

MANAGEMENTAL CONSTRAINTS FACED BY BUFFALO OWNERS IN BANASKANTHA DISTRICT OF GUJARAT STATE OF INDIA

B. I. Gami , K. B. Prajapati , K. J. Ankuya

Livestock Research Station, Sardarkrushinagar Dantiwada Agricultural University, Sardarkrushinagar, Dist: Banaskantha, Gujarat- 385506

**Corresponding author: bhaveshgami86@gmail.com*

A field survey was undertaken in Banaskantha district of North Gujarat, to study the constraints faced by buffalo keepers. 150 respondents from 15 villages of 5 talukas were selected through multistage random sampling. Maximum farmers (42.67 %) were illiterate belonged to middle age (31- 45 years) category having medium size family (5- 8 members). Majority of them have marginal land holding (46.00%) keeping small herd size of 1-5 animals (38.67%). Lack of knowledge about silage preparation (94.66%), high cost of feed (72.00%), non- availability of green fodder round the year (60.66%) and lack of knowledge of balanced ration (52.66%) were the main feeding constraints faced by farmers. Repeat breeding (35.33%) and low conception rate through artificial insemination (21.33%) were the breeding constraints felt by buffalo owners in Banaskantha district. The main constraints for construction of animal shed were lack of own capital (65.33) and high construction cost (68.57).

Key words: Illiterate, silage, balanced ration, straw, repeat breeding, artificial insemination, shelter

Banaskantha district have the highest buffalo population (6.6 lakhs) in Gujarat state (Livestock census, 2007). Buffalo is the major contributor of milk production in the Banaskantha district and provides the major share of milk to dairy co-operative union. Feeding, breeding and shelter management practices have much influence on milk production and ultimately the economy of the dairy farmers. Constraints in these aspects are the obstacles to adopt better

animal husbandry practices in dairy animals. Keeping this in view, the present study was planned to delineate the information on the dairy buffalo feeding, breeding and shelter management constraints faced by farmers of Banaskantha district of North Gujarat.

MATERIALS AND METHODS

Five talukas were randomly selected for the study viz., Palanpur, Deesa, Tharad, Kankrej and Dhanera. Three villages were selected from each taluka and in each village 10 respondents who reared dairy buffaloes were selected by using a multistage (3 stages) random sampling technique. The interview schedule developed for the study was used for collecting the information by personal interview from selected dairy buffalo owners. The study being of an exploratory nature, the qualitative data were quantified accordingly and tabulated. Chi-square test (Test of Independence) was being applied to determine the association of animal management practices with different categories (Sukhatme and Amble, 1978).

RESULTS AND DISCUSSION

The characteristic of cross section of respondents given in **table: 1**. The highest percent of the dairy buffalo keepers (46.00 %) belonged to middle age category (31- 45 years) followed by young age below 30 years (44.00 %) and old age above 45 years (37.00 %) age categories in Banaskantha district. Looking to the level of education, majority of them were either illiterates (42.67%) or having primary level of education (30.67 %), with medium (5-8 members) or large size family (> 8 members). This may be due to lack of awareness regarding family planning.

Majority of respondents had poor land resources and were either marginal (41.33%)

or small (37.33%) farmers.

Table 1: Characteristics of cross-section of respondents

Different parameters	Category	Total n = 150	Percentage	Chi - square test
Age	Young age (Up to 30 years)	44	29.33	N. S.
	Middle age (31 to 45 years)	69	46.00	
	Old age (above 45 years)	37	24.67	
Education	Illiterate	64	42.67	S. (1%)
	Primary (1-7 th std.)	46	30.67	
	Secondary (8-12 th std.)	32	21.33	
	College (above 12 th)	8	5.33	
Family size	Small size (up to 4 members)	21	14.00	N. S.
	Medium size (5-8 members)	80	53.33	
	Large size (more than 8 members)	49	32.67	
Hand holding size	Landless (having no land)	12	8.00	N. S.
	Marginal farmer (≤ 2.5 Acres)	62	41.33	
	Small farmer (2.5–5 Acres)	56	37.33	
	Large farmer (> 5 Acres)	20	13.33	
Herd size	Small (1-5 animals)	58	38.67	N. S.
	Medium (6-10 animals)	47	31.33	
	(Large (11-15 animals)	32	21.33	
	Very large (> 15 animals)	13	8.67	

8.00 percent landless respondents were also sustained by buffalo keeping in Banaskantha district. Proportion of respondents with small (1-5 animals) and medium (6-10 animals) size herd were higher (38.67 and 31.33 %) in the Banaskantha district. This was due to poor land holding among respondents.

