

## CONSTRAINTS FACED BY FARM WOMEN IN ADOPTION OF IMPROVED CATTLE MANAGEMENT PRACTICES IN ARID RAJASTHAN

Meenakshi Chaudhary\*, P. Singh\*\* and K.C. Sharma\*\*\*

### ABSTRACT

The present study was conducted in Rajasthan with selection of Bikaner district with the sample size of 225 respondents, rearing cattle for last 5 years to ascertain the adoption level of recommended cattle management practices by farm women and to identify constraints in adoption of modern cattle management practices. It was found that majority of the respondents had medium level of adoption. The highest extent of adoption was found in health care (80.89%) in medium level of category whereas low level of adoption was observed in management practices (5.33%). Ten independent variables were included in the study i.e. age, education, land holding, caste, monthly income, size of herd, mass media exposure, extension contact, social participation and urban contact of the respondents which had positive and significant relationship with adoption of recommended practices of cattle management. The study further highlighted that lack of knowledge regarding full hand milking, lack of knowledge in weaning new born calves, limited irrigation facilities for raising green fodder, inadequate knowledge of breeding practices, high cost of crossbred cattle, superior quality bulls, high cost of concentrates, lack of knowledge about cattle diseases and their control. Perception of A.I. as unnatural method, reluctance of feeding balanced feed, high transportation cost of feed and fodder and lack of retail price fodder shop were realized as the most serious constraints faced by the livestock owners.

### INTRODUCTION

Scientific research in the field of animal husbandry is moving very fast. In these days there is no dearth of advanced technical know-how. But the most complex and significant problem of our age is dissemination of new technology and its utilization by the farmers. As in the field of animal husbandry and specially in cattle rearing there is a tremendous gap between knowledge production and knowledge utilization. Adoption of improved cattle management technologies is governed by several communicational characteristics of dairy members. Hence an attempt had been made to identify the constraints hindering the farm women to adopt the recommended scientific cattle management practices in major areas of breeding, feeding, health care, management and miscellaneous aspects. Keeping this in view the present investigation was carried out on farm women of Bikaner district of Rajasthan state with the following specific objectives:

- (1) To assess the adoption of farm women regarding dairy farming practices.
- (2) To identify the constraints faced by women in adoption of modern cattle management practices.
- (3) To find out the association of adoption with selected independent variables

### RESEARCH METHODOLOGY

The present study was conducted in Bikaner district of zone I-c (Hyper Arid Partially Irrigated Western Plain) during the year 2011, which was selected purposely for the research study as it is rich in livestock population. Three tehsils: Kolayat, Lunkaransar and Nokha having maximum cattle population were selected for the research. From each of the selected tehsils, three villages having highest cattle population were selected. Hence nine villages in all were taken up for the study. Twenty five farm women from each village were randomly selected for

\* Professor & Officer Incharge, ATIC, DEE, SKRAU, Bikaner.

\*\* Technical Assistant (Ext. Edu.), ARS, SKRAU, Bikaner.

\*\*\* Professor (Ext. Edu.), DEE, SKRAU, Bikaner.

the sample. Hence in all 225 respondents, rearing cattle from last 5 years were selected. Further, on the basis of number of cattle possessed by them the respondents were divided into three categories of small, medium and large cattle owners.

The data were collected with the help of structured interview schedule. The responses of farm women were obtained regarding cattle management practices on a three point continuum i.e. always, some times and never use the practice and scores of 2, 1 and 0 were allotted respectively. On the basis of adoption score, the respondents were categorized into three categories i.e. low, medium and high adopters using mean and standard deviation formula. The statistical analysis used in this study included percentage mean, standard deviation and correlation coefficient analysis.

## RESULTS AND DISCUSSION

### Adoption of respondents towards cattle management practices

**Breeding:** Data presented in table-1 reveals that about breeding, half of the cattle owners were in medium adoption category (50.23%) closely followed by high adoption category (41.77%). Only 8 per cent of the respondents were in low adoption category. Similar findings were also reported by Podikunju *et al.* (2000), Maity and Sidhu (2001), Soni and Mathur (2011) and Alakhetal (2012).

**Table 1: Distribution of respondents according to their level of adoption (n=225)**

S. No.	Category	Frequency	Percentage
1.	Breeding		
	Low (Less than 8)	18	8.00
	Medium (8 – 12)	113	50.23
	High (More than 12)	94	41.77
2.	Feeding		
	Low (Less than 9)	23	10.22
	Medium (9 – 14)	138	61.33
	High (More than 14)	64	28.45
3.	Management		
	Low (Less than 9)	12	5.33
	Medium (9 – 13)	160	71.12
	High (More than 13)	53	23.55

4. Health Care			
	Low (Less than 8)	14	6.22
	Medium (8 – 14)	182	80.89
	High (More than 14)	29	12.89

**Feeding:** Table-1 further indicated that more than sixty per cent of the farm women were in medium adoption category (61.33%) followed by high adoption category (28.45%). Only 10.22 per cent of the respondents fell in low adoption category. Findings are also in line with findings of Singh and Chauhan (2009) and Soni and Mathur (2011).

