size and they possessed agriculture and livestock as their livelihood. The education, caste, land holding, animal holding size, extension contact and mass media exposure of the respondents were positively and significantly related, whereas vocational diversification was negatively related with knowledge of dairy farmers regarding improved dairy husbandry practices in the study area.

Keywords: Animal Husbandry Practices, Dairy animals, Knowledge, Relationship

Animal husbandry makes a significant contribution in the national economy and socio-economic development of the country. In rural India, the livestock is the main source of livelihood to the farmers, where over 15-20 percent families are landless and about 80 percent of the land holders belong to the category of small to marginal farmers (Hegde, 2006). Livestock rearing is an integral part of agriculture in India as well as many developing countries since centuries. The



Indian dairy industry has made a remarkable progress in the last three decades with unprecedented growth in milk production. Cattle and buffalo producing milk which is the largest agricultural commodity play a major role in the Indian economy. India is one of the countries which has modernized its dairying and has achieved higher production through the introduction of scientific technologies into dairy farming system. In recent years, Indian dairy farmers have shown encouraging sign of changing from traditional to improved one, at the same time it is also true to say that during the last 60 years, a number of changes have taken place in India through various developmental programmes. In spite of this, we are yet to modernize the rural dairy farming and its economy upto the desirable level. It is recognized that if progress has to be achieved in dairy farmers, they are to be modernized in knowledge, adoption and other personal, social and economic characteristics.

India has emerged as leading milk producer country in the world, however production potential per milking animal is very low i.e. wet average in indigenous cows, crossbred cows and buffalo are 1.98, 6.75 and 4.50 kg/day respectively (Hegde, 2006). This low production in India is mainly due to lack or low level of knowledge of the dairy farmers about improved animal husbandry practices which make differences in socio-economic conditions. In these contexts, the present study was undertaken on personal, socio-economic characteristics of the dairy animal owners and their relationship with knowledge of animal husbandry practices.

MATERIALS AND METHODS

A field survey was conducted in Surat district of South Gujarat during March, 2013 to January, 2014. Surat district possess nine talukas namely- Choryasi, Palsana, Kamrej, Bardoli, Olpad, Mangrol, Mandvi, Mahuva and Umarpada. This district is spread over an area of 4327 sq. km and has 761 villages. Out of nine talukas in the district, randomly five talukas were selected, subsequently from each selected taluka five villages having functional primary milk producer's co-operative societies were selected at random. Twelve dairy animal owners from each selected villages were randomly selected with the help of Talati cum Mantri/ village dairy cooperatives which constituted a total of 300 respondents. While selecting respondents due care was taken to ensure that they were evenly distributed in the village and truly represented animal management practices prevailing in the area. The selected farmers were interviewed and the desired information was collected with the help of pre-designed and pre-tested questionnaire. Data were tabulated and analyzed as per the standard statistical procedure suggested by Snedecor and Cochran (1989) to draw meaningful interference.

RESULTS AND DISCUSSION

Personal characteristics of dairy animal owners

Personal characteristics of dairy animal owners are presented in Table 1.

Age

Age is an important factor, which influences the behaviour pattern of individual. The data in the Table 1 revealed that the highest percent of the dairy animal keepers (43.67 percent) belonged to middle age category followed by old (41.66 percent) and young (14.66 percent). Data indicated that the middle age group had better experience and interest, so they were always ready to adopt new innovations without considering the reaction of the other ones. The present results are well supported by the finding of Gill and Saini (2008), Divekar and Saiyed (2009) and Thombre *et al.* (2012). However, there was lot of variation in findings and they were indicative of differences in accordance with the overall demographic structure of the regions.

Table 1. Distribution of the dairy animal owner according to their personal characteristics and relationship with their knowledge regarding improve dairy husbandry practices (N=300)

Character	Category	Frequency	%	r-value
Age	Young age (20 to 35 years)	44	14.66	0.030 ^{NS}
	Middle age (36 to 50 years)	131	43.67	
	Old age (above 50 years)	125	41.66	
Education	Illiterate (can't read and write)	111	37.00	0.560 ^{**}
	Primary education (1 st to 7 th std.)	89	29.67	
	Secondary education (8 th to 12 th)	85	28.33	
	Above secondary and college level	15	05.00	
Extension contacts	Low	35	11.66	0.189 ^{**}
	Medium	212	70.67	
	High	53	17.67	
Mass media exposure	Low	34	11.33	0.211 ^{**}
	Medium	247	82.34	
	High	19	06.33	

NS - Non Significant, ** P<0.01



Education

The data shown in Table 1 indicated that the percent level of illiterate, upto primary, secondary and above secondary upto college level were 37.00, 29.67, 28.33 and 5.00 respectively. From the observations, it can be concluded that 63 percent of the respondents selected were literate, moreover majority of them were falling between primary and secondary level of education. These shows that dairy farmers have realized the importance of formal education in their social development. The present findings are comparable with the findings of Thombre *et al.* (2012) and Akila and Senthilvel (2012).

