

Socio-economic characteristics of farmers and status of buffalo health care practices

G S AULAKH¹ and RAJBIR SINGH²

Krishi Vigyan Kendra, Ferozepur, Punjab 152 001 India

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Punjab is one of the major milk producing state of the country with total milk production of 93.85 thousand tonnes per annum. The per capita availability of milk is 961 g (Anonymous 2013). The Murrah and Nili Ravi are the famous breeds of buffalo and are well known for milk production. Though the buffalo is almost 62 % of total livestock population, still buffalo owners felt more problems in rearing of buffalo. Farmers do not have the sufficient knowledge regarding scientific management practices of buffalo rearing. The adoption of improved dairy practices is pre-requisite for development of dairy industry. The low

productivity of buffalo is mainly due to lack of proper adoption of recommended dairy farming practices. Thus the present study was conducted to ascertain the socio-economic characteristics of farmers and status regarding adoption of recommended buffalo health care practices by the buffalo owners.

The study was conducted in districts Bathinda, Ferozepur and Sangrur of Punjab during 2009. The sampling procedure employed to select ultimate unit of sample was multi stage sampling technique. One block was selected from each district, 2 villages were selected from each selected block

Table 1. Profile of the respondents

Variables	Category	Buffalo owners' category					
		Small (83)		Medium (64)		Large (33)	
		Frequency	%	Frequency	%	Frequency	%
Age	Young	19	22.89	16	25.00	11	33.33
	Middle	43	51.81	33	51.56	14	42.42
	Old	21	25.30	15	23.44	8	24.24
Education	Illiterate	21	25.30	13	20.31	3	9.09
	Low	28	33.73	11	17.19	8	24.24
	Medium	32	38.55	38	59.38	17	51.52
	High	2	2.41	2	3.13	5	15.15
Land holding	Landless	29	34.94	5	7.81	0	0.00
	< 2 ha	28	33.73	25	39.06	3	9.09
	2–4 ha	11	13.25	10	15.63	3	9.09
	> 4ha	15	18.07	24	37.50	27	81.82
Caste	SC/ST	30	36.14	5	7.81	0	0.00
	BC	6	7.23	5	7.81	1	3.03
	General	47	56.63	54	84.38	32	96.97
Social participation	Low	77	92.77	53	82.81	25	75.76
	Medium	5	6.02	7	10.94	7	21.21
	High	1	1.20	4	6.25	1	3.03
Extension contacts	Low	35	42.17	32	50.00	13	39.39
	Medium	21	25.30	19	29.69	12	36.36
	High	27	32.53	13	20.31	8	24.24
Mass media exposure	Low	18	21.69	11	17.19	6	18.18
	Medium	33	39.76	24	37.50	11	33.33
	High	32	38.55	29	45.31	16	48.48

Present address: ¹Deputy Director (kvkfr@pau.edu).
²Professor (rajbirsinghsbvp@gmail.com), Department of Animal Husbandry, Sardar Vallabh Bhai Patel University of Agriculture and Technology, Meerut.

randomly. So, total six villages formed the sample of the study. Three categories of buffalo owners were formed on the basis of number of adult buffalo possessed by them,

namely small buffalo owners (1–2 adult buffalo), medium (3–5 adult buffaloes) and large (more than 5 adult buffaloes). A separate list of all buffalo owners was prepared for each selected village and then 30 respondents were selected by using proportional size of sampling technique. Thus, the total sample size for the study was 180 buffalo owners.

The adoption level of the farmers was ascertained through an interview schedule, comprising 7 health management practices. The respondents were asked to give their opinion about adoption of these practices on 3 points continuum i.e. always, sometimes and never use the practice and the scores of 2, 1 and 0 were allotted respectively. The ranks were allotted to each individual practice on the basis of mean percent scores. The respondents were also categorized as low, medium and high level of adoption by using mean and standard deviation formula.

Age: Maximum number of respondents belonged to middle age group (i.e. 31–50 years), followed by old age (more than 50 years) and young farmers i.e. up to 30 years in small buffalo owners (Table 1). Whereas the trend in medium and large farmers showed that majority farmers were middle aged followed by young and old.

Education: In small buffalo owners majority among the respondents were illiterate whereas they had medium level of education in medium and large buffalo owners (Table 1). The negligible level of high education was observed in small and medium farmers whereas it was 15.15% in large buffalo owners.

Land holding: Majority of the respondents had land less than 2 ha in case of small farmers (Table 1). In medium type of buffalo owners, 39.06% and 37.5% had land less than 2 and more than 4 ha respectively. Among the large buffalo owners, majority had land more than 4 ha and none of them was landless.

Caste: Majority of the respondents belonged to general class followed by backward and schedule caste (Table 1). None of the respondents were from schedule caste category in large buffalo owners.

Social participation: The respondents had low level of social participation followed by medium and high level in all the 3 categories of buffalo owners.

Extension contacts: Majority of the respondents (Table 1) had low extension contacts in all the categories. Among the large buffalo owners, one-fourth had high level of extension contacts whereas in small and medium category of buffalo owners this was 32.53 and 20.31%.

Mass media exposure: Among the medium and large category of buffalo owners, majority had high level of mass media exposure whereas in small farmers majority had medium level of mass media exposure. Generally, respondents had better mass media exposure.

Adoption of recommended health care practices: Majority of the respondents had medium level of adoption (Table 2), followed by high and low level of adoption, in small dairy farmers' category. Similar trend was observed in medium category of buffalo owners respectively.