**Management:** Regarding management practices the majority of the respondents were in medium adoption category (71.12%) followed by high (23.55%) and low level (5.33%) of adoption category respectively. The finding are in conformity with the findings of Ashish *et al.* (2011) and Soni and Mathur (2011).

**Health Care:** Data in the table exhibited that high majority of farm women fell in medium category (80.89%) followed by high adoption category (12.89%). Only 6.22 per cent respondents were in low adoption category.

It may be concluded from the above narration that majority of the respondents were in medium adoption level of the cattle management practices. The findings are supported by Chandramoulil (2007), Lunagariya *et al.* (2011) and Soni and Mathur (2011).

**Table 2: Relationship between personal attributes and extent of adoption of management practices by the farm women**

S. No.	Attributes	'r' value
1.	Age	0.5727**
2.	Education	0.3058*
3.	Land holding	0.2470*
4.	Monthly income	0.2174*
5.	Caste	0.3306*
6.	Size of herd	0.2721**
7.	Mass media exposure	0.3058*
8.	Extension contact	0.3126**
9.	Social participation	0.2516**
10.	Urban contact	0.2313**

1. \*\* Significant of 0.01 per cent level of probability

2. \* Significant at 0.05 per cent level of probability

**Correlation of adoption with selected independent variables of cattle owners**

The ‘r’ value of selected traits and adoption have been presented in Table-2. Data depicted in Table-2 that independent variables namely age, education, monthly income, caste, land holding, size of herd, mass media exposure, extension contact, social participation and urban contact were significant with the adoption of cattle owner dairy farming practices.

Similar results were also observed by Khode *et al.* (2009), Soni and Mathur (2011), Alakh and Sharma(2012 and Lawrence *et al.* (2012).

**Constraints faced by the farm women in modern cattle management practices**

The schedule covered possible constraints which may hinder the adoption of modern cattle rearing practices by the respondents. For this, constraints relating to the breeding, feeding, health care, other management practices and miscellaneous practices were separately enlisted. These were analysed and discussed under the following sub-heads: breeding, feeding, health care, management and miscellaneous constraints.

**(i) Breeding Constraints**

**Table 3: Constraints faced by farm women in adoption of breeding practices**

S. No.	Constraints	Frequ- ency	%	Rank
1.	Inadequate knowledge of breeding practices	102	45.33	I
2.	High cost of cross bred cattle & superior quality bulls	101	44.88	II
3.	Perception of A.I. as unnatural method	85	37.77	III
4.	Cross bred calf is of no -use	68	30.22	IV
5.	Distant location of A.I. Centres	46	20.44	V
6.	Poor conception rate in dairy animals	24	10.66	VI
7.	Not aware about examining for pregnancy after service	23	9.78	VII

Table-3 reveals that inadequate knowledge of breeding practices was realised as the most important problem (45.33%) followed by high cost of cross-bred cattle and superior quality bulls, perception of A.I. as an unnatural method were realised as secondary constraints. Poor conception rate in dairy animals and ignorance of examining of pregnancy after service were the least important constraints for cattle owners.

The realization of these problems might be because the population in the study area were mostly illiterate, houses being scattered here and there, they had less social and personal contacts, lack of mass media contacts due to which they were left aloof of sufficient knowledge about improved breeds, breeding practices and methods.

Similar findings have been reported by Singh (1994) and Kumar (1995) that distant location of A.I. centres and inadequate knowledge of breeding practices are the major constraints in adoption of scientific practices of breeding.

**(ii) Feeding Constraints**

**Table 4: Constraints faced by farm women in adoption of feeding practices (n=225)**

S. No.	Constraints	Freq- uency	%	Rank
1.	Limited irrigation facilities for raising green fodder	115	51.12	I
2.	High cost of concentrate	98	43.55	II
3.	Reluctance of feeding balanced feed	84	37.33	III
4.	High transportation cost of feed and fodder	80	35.56	IV
5.	Lack of retail price fodder shop	70	31.12	V
6.	Non-availability of improved fodder seed	50	22.23	VI
7.	Lack of motivation from training institutes	49	21.77	VII
8.	High cost involved in chaff cutter	38	16.89	VIII
9.	Not aware about dry and green fodder ratio combination	31	13.78	IX

Table-4 shows that limited irrigation facilities for growing green fodder (51.12%) was perceived on top priority by the farm women mainly living in non-irrigated lands, as rainfall in Bikaner district is very scanty and erratic. Hence availability of green grass and green fodder was a major problem raised by the farm women.

