



*Original Research*

## Constraints Perceived by Dairy Farmers in the Adoption of Improved Animal Husbandry Practices in Doda District

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### Abstract

India possesses great potential in animal husbandry sector. The development of livestock sector is often considered as 'pro-poor'. The productivity enhancement can be made by adoption of animal husbandry practices and also by providing the systemic approach to generate empirical data on various socio-economic factors and constraints associated with the adoption of scientific animal husbandry techniques. Adoption of any animal husbandry technique involves a process in which awareness is created, attitude is changed and favorable conditions for adoption are provided. The present study was conducted in Doda district of Jammu and Kashmir state to study the constraints perceived by the farmers regarding the adoption of improved animal husbandry practices. Four blocks were randomly selected using simple lottery method. The selected blocks were Kastigarh, Bhagwah, Marmat and Ghat. After preparing a comprehensive list of villages of the selected blocks, two villages were selected randomly from each of the four selected blocks. Thereafter, fifteen respondents were selected randomly from each village. Thus a total 120 respondents were selected in all as the sample. Data was collected through well structured, personal interview from the respondents either at their farm or home after proper testing of schedule and using appropriate scales. Data were coded, classified, tabulated and analyzed using the software. The presentation of data was done to give pertinent, valid and reliable answer to the specific objectives. Frequencies, percentage, mean, standard deviation and mean percent score (MPS) were worked out for meaningful interpretation. In general constraints in improved scientific animal husbandry for management practices was lack of finance for animal husbandry management practices perceived as most serious constraint followed by high cost of raw material for dairy animal shed and inadequate housing. Lack of proper knowledge of milk production economics was perceived as least serious constraint. In case of feeding practices high cost of feed supplements or mineral mixture was perceived as the most serious constraint followed by high cost of dry fodder and non-availability of pastureland. Where as in case of recommended breeding practices the repeat breeding problem in dairy animals was perceived as most serious followed by poor conception rate of A.I. and lack of availability of breeding stock. Inadequate knowledge to detect heat signs in dairy animals was perceived as least serious by the respondents. In case of health care practices high cost of treatment was perceived as most serious constraint by the respondents. This was followed by distant location of veterinary hospital as a serious constraint. On the other hand, lack





of awareness about the facilities and services provided by the govt. were perceived as least serious by the respondents.

**Key words:** Adoption, Constraint, Health Care, Improved Animal Husbandry Practices, Management

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## Introduction

Livestock is an essential part of the socio-economic structure of rural India as a source of livelihood and provider of draught power, manure and energy. The development of livestock sector is often considered as 'pro-poor'. The livestock products' demand is more income elastic, as income rises in relation to the cost of living, consumers generally tend to spend more on protein products of animal origin than before. It has been estimated that by the year 2020 the demand of milk will rise to 131- 158 million tonnes (Paroda and Kumar, 2000). This would require an incremental addition of about 5 million tonnes of milk per year over next 15 years as compared to 2.5 million tonnes increment in the last 15 years (National Dairy Plan, 2021). This increased demand will have to be largely met with by increasing the productivity of the milch animals as the option of increasing their number is undesirable. Technological and management options are the only alternatives to accelerate the growth in productivity, which is currently low.

As far as Jammu and Kashmir is concerned, contribution of Agriculture and allied sectors (Primary sector) to state economy at constant (2004-2005) prices as per advance estimated for 2009-2010 has been 22.63%. Doda district is one of the remote and backward districts of the state. It has unique geography with mountainous terrains. Most of the people earn their livelihood through agriculture and allied sectors. As per 2001 census total population of district Doda is 4.09 lakh and about 80 % of its population lives in villages situated in far-flung and inaccessible areas. The huge number of livestock population is not able to cater to huge demand is perhaps for increasing the productivity of cattle. The productivity enhancement can be made by adoption of animal husbandry practices and also by providing the systemic approach to generate empirical data on various socio-economic factors and constraints associated with the adoption of scientific animal husbandry techniques. Adoption of any animal husbandry technique involves a process in which awareness is created, attitude is changed and favorable conditions for adoption are provided. This makes a strong case for regional strategies to be planned, to pursue the goal of higher milk production, for the elevation of economic condition of this community and to make the district self-sufficient in milk production. Increasing the animal productivity through adoption of improved animal husbandry practices would help to amplify the overall economic and social benefits to community from the livestock sector. There have been no adequate studies conducted in the state of Jammu and Kashmir to generate data about





the constraints perceived by the community, which deals with livestock rearing as a sole source of their livelihood. Keeping these factors in mind, the present investigation was planned to identify the constraints perceived by framers in Doda district of Jammu and Kashmir state with the objective to analyze and document the constraints which hamper the adoption of improved animal husbandry practices.

## Materials and Methods

### Research Design

Based on the nature of the research problem, Ex-post-facto research design was followed in the present study for documentation of constraints perceived by farmers in the adoption of improved animal husbandry practices in Doda district. Kerlinger (1983) defined Ex-post-facto research design as any systematic empirical inquiry in which the dependent variables have not been directly manipulated, because they have already occurred or they are inherently manipulated.

