Constraints Faced by Buffalo Owners in Junagadh and Porbandar Districts of Gujarat

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ABSTRACT

The present experiment was carried out to identify the constraints faced by the buffalo owners in Junagadh and Porbandar districts of Gujarat. Information related to problems in breeding, feeding, disease control, managerial practices, economic aspects and marketing in dairy enterprise were collected from 300 buffalo owners. The economic constraint (95.39%) was faced by majority of buffalo owners, followed by the constraints related to breeding (48.92%), feeding (47.52%), marketing (35.58%), health/ disease control (20.47%) and managerial practices (13%). Unavailability of timely A.I. facility at village (59%) was major breeding constraint. Poor irrigation facilities for cultivation of fodder crops ranked top position among the different feeding constraints as perceived by 81.33% respondents; while, unavailability of on time veterinary services for treatment at door step (36.67%) was major constraint under disease control practices. Major managemental constraint faced by the buffalo owners was lack of knowledge on recommended managerial practices (17.67%). On the other hand, major economic and marketing problems encountered by the farmers were unavailability of loan for long duration (98.33%) and difficulty to store milk in summer season (70%), respectively. The constraints recorded in this study would be helpful for development of suitable dairy development plan in Junagadh and Porbandar districts of Gujarat.

Keywords: Constraints, buffaloes, Junagadh, Porbandar, Gujarat

India presently ranks top in the world in terms of milk production and produced 165.4 million tonnes milk during 2016-17 with per capita availability of 355g/head/day milk (Anonyms, 2018). In the same period, Gujarat state shared about 7.7% of total milk produced in the country and ranked 4th position. Gujarat is gifted with four indigenous buffalo breeds and together with other non-descript buffaloes contributed about 52.3% of the total milk produced in the state (Anonyms, 2017). Buffaloes also produce nutritious meat by utilizing poor quality roughages/ crop residues efficiently (Wanapat, and Kang, 2013).

In Gujarat, though dairy co-operative system is well organized, the dairy farmers face difficulties in adoption of scientific and advanced managerial practices in dairy enterprise. It has been reported that majority of dairy farmers faced problems of high feed cost, non-availability of green fodder throughout the year and low milk price in tribal belt of Narmada valley of Gujarat (Patel *et al*., 2013). However, Patel *et al*. (2015) observed economic constraint (cost of feed, milch animals and equipments) as major problem encountered by the dairy farmers of north Gujarat. Moreover, the major constraints encountered by the dairy farmers in Surat district were high feed cost, high construction cost and non-remunerative prices for milk (Sabapara, 2014). These studies indicated that feed cost is the major problem or constraint faced by the dairy farmers in Gujarat, which also varies markedly from one place to another place (Patel *et al*., 2013, Sabapara, 2014, Patel *et al*., 2015). Identification of problems associated with dairy enterprise could be helpful for development of suitable dairy development plan. The present study was conducted to identify the constraints encountered by the buffalo owners in Junagadh and Porbandar districts of Gujarat.

MATERIALS AND METHODS

The present survey study was conducted during Jan-2017 to Feb-2018 in Junagadh and Porbandar districts of south-west Gujarat. The study area was selected purposefully as majority of dairy farmers reared buffaloes particularly Jaffrabadi or graded Jaffrabadi breeds. Two talukas (Porbandar and Kutiyana) from Porbandar and three talukas (Keshod, Mangrol and Manavadar) from Junagadh districts were selected. Six villages from each talukas (total 30 villages) and 10 respondents from each village were selected randomly with total sample size of 300. The respondents were selected in such a way that they were evenly distributed in the village and true representative of animal management practices prevailing in the study area. Constraints related to breeding, feeding, health/disease control, management, economic and marketing practices faced by the buffalo owners were collected by using structured interview schedule. Before collection of information from respondents, the interview schedule was prepared based on literatures and then consulted with experts for refinement.

STATISTICAL ANALYSIS

Data collected were entered in an excel sheet, then frequency and percent for each parameter were calculated for better interpretation. The parameters were ranked according to the frequency or percent. The parameter with maximum frequency or percent was ranked first, while the parameter with minimum frequency or percent ranked last.

RESULTS AND DISCUSSION

In this study, overall economic constraint (95.39%) perceived by buffalo owners was observed to be major problem, followed by the constraints related to breeding (48.92%), feeding (47.52%), marketing (35.58%), health/disease control (20.47%) and managerial practices (13%). Constraints related to breeding practices are presented in Table 1. Major constraints related to adoption of breeding practices were unavailability of timely artificial insemination facility in villages (59%), lack of knowledge on breeding management (54%), repeat breeding (53%), poor conception (52%) and lack of trained A.I. personnels (51.67%), while shortage of pedigree bulls for natural services (45.67%), lack of faith on artificial insemination (41%) and unavailability of purebred buffaloes (35%)

were least faced problems. These findings are supported by Singh *et al.* (2004) and Mohi and Bhatti (2006). Singh *et al.* (2004), reported unavailability of AI facilities at door step due to presence of AI centers at long distance in hilly areas of Uttrakhand.