The problems of high cost of concentrate and high transportation costs of feed and fodder and also lack of credit supply for purchase of cattle feed and mineral mixture may be due to poor economic conditions of the farmers and lack of transportation media in the region.

Problems of lack of knowledge for preparing balanced feed, lack of retail price fodder shop and non-availability of improved fodder seeds were given less importance due to the reason that balanced feed and green fodder was given by farmers acquiring irrigated lands. Farmers of irrigated areas were much prosperous and hence had higher purchasing power, good mass media contacts being in touch with the city.

The above findings are in line with the researches conducted by Singh (1994), Sah (1996) and Lunagariya *et al.* (2011) who reported that lack of irrigation facilities for growing green fodder, high cost of concentrate and mineral mixture and preference to feed only local ingredients rather than balanced feed were some of the serious constraints faced by the respondents.

The data in Table-5 reveals that a large number of respondents 220 (97.78%) and 217 (96.45%) were experiencing serious constraints regarding lack of knowledge for full-hand milking followed by weaning new born calves. A considerable percentage of the respondents (38.66 and 37.33%) were having the problems of high cost involve in house construction and preference to allow milch animals for grazing respectively.

The problem of lack of knowledge regarding full hand milking and weaning new born calves may be due to the reason that since ages they have had the habit of milking in such a manner. As said, "Habits die hard" therefore even if they have the knowledge they have a serious constraint in adoption for the right method of milking.

### (iii) Management Constraints

**Table 5: Constraints faced by farm women in adoption of management practices**

S. No.	Constraints	Freq- uency	%	Rank
1.	Lack of knowledge regarding full hand milking	220	97.77	I
2.	Allow milch animals for grazing	84	37.33	IV
3.	High cost involve in construction cattle shed	87	38.66	III
4.	Lack of knowledge in weaning new born calves	217	96.45	II
5.	Disinterest in straining milk after milking	50	22.23	V
6.	Height and space of the cattle shed	48	21.33	VI
7.	Time of interval between milking (crossbred)	45	20.00	VII
8.	High cost involve in milking & churning machine	37	16.45	VIII

The findings are in conformity with the findings of Sihag *et al.* (1996) who reported that 69.17 per cent of the respondents faced constraint in adoption of right method of milking.

### (iv) Constraints pertaining to Health Care

The data presented in Table-6 are evident that more than one third of the chunk of respondents (37.77%) reported lack of knowledge about cattle diseases and their control as one of the serious constraints and accorded ranked first, followed by lack of veterinary hospitals and health centres in the village and surrounding areas whereas high cost of medicines was considered to be the least important problem as it was reported by only 23.0 per cent respondents and awarded third rank.

The realization of the problem of lack of knowledge about cattle diseases and their control was due to the reason that as the area has a scattered population, lack of veterinary health centres and trained persons in the area due to illiteracy people are ignorant about proper and adequate knowledge regarding scientific practices in the field of health care.

**Table 6: Constraints faced by farm women in adoption of health care management practices**

S.No.	Constraints	Freq- uency	%	Rank
1.	Lack of knowledge about cattle diseases and their control	85	37.77	I
2.	Lack of veterinary hospitals and health care centres	66	29.33	II
3.	High cost of veterinary medicines	56	24.88	III

The findings are in accordance with the findings of Verma (1993), Singh (1994) and Sohal (1998) highlighted that high cost of treatment, non-availability of veterinary aid at the door-step and inadequate knowledge of diseases of cattle and their control were the constraint and perceived by cattle owners of upper gangetic plains of Haryana ICDP farmers.

**(v) Miscellaneous Constraints**

**Table 7: Miscellaneous constraints perceived by the cattle owners**

S.No.	Constraints	Freq- uency	%	Rank
1.	Lack of educational programmes of dairying	48	21.33	I
2.	Lack of trained rural youth in villages	45	20.00	II
3.	Lack of knowledge regarding improved dairy practices	39	17.33	III
4.	Lack of information about Govt. programmes and facilities provided for cattle owners (Gopal Yojana and Others)	30	13.33	IV
5.	Lack of live demonstration units of modern cattle rearing practices in the area	21	9.33	V

Table-7 revealed that lack of educational programmes on dairying was expressed as the most important constraint with 21.33 per cent and ranked

first followed by lack of trained rural youth in villages (20.00%) and lack of knowledge regarding improved dairy practices (17.33%) respectively. More than ten per cent of the respondents were not aware about information pertaining to Government programme and facilities provided for cattle owners. The problem of lack of live demonstration units of improved cattle rearing practices in the areas (9.33%) was perceived least important constraint by the respondents

**(vi) Overall Constraint faced by Farm Women**

**Table 8: Overall constraints faced by farm women**

S.No.	Area	%	Mean Score	R a n k
1.	Management	43.78	0.50	I
2.	Feeding	30.37	0.35	III
3.	Breeding	28.44	0.31	IV
4.	Health Care	30.66	0.29	II
5.	Miscellaneous	16.26	0.15	V

As evident from Table 8, half of the respondents were facing major problems in adoption of management practices (0.50) followed by 30.66 per cent and 30.37 per cent of the respondents in health care and breeding practices respectively. Whereas least constraint were faced in the miscellaneous section (16.26%) after breeding were having V<sup>th</sup> rank in order.

