



## Attitude of dairy farmers towards animal welfare in Haryana

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### ABSTRACT

The welfare of production animals provokes wide social discussion among the public. Despite this farmer's voices and their representations of animal welfare are rarely heard even though farmers are the one who actually deal with animals and able to improve animal welfare. Farmer's perceptions of what constitutes animal welfare and how it may be improved can differ from those of consumers and other stakeholders. The present study was conducted on 120 dairy farmers randomly selected from four villages of Hisar district, Haryana to measure their attitude towards animal welfare during 2013–14. A scale developed by Likert's Summated Ratings method was used for measuring the attitude of dairy farmers. The mean attitude score of all respondents indicates that attitude of dairy farmers is highly positive and favourable. Almost 86 per cent of dairy farmers were having favourable and strongly favourable attitude towards animal welfare. Educational qualification, extension contact and mass media exposure had positive and significant relationship with attitude scores of dairy farmers. Regression analysis revealed that all the nine independent variables jointly explained more than half of the variation in attitude scores. The path analysis revealed that social participation had maximum positive direct effect followed by extension contact and mass media exposure. The study validates the fact that the Indian dairy farmers are sensitive to the issues of animal welfare.

**Key words:** Animal welfare, Attitude, Dairy farmers.

Animal welfare is both an evaluative concept as well as a normative concept which involves both value judgments and ethical concerns (Vaarst and Alroe 2012). Animal welfare is scientifically proven to impact animal productivity (Hemsworth and Coleman 2011), a fact that seems to be appreciated by farmers. It is often opined that the future of animal production may be headed toward a prioritization of the environment and animal welfare at the expense of increased production. This will undoubtedly open up new opportunities for producers with systems that are less compromising to animal welfare. Despite an emerging body of research, studies on animal welfare from some countries, such as India, are far less evident. This situation is unfortunate because animal welfare standards there do not match those of their Western counterparts and urgent improvement is needed. The farmer as a caregiver exerts a major influence on animal welfare. Farmer's action influence both the political arena and the market, therefore, through their actions, larger changes in social structure as it pertains to agricultural animals is possible. Identifying farmer's attitudes to farm animal welfare is an important step in determining farmer's efforts to improve farm animal

welfare, knowledge of which is of particular importance for understanding how the living conditions of production animals are determined (Hansson and Lagerkvist 2014). As India has its distinctive history and mode of socio-economic development, it is necessary to investigate the farmer's attitude towards animal welfare before establishing strategies of how to promote it more efficiently. Keeping the above facts in mind, the present study was conducted to measure the attitude of dairy farmers towards animal welfare in Haryana.

### MATERIALS AND METHODS

The study was conducted in Hisar district of Haryana state selected purposely keeping in view the fact that the district has highest population of livestock. Out of nine administrative blocks of this district, two blocks (Adampur and Hisar-II) were selected following simple random sampling technique. Two villages were then randomly chosen from each of the two blocks using simple lottery method. A total of four villages were selected in all. Thereafter thirty farmers practising dairy farming were selected randomly from each village as respondents for the study. Therefore, the total sample size for this study was 120 dairy farmers. Some important independent variables namely age, education, family size, family type, land holding, social participation, extension contact, mass media

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exposure and economic motivation were also included in this study. A scale was developed using Likert's Summated Ratings method for measuring attitude of farmers towards animal welfare. The scale contained 16 items and farmers responses were recorded on five point continuum i.e. strongly agree, agree, undecided, disagree and strongly disagree with respective weightages of 5, 4, 3, 2 and 1 for positive statements and weightages in reverse order for negative statements. The scores obtained by the respondent on each statement were added to get their attitude score. The data were collected with the help of pre-tested structured interview schedule during 2013–14.

## RESULTS AND DISCUSSION

The data given in Table 1 reveals that dairy farmers were having strongly favourable attitude to animal welfare to the extent of 48.33% whereas 37.50% and 14.17% were having favourable and less favourable attitude, respectively.