Table 1: Constraints in breeding (reproductive) practices

Particulars	Frequency	Percent	Rank
Unavailability of timely A.I. facility at village	177	59.00	I
Lack of knowledge of breeding management	162	54.00	II
Repeat breeding	159	53.00	III
Poor conception rate	156	52.00	IV
Lack of trained person for Artificial Insemination	155	51.67	V
Lack of pedigree bulls for natural services	137	45.67	VI
Lack of faith in Artificial Insemination	123	41.00	VII
Unavailability of purebred buffalo	105	35.00	VIII

They also reported presence of less number of breeding bull in villages and might be attributed to poor conception. Mohi and Bhatti (2006) observed poor conception rate as the major constraint (82%) under field condition in Punjab due to unavailability of AI facilities at door step as well as lack of skilled AI workers. Lack of AI facilities at door step and inadequate trained inseminator are the major problems related to breeding practices in dairy animals in north Gujarat (Patel *et al.*, 2015), and same being observed in western part of Gujarat. Moreover, in Marathwada region of Maharashtra inadequate knowledge about breeding practices (94.2-97.5%) is the major breeding constraint (Pisure *et al.*, 2016). In the study area, the dairy co-operative system is well established, which might be the reason that less number of buffalo owners (48.92%) reported breeding problems.

Constraints related to feeding practices are depicted in Table 2. Major constraints under feeding practices were poor irrigation facilities for fodder crops (81.33%), unavailability of cheap and quality green fodder (73.33%) and unavailability of animal feed/balance ration throughout the year (66%) and lack of knowledge about silage preparation (50.67%). However, non-availability of improved fodder seeds (23%), unavailability of feed at

subsidized rate (21.33%), lack of proper improvement of pasture/ grass land (17%) were least concerned problems. These results are inconsonance with Tailor *et al*. (2012) and Sarita *et al*. (2017), who reported that unavailability of green fodder throughout the year was major constrains followed by inadequate knowledge about scientific feeding. In a similar line, Patel *et al*. (2013) observed that non-availability of green fodder (73.75%), lack of knowledge on balanced scientific feeding (72.5%) were major problems associated with feeding practices in Narmada district of south Gujarat. Poor irrigation facilities as observed in this study area might be the reason of unavailability of cheap green fodder to the buffaloes.

Table 2: Constraints in feeding practices

Particulars	Frequency	Percent	Rank
Poor irrigation facilities for growing fodder crops	244	81.33	I
Unavailability of quality green fodder round the year	220	73.33	II
Unavailability of animal feed/ balance ration	198	66.00	III
Lack of knowledge about silage preparation	152	50.67	IV
Non-availability of improved fodder seeds	69	23.00	V
Unavailability of feed at subsidized rate	64	21.33	VI
Improper improvement of pasture/ grassland	51	17.00	VII

Constraints associated with different health/ disease control practices of buffaloes in the study area were perceived by less number of farmers (Table 3). Here, about 36.67, 21.00 and 17.00% buffalo owners reported unavailability of on time veterinary services for treatment of animals, lack of proper veterinary services for treatment and poor facility of timely vaccination against contagious diseases. Moreover, farmers were less aware about vaccination against contagious disease (15.33%) and isolation of sick animals (12.33%). In a similar line, Tomar and Thakur (2002) and Singh *et al*. (2004) reported inadequate veterinary care and services in time as the principal limitation faced by the dairy farmers. On the other hand, Tailor *et al*. (2012) stated lack of knowledge about importance of vaccination against contagious disease and lack of knowledge about

isolation of sick animals as major health constraints faced by the dairy farmers in Udaipur district of Rajasthan. In a recent study, Sarita *et al*. (2017) opined that 72% buffalo owners in Murrah breeding tract of Haryana were unaware about preventive vaccination program and about 63.33 and 62% farmers, respectively faced emergency veterinary services and infrequent visit of veterinarian to the village. However, in the study area of Junagadh and Porbandar district diseases control and prevention related problems were less faced by the farmers due to the well-established dairy co-operative system.