Extension contacts

Data depicted in Table 1 revealed that majority (70.67 percent) of the respondents have medium level of extension contacts, followed by 17.67 and 11.67 percent with high and low level of extension contacts, respectively. Thus, it can be concluded that majority (88.34 percent) of the respondents had medium to high level of extension contacts. The reason for this might be that, various extension agencies like Training and Visit system of state agriculture department, Sumul dairy, State animal husbandry department, Vanbandhu College of Veterinary and Animal Husbandry, Navsari and Krishi Vigyan Kendra were actively involved for various extension activities. In this area majority of farmers were literate so, they might have created awareness about how to make contact with these extension agencies. These findings are similar to the findings revealed by George and Chauhan (2004) and Upadhyay and Desai (2011).

Mass media exposure

Frequency data analysis in Table 1 indicated that majority (82.33 percent) of the respondents had medium level of mass media exposure followed by 11.33 and 6.33 percent of the respondents with low and high level of mass media exposure, respectively. In general, it is observed that majority (93.66 percent) of the dairy animal owners possessed low to medium exposure to mass media which might be due to their low to medium level of awareness regarding importance of various mass media in improving their knowledge. Because of this reason they might not have shown their expected interest in useful programmes broadcasted and telecasted on radio and television, respectively, as well as from literature published by different agencies. The findings of this study are supported with the findings observed by George and Chauhan (2004), Dhaka *et al.* (2011) and Upadhyay and Desai (2011).

Table 2. Distribution of the dairy animal owner according to their socio- economic characteristics and relationship with their knowledge regarding improve dairy husbandry practices (N=300)

Character	Category	Frequency	%	r-value
Caste	General	41	13.67	0.222**
	Other backward category (OBC)	120	40.00	
	Scheduled caste (SC)	21	07.00	
	Scheduled tribe (ST)	118	39.33	
Family size	Small size (up to 4 members)	95	31.67	-0.073 ^{NS}
	Big size (above 4 members)	205	68.33	
Family type	Nuclear type	175	58.33	-0.010 ^{NS}
	Joint type	125	41.67	
	No participation	13	04.33	
Social participation	Membership in one organization	277	92.34	0.104 ^{NS}
	Membership in more than one organization	06	02.00	
	Holding position in organization	04	01.33	
Land holding	Landless	99	33.00	0.256**
	Marginal farmer (up to 2.5 acres)	108	36.00	
	Small farmer (2.6 to 5 acres)	62	20.67	
	Large farmer (above 5 acres)	31	10.33	
Animal holding size	Small (1 – 5 animals)	172	57.34	0.148*
	Medium (6 – 10 animals)	79	26.33	
	Large (>10 animals)	49	16.33	
Vocational diversification	Only Dairy	43	14.33	-0.143*
	Agriculture + Dairy	185	61.67	
	Agriculture + Dairy + Service	10	03.33	
	Dairy + Service	05	01.67	
	Dairy + Labour	57	19.00	

NS - Non Significant, ** P<0.01 and * P<0.05

Caste

Data in Table 2 revealed that the majority of the respondents (40 percent) were from other backward category followed by scheduled tribe (39.33 percent), general



category (13.67 percent) and scheduled caste (7 percent). However, variations in the findings related with the caste of the dairy animal owners in various parts of Gujarat and India are observed due to the overall demographic structure of the regions.

Family size

The perusal of data presented in Table 2 revealed that majority (68.33 percent) of respondents had big size family followed by small size of family (31.67 percent). Present findings are similar with findings of Mande and Thombre (2009) and Upadhyay and Desai (2011).

Family type

Data from the Table 2 indicated that majority (58.33 percent) belonged to nuclear type family and 41.67 percent to joint type family. The smaller family sizes in the households with small holding might be due to division of the joint families. Many of them wanted to remain as small nuclear family for ease of family management in most economic way. These findings are supported by Halakatti *et al.* (2007), Mande and Thombre (2009) and Thombre *et al.* (2010, 2012).