It implies that about 86% of dairy farmers were having either strongly favourable or favourable attitude towards animal welfare. The remaining were having less favourable attitude towards animal welfare. The mean attitude score (75) of all respondents indicates that attitude of dairy farmers is highly positive and favourable. This may be due to our rich cultural heritage and religious traditions where animals always had a respect and a special place in society. Kupsala *et al.* (2015) found that farming background and place of residence have the strongest connections to farm animal attitudes. Further, the results are in agreement with findings of Davey *et al.* (2005) and Shuxian *et al.* (2005) who found a positive attitudes and behavior toward animal treatment and welfare.

*Relationship between personal attributes of dairy farmers and their attitude towards animal welfare:* Table 2 shows that in the correlation analysis, it was found that educational qualification, extension contact and mass media exposure of dairy farmers exhibited positive and significant correlation with attitude towards animal welfare. The positive correlation of education indicates that educated farmers possess more favourable attitude as compared to less educated farmers as they are able to get more information through various sources like magazine, journals, news papers etc. Similarly, Burrell and Vrieze (2003) and Verhue and Verzeijden (2003) in their study found that higher educated people expressed a higher

concern for animal welfare. Further, You *et al.* (2014) observed that the highly educated tend to accept more easily the concept of animal welfare. The positive correlation of mass media exposure indicates that farmers having high mass media exposure possess more favourable attitude as compared to farmers having less mass media exposure as mass media plays a crucial role in the public perception of animal production and other animal related issues. Similarly, Swinnen *et al.* (2005) and Verbeke and Ward (2001) observed that media coverage has a strong influence on citizen's knowledge and perceptions. McKendree *et al.* (2014) reported that Midwest participants were significantly, at the 5% significance level, less concerned about domestic livestock animal welfare and more frequently reported not having a source for animal welfare information than those from other regions of the United States. Overall, Niesten *et al.* (2003) also found that the media plays a determinant role in the public perception of animal production.

Table 2. Correlation between personal attributes and attitude level of dairy farmers towards animal welfare

Independent variables	Respondents and r-value (n=120)
Age (X <sub>1</sub> )	-0.046
Educational qualification (X <sub>2</sub> )	0.204*
Family size (X <sub>3</sub> )	-0.062
Type of family (X <sub>4</sub> )	0.061
Land holding (X <sub>5</sub> )	0.011
Social participation (X <sub>6</sub> )	0.112
Extension contact (X <sub>7</sub> )	0.196*
Mass media exposure (X <sub>8</sub> )	0.179*
Economic motivation (X <sub>9</sub> )	0.092

\*P<0.05, n= number of respondents

Lockwood (2005) reported that long-term behavioral trends can also be inferred by monitoring changes in the numbers of organizations and individuals involved in or supportive of animal protection, the amount of attention given to animals and animal-related issues in the media and the development of animal protection laws and regulations. No any correlation of age was found with attitude level towards animal welfare. Heleski *et al.* (2004) and Kiliç and Bozkurt (2013) have also reported similar insignificant associations of age.

*Contribution of personal attributes towards attitude scores of dairy farmers (Regression analysis):* Table 3 depicts that all the nine antecedent variables contributed 61.33% variation in attitude score of dairy farmers with significant F value.

Education and mass media exposure have significant positive value of 't' for 'b'. It implies that these two variables were important to explain the variation towards attitude of dairy farmers. It also implies that education of the farmers makes them to think logically and analytically which motivate them to change the attitude. It also indicates that

Table 1. Classification of dairy farmers on the basis of attitude scores

Attitude level	Respondents (n=120)	
	Frequency	Percentage
Less favourable (66-70)	17	14.17
Favourable (71-75)	45	37.50
Strongly favourable (76-80)	58	48.33
Mean ± SE	75.17±0.3449	
SD	3.78	

n= number of respondents

Table 3. Regression coefficients between personal attributes and attitude level of dairy farmers towards animal welfare

