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Assessing dairy farmers' attitudes toward animal welfare in Karnataka

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Abstract

This study was undertaken to assess the attitude of dairy farmers towards cattle welfare in Karnataka, India. A total of 60 dairy farms, 30 from the peri-urban region of Bengaluru Rural district and 30 from rural region of Kolar district of Karnataka were considered. The farms were also grouped based on adult herd size i.e., small, medium and large as per the prevailing dairy cattle holding in the region. The attitude of dairy farmers towards animal welfare was assessed based on 16 statements regarding dairy cattle welfare to which the respondents were asked to respond on a five-point continuum viz. strongly agree, agree, undecided, disagree and strongly disagree, with appropriate weightages. The total score for each respondent was obtained by summing up the scores obtained for each item. The mean score for responses of dairy farmers to statements regarding animal welfare, out of a maximum score of 5, ranged from 3.3 ± 0.16 to 4.4 ± 0.08 , with an overall mean of 3.9 ± 0.03 , indicating relatively favourable attitude of the farmers towards animal welfare. The mean scores in small, medium and large dairy farms, out of possible maximum score of 80, was 61.85 ± 0.960 , 60.30 ± 1.354 and 65.55 ± 1.009 , respectively, with an overall score of 62.65 ± 0.694 ; whereas in peri-urban and rural regions, it was 62.90 ± 0.874 and 62.40 ± 1.091 , respectively. Farmers owning large dairy farms had significantly favourable attitudes towards animal welfare.

Keywords: Dairy cattle welfare, farmer's attitude, Karnataka

Introduction

Animal husbandry is the backbone of many farmers and has played an active role in strengthening of India's rural economy. India has the highest dairy cattle population in the world, including 193.46 million cattle, which accounts for 36.04 per cent of total farm animals in the country, and 109.85 million buffaloes. Karnataka ranks eleventh in overall milk production in India with annual milk production of about 11 million metric tonnes (BAHS, 2019) [1]. Animal welfare is a broad term that involves the welfare of all species of animals. Animal welfare has been compromised by stressful production to meet the needs of the human population. Moreover, the life span of cattle has come down due to intense suffering. In the long run, good animal welfare will result in enhanced economic gains for the animal handling community. The term 'animal welfare' is defined as the ability of an animal to cope physiologically, behaviorally, cognitively and emotionally with its physiochemical and social living environment, including the animal's subjective experience of its condition (Scott *et al.*, 2001) [5]. Kendall *et al.* (2006) [3] found that "talking with farmers" was significantly related to attitudes about farm animal care, efforts were also made to stratify the sample on the basis of urban and rural residency i.e., to interview some citizens living in rural areas who were presumed to have more exposure to farm animals and animal producers. Farmer's

attitudes to farm animal welfare are 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) [2]. Hence the present study was undertaken to assess the attitude of dairy farmers, having farms of different sizes and belonging to different regions, towards cattle welfare in Karnataka, India.

Materials and Methods

The purposive random sampling method was used for the selection of livestock farm households and to assess dairy cattle welfare. A total of 60 dairy cattle farms, 30 from the peri-urban region of Bengaluru Rural district and 30 from rural region of Kolar district were considered for the present study. The farms were grouped into three different categories based on adult herd size i.e., small (1-2), medium (3-10) and large (>10) as per the prevailing dairy cattle holding in the region.

The attitude of dairy farmers towards animal welfare was measured using the attitude scale based on Singh *et al.* (2014) [6]. This consisted of 16 statements regarding dairy cattle welfare arranged alternatively (positive and negative) which were personally administered to 60 dairy farmers chosen for the study. The respondents were asked to respond to each one of these items on a five-point

continuum viz. strongly agree, agree, undecided, disagree and strongly disagree. A weightage of 5, 4, 3, 2 and 1 for positive items (statements reflecting favourable attitude towards animal welfare) was assigned. Reverse scoring was done in case of negative items (statements reflecting unfavourable attitude towards animal welfare). Total score for each respondent was obtained by summing up the scores obtained for each item. Minimum and maximum possible scores of attitude scale were 16 and 80, respectively. Higher scores indicated that respondent had more concern towards the animal welfare aspects and vice-versa.