Social participation

Data in Table 2 indicated that majority i.e. 92.34 percent respondents had membership in one organization while, two percent respondent had membership in more than one organization, 1.33 percent respondent had membership with holding position in organization and 4.33 percent respondents had no participation in any organization. The possible reason for these findings might be that the most popular and service oriented village organizations meet the needs of dairy farming and financial assistance by village dairy co-operative societies. Hence, most of the respondents become their members for availing these benefits. These findings are supported by the findings of George and Chauhan (2004) and Upadhyay and Desai (2011).

Land holding

The observations of the Table 2 revealed that 36.00, 20.67, 10.33 and 33.00 percent of the respondents were falling under marginal, small, large farmer and landless, respectively. These findings are in accordance with the findings of Rathod *et al.* (2011) and Sharma *et al.* (2012).

Animal holding size

It is apparent from the Table 2 that majority of the respondents (57.34 percent) had small herd size followed by medium size (26.33 percent) and large size herd (16.33 percent). The majority of the respondents possessed crossbred cows which require more amount of green fodder and most of the respondents were marginal farmers who can't allot more area for fodder crop production are the main reasons for small herd size. The price of such dairy animal is also very high. These findings are well supported by that of Shinde *et al.* (1998), Mande and Thombre (2009) and Thombre *et al.* (2010, 2012).

Vocational Diversification

Data presented in Table 2 revealed that the majority (61.67 percent) of the respondents possessed agriculture and livestock as their livelihood and the others either depend only on livestock (14.33 percent), dairy and labour (19.00 percent) or on agriculture - dairy and service (3.33 percent) or on dairy and service (1.67 percent). It can be concluded that majority of the respondents had farming with dairying as a main source of income for their livelihood. This finding is more or less similar to the results of Singh *et al.* (2004), Ahiwar *et al.* (2009), Sharma *et al.* (2012) and Thombre *et al.* (2012), whereas Patel *et al.* (2005) reported that in Patan district of North Gujarat 74 percent of farmers depend on the livestock for their livelihood.

Relationship between personal, socio-economic characteristics of dairy animal owners and their knowledge regarding improve dairy husbandry practices

Relationship between personal, socio-economic characteristics of dairy animal owners and their knowledge regarding improve dairy husbandry practices are depicted in Table 1 and 2.

Relationship between age and knowledge

Table 1 indicated that age of dairy animal owners had positive but non-significant correlation with knowledge of improved dairy husbandry practices. Thus, it can be concluded that age of dairy animal owners had not played significant role on their knowledge of improved animal husbandry practices. Meena and Chauhan (1999), Mande *et al.* (2008), Sharma and Singh (2008) and Kumar *et al.* (2009) reported that age of dairy animal owners had negative and non-significant co-relation with their knowledge. Chandrakala and Eswarappa (2001) reported that age of dairy animal owners had positive and significantly co-related with their knowledge. However, present results are in contrary to Singh and Godara (2002), Sharma *et*



al. (2009) and Shekhawat *et al.* (2013) reported that age of dairy animal owners had negative and significantly co-related with their knowledge.

Relationship between education and knowledge

It was observed that education of dairy animal owners had highly significant positive correlation with knowledge about improved dairy husbandry practices. This showed that the educated animal owners possessed more knowledge due to the fact that they tend to have more interaction with extension agencies and do not hesitate to discuss their problems related to dairy animals with veterinarians and scientist as compared to old illiterate respondents. Present results are in similar to the findings reported by Meena and Chauhan (1999), Singh and Godara (2002), Sharma and Singh (2008), Mande *et al.* (2008), Kumar *et al.* (2009), Sharma *et al.* (2009) and Shekhawat *et al.* (2013).

Relationship between caste and knowledge:

Table 2 revealed that caste of dairy animal owners had highly significant and positive correlation with knowledge about improved dairy husbandry practices. Present finding is in similar line with Sharma and Singh (2008). These findings are in contrary to the findings of Singh and Godara (2002) and Sharma *et al.* (2009), who reported caste of dairy animal owners was non-significant and positive correlation with knowledge about improved dairy husbandry practices.

Relationship between family size and knowledge

Data shown in Table 2 indicated that family size of dairy animal owners had negative and non-significant relationship with knowledge about improved dairy husbandry practices. Present result is similar to the finding of Satyanarayan and Jagadeeswary (2010). However, they are contradictory with the results of Meena and Chauhan (1999), Mande *et al.* (2008) and Kumar *et al.* (2009).

Relationship between family type and knowledge

It was observed that family type of dairy animal owners had negative but non-significant relationship with knowledge about improved dairy husbandry practices. Present results are similar with findings of Satyanarayan and Jagadeeswary (2010).