Independent variables	Respondents (n=120)	
	b-value	t-value
Age (X <sub>1</sub> )	-0.009	-0.268
Educational qualification (X <sub>2</sub> )	0.121	2.468*
Family size (X <sub>3</sub> )	-0.052	-0.254
Type of family (X <sub>4</sub> )	-0.256	-0.220
Land holding (X <sub>5</sub> )	0.011	0.039
Social participation (X <sub>6</sub> )	0.563	1.081
Extension contact (X <sub>7</sub> )	0.167	0.746
Mass media exposure (X <sub>8</sub> )	0.145	2.546*
Economic motivation (X <sub>9</sub> )	0.004	0.025
R <sup>2</sup>	0.6133*	
F	14.742*	

\*P<0.05, n= number of respondents

these variables play an important role in contributing to the attitude of the dairy farmers towards animal welfare. Their casual relationship with attitude towards animal welfare needs further explorations. However, there is about 38.67% unexplained variation which could be attributed to variables that were not included in this study.

Table 4. Direct, indirect and substantial effects of antecedent variables on the attitude level of dairy farmers about animal welfare

Independent variables	Respondent (n=120)		
	Direct effects	Indirect effects	Substantial effects
Age	-0.018	-0.02622	0.02467 (X <sub>6</sub> ) 0.02303 (X <sub>2</sub> ) 0.00543 (X <sub>8</sub> )
Education	0.046	0.03181	0.05013(X <sub>6</sub> ) 0.02577 (X <sub>8</sub> ) 0.00894 (X <sub>1</sub> )
Family size	-0.048	-0.05318	0.00335 (X <sub>4</sub> ) 0.00318 (X <sub>6</sub> ) 0.00261 (X <sub>1</sub> )
Family type	-0.005	-0.04174	0.03415 (X <sub>3</sub> ) 0.00425 (X <sub>6</sub> ) 0.00250 (X <sub>5</sub> )
Land holding	0.017	0.00487	0.03579 (X <sub>6</sub> ) 0.01025 (X <sub>2</sub> ) 0.00934 (X <sub>7</sub> )
Social participation	0.151	0.11922	0.01542 (X <sub>2</sub> ) 0.01263 (X <sub>8</sub> ) 0.00407 (X <sub>7</sub> )
Extension contact	0.070	0.09319	0.01414 (X <sub>8</sub> ) 0.00227 (X <sub>6</sub> ) 0.00874 (X <sub>5</sub> )
Mass media exposure	0.054	0.06246	0.03529 (X <sub>6</sub> ) 0.02214 (X <sub>2</sub> ) 0.01838 (X <sub>7</sub> )
Economic motivation	0.003	0.09036	0.09741 (X <sub>6</sub> ) 0.00734 (X <sub>3</sub> ) 0.00692 (X <sub>8</sub> )

*Effect of personal attributes on attitude of dairy farmers:* Table 4 indicated that social participation (0.151) had explained the highest positive direct effect followed by extension contact and mass media exposure on the attitude of dairy farmers.

Social participation (0.11922), extension contact (0.09319) and economic motivation (0.09036) had indirect positive effect on attitude level of dairy farmers about animal welfare. Maximum substantial effect was noticed through social participation and mass media exposure.

The development of attitude towards animal welfare appears complex with variety of factors acting differently on farmers with varying socio personal characteristics. Further studies are advised to understand the factors affecting the attitude of farmers towards animal welfare. Results demonstrated that about 86% of dairy farmers were having either strongly favourable or favourable attitude towards animal welfare. The correlation analysis between dependent and independent variables further indicated that educational qualification, extension contact and mass media exposure of dairy farmers had positive and significant relationship. All the nine independent variables accounted for 60 to 70% variation in attitude scores. The overall analysis revealed that social participation and extension contact had positive and direct effect on attitude and knowledge of the respondents. Further studies in areas of gaining an awareness of various stakeholders' attitudes toward animal welfare and determining what variables are the most important in predicting attitudes towards animal welfare in our country's cultural situations are advised. It is realised that attitude towards animal welfare is a complex phenomenon and requires further exploration. Role of cultural and religious factors viz-a-viz rising economic modernisation should be further explored.

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