Table 2. Adoption level of buffalo owners about recommended buffalo health care practices

Category	Buffalo Owners' Category							
	Small (83)		Medium (64)		Large (33)		Overall (180)	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Low	6	7.23	3	4.69	11	33.33	9	5.00
Medium	65	78.31	39	60.94	9	27.27	112	62.22
High	12	14.46	22	34.38	13	39.39	59	32.78

Table 3. Item-wise adoption level of buffalo owners about health care practices

Items/aspects	Buffalo owners' category															
	Small (83)				Medium (64)				Large (33)				Overall (180)			
	TS	MS	MPS	RO	TS	MS	MPS	RO	TS	MS	MPS	RO	TS	MS	MPS	RO
Timely treatment of sick animals	129	1.55	77.71	II	124	1.94	96.88	I	66	2.00	100.00	I	319	1.77	88.61	I
Segregation of diseased animals	63	0.76	37.95	VI	30	0.47	23.44	VI	25	0.76	37.88	VI	118	0.66	32.78	VI
Timely vaccination against FMD and HS	123	1.48	74.10	III	106	1.66	82.81	II	46	1.39	69.70	II	275	1.53	76.39	II
Deworming of calves	132	1.59	79.52	I	87	1.36	67.97	III	32	0.97	48.48	IV	251	1.39	69.72	III
Cleaning of the shed	112	1.35	67.47	IV	83	1.30	64.84	IV	32	0.97	48.48	IV	227	1.26	63.06	IV
Use of teat dips	35	0.42	21.08	VII	16	0.25	12.50	VII	18	0.55	27.27	VII	69	0.38	19.17	VII
Prevention from external parasites	110	1.33	44.18	V	97	1.52	50.52	V	53	1.61	53.54	III	260	1.44	48.15	V

TS, Total score; MS, mean score; MPS, mean percent score; RO, rank order.

Table 4. Relationship between personal attributes and extent of adoption of health care practices by the buffalo owners

Variables	Buffalo Owners' Category			
	Small (83) 'r'	Medium (64) 'r'	Large (33) 'r'	Overall (180) 'r'
Age	-0.2035	-0.1800	-0.1918	-0.1858*
Education	0.0774	0.1583	0.0035	0.0518
Land holding	0.1544	-0.0262	0.2126	-0.0015
Caste	0.3738*	-0.1017	0.2096	0.1516*
Social participation	0.0056	0.1457	-0.1946	0.0084
Extension contacts	-0.0173	-0.3910*	0.1066	-0.1183
Mass media exposure	0.1187	0.0566	0.2869	0.1228

* Significant at 5 % level of probability.

However in large buffalo owners, majority had high followed by low and medium level of adoption.

The pooled analysis of 180 respondents indicated that majority of respondents had medium to high level of adoption. The possible reason may be that the respondents were more aware about the health care of the buffalo. These findings are in accordance with the findings of Mohi and Bhatti (2006), Satyanarayan and Jagadeeswary (2010).

Item-wise adoption of recommended health care practices: To measure the extent of adoption, 7 practices were selected under health care practices. In small buffalo owners, maximum adoption was noticed (Table 3) in 'deworming of calves' followed by 'timely treatment of sick animals'. However, low adoption was observed about 'teat dipping after milking'. The medium category of farmers exhibited relatively higher adoption about 'timely treatment of sick animals', followed by timely vaccination of H.S and FMD diseases. All the farmers of large category treated their 'sick animals, timely' followed by the practices of 'timely vaccination against HS and FMD' and 'prevent their buffalo from external parasites'. All the 3 categories of farmers had low adoption rate in practices like 'teat dipping after milking' and 'segregation of diseased animals'.

It is further observed that large and medium category of respondents had relatively higher adoption of 'timely treatment of sick animals' and 'prevention from external parasites' as compared to small buffalo owners. Whereas, small buffalo owners had better adoption of 'deworming of calves' as compared to other categories. The observations on 'deworming of calves' are line with findings of Arora *et al.* 2008, who reported 76.68% adoption of deworming practice.

Relationship between personal attributes of the buffalo owners with adoption of recommended health care practices: Caste of the respondents had positive and significant relationship (Table 4) while age and extension contact were negatively correlated with adoption of health care practices in case of small buffalo owners. As far as the respondents of medium category was concerned, education, social participation and mass media exposure were positively correlated, while extension contact was negatively and significantly correlated with adoption of health care practices at 5 % level of probability. In buffalo

owners' education, land holding, caste, extension contacts and mass media exposure of the respondents were positive and nonsignificant relationship. The overall correlation analysis of 180 buffalo owners revealed that caste had positive and significant relationship while age had negative and significant correlation. Education, social participation and mass media exposure had positive relationship with adoption of health care practices.

SUMMARY

The present study was conducted on 180 buffalo owners selected from 3 districts of Punjab to ascertain their socio-economic characteristics and adoption of recommended healthcare practices. It was observed that dairy enterprise is in the hand of middle aged group of farmers (31–50 years). Buffalo owners had medium level of education and majority belonged to general class. They had medium level of adoption of recommended health care practices. Higher adoption rate was observed regarding the practices like timely treatment of sick animals and timely vaccination against HS and FMD diseases, whereas they had poor adoption about practices like teat dipping after milking and segregation of diseased animals. Cast had positive and significant while age had negative and significant correlation with adoption of health care practices. Extension functionaries should update the knowledge level of buffalo owners, particularly about those health care practices in which the adoption rate was low.

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