Relationship between social participation and knowledge

Data presented in Table 2 indicated that social participation of dairy animal owners had positive and non-significant co-relation with knowledge about improved dairy

husbandry practices. These findings are in accordance with the results reported by Chandrakala and Eswarappa (2001), Singh and Godara (2002) and Satyanarayan and Jagadeeswary (2010). However, these findings are contrary to the findings of Meena and Chauhan (1999) and Mande *et al.* (2008).

Relationship between land holding and knowledge

Data shown in Table 2 revealed that land holding of dairy animal owners had significantly high and positive relationship with knowledge about improved dairy husbandry practices. These findings are similar with the findings of Meena and Chauhan (1999), Mande *et al.* (2008), Kumar *et al.* (2009) and Satyanarayan and Jagadeeswary (2010).

Relationship between vocational diversification and knowledge

Data in Table 2 indicated that vocational diversification of dairy animal owners had negative but significant relationship with knowledge about improved dairy husbandry practices. Present results are similar with Meena and Chauhan (1999). However, Present findings are contrary with the results of Singh and Godara (2002).

Relationship between animal holding size and knowledge

Data shown in Table 2 revealed that animal holding size of dairy animal owners had positive and significantly co-related with knowledge about improved dairy husbandry practices. It means that knowledge of the dairy animal owners was increased with increase in the numbers of animal holding. Present results are in accordance with findings reported by Meena and Chauhan (1999), Mande *et al.* (2008), Sharma and Singh (2008), Kumar *et al.* (2009) and Sharma *et al.* (2009).

Relationship between extension contact and knowledge

Data depicted in Table 2 observed that extension contact of dairy animal owners had positive and highly significant relationship with knowledge about improved dairy husbandry practices. Extension contact is one of the most important factors to enhance the knowledge level of dairy animal owners. The correlation analysis revealed that variable tends to have more knowledge about improved dairy husbandry practices. Present findings are similar to the findings of Singh and Godara (2002), Mande *et al.* (2008), Sharma and Singh (2008), Kumar *et al.* (2009), Sharma *et al.* (2009) and Shekhawat *et al.* (2013). However, these findings are contrary to the findings of Chandrakala and Eswarappa (2001).



Relationship between mass media exposure and knowledge

It was observed that mass media exposure of dairy animal owners had positive and highly significant relationship with knowledge about improved dairy husbandry practices. These findings are similar to the results reported by Sharma and Singh (2008), Kumar *et al.* (2009) and Sharma *et al.* (2009).

CONCLUSION

It can be concluded from above findings that majority of the dairy farmers were belonged middle to old age group, literate having nuclear type of big family and from scheduled tribe and other backward category. Majority of the respondents had medium level of extension contacts and mass media exposure with membership in one organization. Majority of the respondents were falling under marginal to small categories farmers with small herd size and having agriculture-cum-livestock as their livelihood. The education, caste, land holding, animal holding size, extension contact and mass media exposure of the respondents were significantly positive, whereas vocational diversification was negatively related with knowledge of dairy farmers regarding improve dairy husbandry practices.

REFERENCES

- Ahiwar, R.R., Nanavati, S. and Nayak, N.K. 2009. Studies on housing management of buffaloes under rural and urban areas of Indore district of Madhya Pradesh. *Indian J. Field Vet.*, **5**(3): 41-43.
- Akila, N. and Senthilvel, K. 2012. Status of dairy farming in Karur district of Tamil Nadu. *Indian J. Anim. Res.*, **46**(4): 401-403.
- Chandrakala, H. T. and Eswarappa, G. 2001. Knowledge and adoption of dairying practices by farm women in relation to their socio-personal characters. *Karnataka J. Agri. Sci.*, **14**(1): 95-100.
- Dhaka, B. L., Choyal, K. and Poonia, M. K. 2011. Identification of constraints limiting the productivity of livestock and strategies for its improvement in Bundi district of Rajasthan. *Indian Journal of Animal Sciences*, **81**(1): 94-96.
- Divekar, B. S. and Saiyed, L. H. 2009. Socio-economic and literacy status and milking practices followed in middle Gujarat by professional Gir cattle breeders. *Indian Journal of Field Veterinarians*, **4**(4): 50-54.
- George, S. and Chauhan, J. P. S. 2004. Profile characteristics of dairy farmers of Ernakulam district. *Agric. Sci. Digest.*, **24**(4): 274-276.
- Gill, T. K. and Saini, S. K. 2008. A study of awareness of recommended dairy practices among farmers. *Internat. J. Agric. Sci.*, **4**(1): 296-300.
- Halakatti, S. V., Sajjan, C. M., Gowda, D. S. M. and Kamaraddi, V. 2007. Empowerment of women through dairy training. *Karnataka J. Agric. Sci.*, **20**(1): 89-92.
- Hegde, N. G. 2006. Livestock development for sustainable livelihood of small farmers. In Souvenir of the 39th Annual General Meeting and 48th National Symposium on