Results and Discussion

The ranking of responses of dairy farmers to statements regarding animal welfare are given in Table 1. The mean score for the statements ranged from 3.3 ± 0.16 to 4.4 ± 0.08 , out of a maximum score of 5. In general, higher scores were obtained for positive statements as compared to negative statements. Among the farmers surveyed, 55 per cent had highly favourable attitude (64-80) towards animal welfare, whereas 45 percent had a moderately favourable attitude (48-63), as per the class interval method. The high scores are indicative of the sensitivity of Indian dairy farmers to issues of animal welfare. Similar findings were

reported by Sarita and Singh (2017)^[4] in Haryana.

The overall mean attitude score of dairy farmers towards animal welfare, based on farm size and region, are presented in Table 2. Small, medium and large dairy farms had overall attitude scores of 61.85 ± 0.960 , 60.55 ± 1.354 and 65.55 ± 1.009 , respectively, out of a possible maximum score of 80, with an overall mean score of 62.65 ± 0.694 . The mean attitude score of large dairy farms was significantly ($P < 0.05$) higher than that of small and medium dairy farms. The likely reason for this could be the better economic status of large farmers, which gives them more access to resources and capital which would be used effectively to create good facilities, which leads to better animal welfare. The mean attitude score in peri-urban and rural regions, out of total score of 80, was 62.90 ± 0.874 and 62.40 ± 1.091 , respectively. No significant differences were observed among the dairy farms of different regions. The non-significant differences in the mean attitude score in peri-urban (62.90 ± 0.874) and rural (62.40 ± 1.091) regions is indicative of similar mindset of farmers, irrespective of proximity to urban areas. Hansson and Langerkvist (2014)^[2] have identified that assessment of the farmer's attitudes to farm animal welfare is an important step in improve farm animal welfare.

Table 1: Ranking of responses of dairy farmers to statements regarding animal welfare

Rank	Description of patterns	Mean Score (max. 5)
1	It is farmer's responsibility to ensure animal welfare at his farm. (+)	4.4 ± 0.08
2	In general, the welfare of farm animals in country needs to be improved. (+)	4.3 ± 0.09
3	Farmers should not be concerned about the humane handling of animals. (-)	4.3 ± 0.09
4	I am concerned about animal welfare. (+)	4.2 ± 0.06
4	I would vote for a law that requires farmers to treat their animals humanely. (+)	4.2 ± 0.11
6	The welfare of animals on farms does not matter as long as they produce. (-)	4.0 ± 0.10
7	It is immoral to use animals if it inflicts suffering in the animal. (+)	4.0 ± 0.12
7	A farmer should treat his animals like he treats his children. (+)	4.0 ± 0.10
9	It does not matter how animals are reared as they do not know any better. (-)	3.9 ± 0.10
10	I would not sell my animal to an individual who does not care for it well if paid a premium. (+)	3.9 ± 0.16
11	High livestock product prices are more important than the well-being of farm animals. (-)	3.8 ± 0.12
12	The use of animals for human entertainment such as bull-fighting and circuses is cruel. (+)	3.8 ± 0.14
13	In my opinion animal welfare is important neither to animal nor to humans. (-)	3.8 ± 0.12
14	I think use of spiked stick to drive animal is not cruel. (-)	3.6 ± 0.14
15	A farmer has to seek his own welfare what to talk of animal's welfare. (-)	3.5 ± 0.10
16	It is ridiculous to suppose that animals are sentient beings. (-)	3.3 ± 0.16
	Overall	3.9 ± 0.03

Table 2: Mean attitude score of dairy farmers towards animal welfare, based on their region and farm size

Sl.	Region	Farm size			Overall	P-value
		Small	Medium	Large		
1.	Peri-urban	$63.50^a \pm 1.025$	60.30 ± 1.758	64.90 ± 1.418	62.90 ± 0.874	0.084
2.	Rural	$60.20^{bX} \pm 1.497$	$60.80^X \pm 2.154$	$66.20^Y \pm 1.482$	62.40 ± 1.091	0.041
	Overall	$61.85^X \pm 0.960$	$60.55^X \pm 1.354$	$65.55^Y \pm 1.009$	62.65 ± 0.694	0.007
	P-value	0.031	0.824	0.436	0.722	

Note: Means within a column (^{ab}) or row (^{XY}) having different superscripts differ significantly ($p < 0.05$).

Conclusion

Farmers owning large dairy farms had significantly favourable attitudes towards animal welfare scores. While none of the farms studied could be categorized into Excellent or Poor, the presence of most of the farms studied in the Average category is indicative of the great scope for improvement of animal welfare in dairy farms of Karnataka. The high attitude scores obtained are indicative of the sensitivity of Indian dairy farmers to issues of animal

welfare.

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