The feeding constraints faced by the buffalo owners of Banaskantha district given in **table 2**. The major constraints related to feeding of dairy animals were lack of knowledge about silage preparation (94.66 %), high cost of feed (72.00 %), non availability of sufficient green fodder round the year (60.66 %), lack of knowledge of balanced ration requirement (52.66 %), lack of awareness about treatment of poor quality straw to improve its nutritive value (42.00

%), lack of availability of fodder crop seeds (32.00 %), irregular availability of grasses in pasture land (27.33 %) and unavailability of labour (12.66 %). Majority of constraints were due to poor land holding and economic condition of the farmers. Low and erratic rain fall lead to irregular availability of grasses in pasture land. Marginal or small holding could not allow producing sufficient surplus green fodder for silage making. Trend of constraints in feeding was not significant with taluka. The results were in agreement with finding of earlier workers Dube *et al.* (1989), Venkatasubramanian and Fulzele (1996), Bhople and Varade (1998), Chinnadurai *et al.* (2002), Manoharan *et al.* (2003).

Table 2: The feeding constraints faced by the buffalo owners of Banaskantha district

Sr. No.	Category	Total n = 150	Percentage	Rank
1	High cost of feed	108	72.00	II
2	Lack of knowledge of balancing ration requirement	79	52.66	IV
3	Lack of availability of fodder crop seeds	48	32.00	VI
4	Non availability of sufficient green fodder round the year	91	60.66	III
5	Lack of awareness about treatment poor quality straw to improve its nutritive value	63	42.00	V
6	Lack of knowledge about silage preparation	142	94.66	I
7	Irregular availability of grasses in pasture land	41	27.33	VII
8	Un availability of labour	19	12.66	VIII
$X^2 = 3.788$ (Not significant)				

Table 3: The breeding constraints faced by the buffalo owners of Banaskantha district

Sr. No.	Category	Total n = 150	Percentage	Rank
1	Lack of knowledge of heat detection	19	12.66	VI
2	Low conception rate through A.I.	32	21.33	II
3	Repeat breeding	53	35.33	I
4	Lack of availability of insemination in time	22	14.66	IV
5	Belief that PD through rectal palpation is harmful for pregnant animals	25	16.66	III
6	Lack of improved bulls for breeding in villages	21	14.00	V
7	Preference of natural service in buffalo	18	12.00	VII
$X^2 = 7.841$ (Not significant)				

Table 4: The shelter constraints faced by the buffalo owners of Banaskantha district

Sr. No.	Category	Total n = 150	Percentage	Rank
1	Lack of own capital	98	65.33	I
2	Lack of credit facility	42	28.00	IV
3	High interest rate of loan	60	40.00	III
4	Lack of adequate space	08	5.33	VI
5	High construction cost of buffalo shed	88	58.67	II
6	Lack of knowledge about cheap and scientific housing	12	8.00	V
$X^2 = 7.841$ (Not significant)				

Note: N. S. Indicate chi square statistical is not significant

P < 0.01 Indicate chi square statistical significant at 1% level

P < 0.05 Indicate chi square statistical significant at 5% level

Constraints in adoption of various breeding management practices given in **table 3**. Breeding is one of the important pillars of production. Regular calving results into sustainable dairy farming. However in the survey area, the constraints observed were repeat breeding (35.33 %), low conception rate through A.I. (21.33 %), belief that pregnancy diagnosis through rectal palpation is harmful for pregnant animals (16.66 %), lack of availability of insemination in time (14.66 %), lack of improved bulls for breeding in villages (14.00 %), lack of knowledge of heat detection (12.66 %) and preference of natural service in buffalo (12.00 %). Majority of breeding constraints were due to non availability of veterinary aids in village itself, high cost of treatment and A. I. in villages. Trend of constraints in breeding was non significant among talukas. The results were in agreement with that of Patel (1994) and Kumar *et al.* (2006).

Constraints in adoption of shelter management practices given in **table 4**. The major constraints observed related to housing were lack of own capital (65.33%), high construction cost (58.67%), high interest rate (40.00%), lack of credit facility (28.00%) and lack of knowledge about

cheap and scientific housing. Long term loans and subsidies through bank and government can solve the constraints of shelter for dairy animals.

CONCLUSION

Majority of the buffalo keepers were small and marginal farmers and landless labours in Banaskantha district. Medium size family (5-8 members) keeping buffalo strength up to 10 animals in intensive or semi intensive system having illiteracy or poor education were the feature of buffalo husbandry in Banaskantha district. Lack of knowledge about silage preparation, high cost of feed and non availability fodder crop seeds were the feeding constraints faced by the farmers of Banaskantha district. Repeat breeding and low conception rate through A.I. were the breeding constraints, whereas lack of own capital, high construction cost, high interest rate, lack of credit facility and lack of knowledge about cheap and scientific housing were the major shelter constraints faced by the dairy buffalo owners in Banaskantha district of north Gujarat.

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