- “Energising Rural India – A Challenge to Livestock Industry. Compound Livestock Feed Manufacturers Association of India, Manesar, Haryana. August 26, pp.50-63.
- Kumar, R., Singh, S. P. and Chauhan, S. V. S. 2009. Comparative analysis of knowledge of dairy farmers in assured and less irrigated area regarding improved dairy husbandry practices. *Indian Res. J. Ext. Edu.*, **9**(2): 85-88.
- Mande, J. V. and Thombre, B. M. 2009. Adoption of cattle rearing practices by dairy cattle owners in Latur district. *J. Dairying, Foods H.S.*, **28**(3&4): 176-180.
- Mande, J. V., Rajput, R. D. and Thombare, B. M. 2008. Knowledge of cattle owners about improved cattle rearing practices. *J. Dairying, Foods Home Sci.*, **27**(1): 38-42.
- Meena, M. S. and Chauhan, J. P. S. 1999. Awareness of improved dairy farming practices by farmers of Sawai Madhopur District. *J. Dairying, Foods & Home Sci.*, **18**(1): 58-60.
- Patel, N. B., Patel, J. B., Panchasara, H. H. and Shah, R. R. 2005. Socio-economic status of farmers and its relationship to the livestock production of Patan district. National seminar on ‘Recent advances in conservation of Biodiversity and augmentation of reproduction and production in farm animals’ held 5-7 March 2005 at Sardar Krushinagar Dantiwada Agricultural University, Sardar Krushinagar. Pp: 253.
- Rathod, P. K., Landge, S., Nikam, T. R. and Vajreshwari. 2011. Socio-personal profile and constraints of dairy farmers. *Karnataka J. Agric. Sci.*, **24**(4): 619-621.
- Satyanarayan, K. and Jagadeeswary, V. 2010. A study on knowledge and adoption behaviour of livestock farmers. *Indian J. Anim. Res.*, **44**(2): 100- 106.
- Sharma, K. and Singh, S. P. 2008. Dairy farmer’s knowledge about buffalo feeding practices. *Haryana Vet.*, **47**: 68-71.
- Sharma, K., Singh, S. P. and Yadav, V. P. S. 2009. Knowledge of dairy farmers about improved buffalo husbandry management practices. *Indian Res. J. Ext. Edu.*, **9**(3): 51-54.
- Sharma, P. K., Shekhawat, B. S. and Chaudhary, M. K. 2012. Knowledge of dairy farmers about improved animal husbandry practices in Kheda district of Gujarat. *Journal of Krishi Vigyan*, **1**(1): 49-53.
- Shekhawat, L. S., Mahajan, K. C. and Jaiswal, A. 2013. Cattle owners and their extent of knowledge about individual animal husbandry practices. *Journal of Progressive Agriculture*, **4**(2): 41-44.
- Shinde, V. G., Sangle, G. K. and Dikle, R. N. 1998. Factors associated with adoption of dairy practices by farmers. *Maha. J. Extn. Edu.*, **17**:108 - 117.
- Singh, P. R., Singh, M., Verma, M. L. and Jaiswal, R. S. 2004. Animal husbandry practices in Tarikhet block of Kumaon hill of Uttaranchal. *Indian Journal of Animal Sciences*, **74**(9): 997- 999.
- Singh, S. P. and Godara, A. K. 2002. Knowledge of improved animal husbandry practices among cattle owners of Haryana. *Indian J. Dairy Sci.*, **55**(5): 294-298.
- Snedecor, G. W. and Cochran, W.G. 1989. Statistical Methods. 8th ED., Oxford and IBH Publishing Co., New Delhi.
- Thombre, B. M., Kolgane, B. T. and Mande, J. V. 2010. Farmers’ opinion about rearing of Deoni cattle. *Indian J. Anim. Res.*, **44**(4): 289-292.



Thombre, B. M., Suradkar, D. D. and Mande, J. V. 2012. Adoption of improved buffalo rearing practices by dairyman. *J. Dairying, Foods & H. S.*, **31**(10): 55-59.

Upadhyay, S. and Desai, C. P. 2011. Participation of farm women in animal husbandry in Anand district of Gujarat. *Journal of Community Mobilization and Sustainable development*, **6**(2): 117-121.