Table 3: Constraints in health/ disease control practices

Particulars	Frequency	Percent	Rank
Unavailability of on time veterinary services for treatment	110	36.67	I
Lack of veterinary services for treatment	63	21.00	II
Poor facility of timely vaccination against diseases	51	17.00	III
Lack of knowledge about vaccination against disease	46	15.33	IV
Lack of knowledge about isolation of sick animals	37	12.33	V

Problems related to adoption of managerial practices was least faced by the buffalo owners. The individual constraints faced by the farmers are presented in Table 4 and among these, lack of knowledge of recommended management practices ranked first (17.67%), followed by lack of technical knowledge to manage the dairy enterprise (16.67%), unavailability of buffalo shed with good ventilation facilities (13.33%), lack of sufficient space to keep animal in a healthy situation (11.33%) and unavailability of skilled labor (6%). The above findings are supported by Mohi and Bhatti (2006), who reported shortage of labour and lack of space for the dairy animals. Sarita *et al*. (2017) conducted a study on constraints faced by buffalo owners in Murrah breeding tract of Haryana and observed that lack of knowledge for scientific housing (72%) as most serious constraint in adoption of recommended dairy management practices.

In this study, primary constraint encountered by the buffalo owners was economic constraint. Different types of economic constraint faced by the farmers are presented

in Table 5. Major constraint was unavailability of loan for long duration (98.33%), which ranked first position. High rate of interest on loans (97.33%) and lack of availability of loan and insurance facility (96.67%) ranked 2nd and 3rd position, respectively.

Table 4: Constraints in managerial practices

Particulars	Frequency	Percent	Rank
Lack of knowledge of recommended management practices	53	17.67	I
Lack of technical knowledge to manage the dairy enterprise	50	16.67	II
Lack of proper ventilation facility of shed	40	13.33	III
Lack of sufficient floor space to keep the healthy animal	34	11.33	IV
Unavailability of skilled labor	18	6.00	V

Table 5: Economic constraints

Particulars	Frequency	Percent	Rank
Unavailability of loan for long duration	295	98.33	I
High rate of interest on loans	292	97.33	II
Lack of loan and insurance facility	290	96.67	III
High cost of byre construction	285	95.00	IV
High cost of concentrate mixture	280	93.33	V
High cost of milch animal	275	91.67	VI

The other problems were high cost of by reconstruction (95%), high cost of concentrate (93.33%) and milch animal (91.67%). In a similar line, Mande and Thombre (2009) reported inadequate and untimely loan facility from the bank and high price of concentrate cited by the dairy farmers in Latur district of Maharashtra. In south Gujarat, Patel *et al*. (2013) reported high feed (90%) and construction cost (72.50%) as major problem, while lack of farmer friendly credit facility (10%) and high interest rate on farm loans (13.75%) were least concerned problems. On the other hand, constraints such as lack of loan facilities, high cost of concentrate and milch animal have been reported by the all farmers (100%) in north Gujarat (Patel *et al*., 2015). Recently, Sarita *et al*. (2017) observed high cost of feed (82%) as the most serious feeding constraint, while 69% farmers cited high price of milch buffaloes in Haryana.

Problems related to marketing of milk in the study area are depicted in Table 6, which revealed that storing of milk in summer (70%) was the major constraint and ranked first position. The other least concerned constraints were irregular collection of milk (28%), seasonality in demand for milk (23.67%) and non-remunerative price for milk (20.67%). These results are contrary with Kavathalkar *et al*. (2007), who found that non remunerative price for milk was major constrains of dairy farmers. In another study, Mande and Thombre (2009) reported that 65% farmers encountered low market price of milk. Further, majority of the farmers (87.5%) in south Gujarat faced non-remunerative price for milk, while less number (31.25%) cited lack of preservation facilities for milk (Patel *et al*., 2013).

Table 6: Marketing constraints

Particulars	Frequency	Percent	Rank
Difficulty to store milk in summer season	210	70.00	I
Irregular collection of milk	84	28.00	II
Seasonality in demand for milk	71	23.67	III
Non-remunerative price for milk	62	20.67	IV

CONCLUSION

The results indicated that constraint related to economic aspects of dairy farm was the major problem encounter by the buffalo owners of Junagadh and Porbandar districts. Unavailability of timely A.I. facility at village ranked top among the different problems of breeding practices. Poor irrigation facilities for cultivation of fodder crops ranked 1st position among the different feeding constraints while, unavailability of on time veterinary services for treatment at door step was major constraint under disease control practices. Further, lack of knowledge of recommended management practices was the major managemental constraint faced by the buffalo owners. Unavailability of loan for long duration and difficulty to store milk in summer season were the major problems under economic and marketing problems encountered by the farmers. Hence, while developing extension related policies for dairy farmers the above constraints should be taken care.

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