**CONCLUSION**

The study concludes that the farm women had medium level of adoption of recommended management practices. The extension functionaries showed the dairy farmers about the importance of pregnancy diagnosis and importance of artificial insemination (A.I.) as they had low adoption level about these practices. The study also concluded that farmers having high education belonged to general category (caste) those having large land holding and younger in age also had higher adoption of recommended cattle management practices. All the ten variables were included in the study were having significant and positive relationship with adoption of cattle owners. It can be further concluded that lack of skills in full hand milking, knowledge of weaning new-born calves, limited irrigation facilities for raising green fodder, high cost of concentrate, transportation of

feed and fodder and non-availability of improved fodder seeds was realized as the major serious constraints.

Therefore it is recommended that rural youths should be trained thoroughly under Gopal Yojana and other security schemes so as to mitigate the constraints in breeding, feeding, management and health aspect. Effort should be made by the Govt. to increase grazing areas and pasture lands, provide subsidy for purchasing improved breeds of bulbs.

## REFERENCES

- Alakh, G.S. and Sharma, Karamjit (2012). Studies on adoption of recommended buffalo breeding practices in Punjab. *Indian Res. J. Ext. Edu.*, 12(1): 20-22.
- Ashish, Santosh, Mura and B.K. Singh (2011). Differential adoption of scientific dairy farming practices and related constraints. *Indian Res. J. Ext. Edu.*, 1(2): 46-49.
- Basunathe, V.K. (2004). Technology adoption behaviour of dairy farmers in less milk producing areas. Unpublished M.V.Sc. Thesis, M.A.F.S.V., Nagpur.
- Chandramouli, P., Meti, S.K., Hirevenkanazoudar, L.V. and Hanchinal, S.N. (2007). Comparative analysis of entrepreneurial behaviour of farmers in irrigated and dry land areas of Raichur district of Karnataka. *Karnataka J. Agril. Sc.*, 20(2): 320-321.
- Chaudhary, M. (1998). Knowledge and adoption of Modern Cattle Management Practices and their contribution towards Rural Economy in Barmer district of Rajasthan. Unpublished Ph.D. Thesis, College of Agriculture, Udaipur.
- Khode, N.V., Sawarkar, S.W., Banthia, V.V., Nande, M.P. and Basunathe, V.K. (2009). Adoption of improved dairy cattle management practices under vidarbha Development Programme Package. *Indian Res. J. Ext. Edu.* Vol. 9(2): 80-84.
- Lawrence, C. and Debasis Ganguli (2012) Entrepreneurial behaviour of dairy farmers in Tamil Nadu. *Indian Res. J. Ext. Edu.* 12(1): 66-69.
- Lunaeariya, P.M., Godhani, Shaka, H.B. and Patel, A.J. (2011). Adoption of improved animal science practices by the milk producers in Bhel region of Gujarat state. *Indian J. Agri. Res. and Ext.* Vol. IV; 35-38.
- Shah, A.K. (1996). A descriptive study of existing dairy farming practices and constraints in adoption of improved dairy practices among dairy farmers in Banka district (Bihar). Unpub. M.Sc. Thesis, N.D.R.I., Karnal.
- Sihag, Saroj, Grover, Indu and Sihag, S. Zile (1996). Adoption of animal husbandry innovations by rural women. *Indian J. Animal Production. Mngt.* 2(1): 24-29.
- Singh, Mahendra and Chauhan, Anil (2009). Adoption of animal husbandry practices by dairy farmers. *Indian J. Dairy Science.* (62(2): 119-125.
- Singh, Trilochan (1994). Multidimensional analysis of diary farming systems in Western Dry Region. Ph.D. Thesis Unpub. N.D.R.I., Karnal.
- Soni, R.L. and Mathur, Vandana (2011). Adoption of dairy farming practices among members of milk producer's cooperative societies in Banswara district. *Indian J. Agril. Res. and Ext.* Vol. IV; 16-17. Kumar, Sarvesh, Sharma, R.C. and Tripathi, (2011). Causes for technological adoption gaps among Jamanapari Goat keepers of Etawah. *Indian J. Agril. Ext.* Vol. IV; 25-28.



Received : January, 2013

Accepted : January, 2014