### Locale of Study

Jammu and Kashmir State consists of three division viz. Jammu, Kashmir and Ladakh. The state comprises of 22 districts of which Doda is an important one and has a population of 409,567. It is located at 32.52° N and 76.47°E, lying in the middle and outer Himalayan ranges, the district has mostly hilly terrain. The present study was conducted in Doda district of Jammu and Kashmir state.

### Sampling Method

Multistage random sampling plan was followed for the selection of ultimate respondents. Doda district consists of seventeen blocks. Four blocks were randomly selected using simple lottery method. The selected blocks were Kastigarh, Bhagwah, Marmat and Ghat. After preparing a comprehensive list of villages of the selected blocks, two villages were selected randomly from each of the four selected blocks. Thus, a total of eight villages were selected in all. Thereafter, fifteen respondents were selected randomly from each village, constituting a total sample size of 120 respondents.

### Data Collection

Data were collected through well-structured interview schedule, personal interview from the respondents either at their farm or home after proper testing of schedule and using appropriate scales. The interview schedule was developed using the package of practices of neighboring universities as “universe of content” after proper consultation with the members of Faculty of Veterinary Science and Animal Husbandry, SKUAST-Jammu. The final schedule was divided into four broad areas namely management, feeding, breeding and health care for evaluation of constraints in their respective sections. Responses were obtained in the areas of general management, clean milk production, feeding, breeding and health care. Each area of



improved animal husbandry practices contained 10 constraints in management, 12 in feeding, 11 in breeding and 8 in health care practices and the respondents were asked to rate them on three point continuum i.e. very serious (score = 3), serious (score = 2) and somewhat serious (score = 1), based on seriousness of the perceived constraint. The constraints were then ranked based upon their mean percent score which was calculated using the formula;  $MPS = \frac{\text{Obtained score}}{\text{Maximum possible score}} \times 100$ . The maximum possible score of overall constrain regarding improved animal husbandry was 4320. Whereas, the maximum possible score of each area of improved animal husbandry was 360.

### Mean Percent Score (MPS)

$$MPS = \frac{\text{Score obtained}}{\text{Maximum possible score}} \times 100$$

### Statistical Analysis

Data were coded, classified, tabulated and analyzed using the software; Statistical Package for the Social Science (SPSS, 16.0). The presentation of data was done to give pertinent, valid and reliable answer to the specific objectives. Frequencies, percentage, mean, standard deviation and mean percent score (MPS) were worked out for meaningful interpretation.

### Results and Discussion

Table 1 describes the general rank of constraints in different areas of improved animal husbandry practices as perceived by the respondents. As is evident from table 1, feeding constraints were perceived as most serious, whereas health constraints were perceived as least serious by the respondents. Similar findings were reported by Devendra *et al.* (2002) reported that feeding constraints were perceived most serious by the respondents. Gangasagare and Karanjkar (2009) reported that improved breeding practices were most adopted, whereas improved health care practices were least adopted by the respondents. Hamdani (2008) found that constraints in dairy farming mostly related to economy of respondents were perceived as more serious.

**Table 1:** Perceived constraints scores of farmers in different areas of improved animal husbandry practices

Constraints	Total Statements	Score Obtained	Mean Percent Score (MPS)	Rank
General management	10	523	12.1	3
Feeding	12	711	16.45	1
Breeding	11	539	12.47	2
Health care	8	474	10.97	4

Maximum score = 4320\*

### Perceived Constraints of Respondents in Improved Management Practices

For management practices (Table 2) lack of finance for respondents was perceived as most serious constraint followed by high cost of raw material for animal shed and inadequate animal housing. Similar findings have earlier been reported by Ashraf *et al.* (2013) and Rupasi *et al.* (2006) who reported that financial shortage and high input prices were faced by farmers to adopt improved animal husbandry practices. On the other hand, lack of proper knowledge of milk production economics was perceived as least serious. Similar finding has been earlier reported by Jeelani *et al.* (2015).

**Table 2:** Perceived constraints of respondents in improved management practices

S. No.	Constraints Related to Management Practices	No. of Respondents	Score Obtained	MPS	Rank
1	Inadequate housing system of animals	55	79	21.94	3
2	High cost of raw materials for dairy animal shed	62	103	28.61	2
3	Lack of knowledge of cheap and scientific housing system	23	37	10.27	6
4	Inadequate space for dairy animal housing	21	49	13.61	5
5	Lack of time devotion for dairy management practices	38	79	21.94	4
6	Lack of proper knowledge of milk production records	7	15	4.16	9
7	Lack of proper knowledge of milk production economics	9	13	3.61	10
8	Lack of clean water in sufficient quantity around the year	14	25	6.94	7
9	Lack of proper knowledge of sanitation and hygiene	8	19	5.27	8
10	Lack of finance for dairy management practices through scientific methods	77	113	31.38	1

Maximum score = 360\*

### Perceived Constraints of Respondents in Improved Feeding Practices

In case of feeding practices high cost of supplement feed or mineral mixture was perceived as most serious followed by high cost of dry fodder and non-availability of pasture (Table 3). These finding were in agreement with the findings of Gunaseela *et al.* (2018), Jeelani *et al.* (2015), Keshava and Mandape (2001) and Meena *et al.* (2007). Lack of drinking water sources for dairy animals was perceived as least serious by the respondents. Similar finding has earlier been reported by Jeelani *et al.* (2015).

### Perceived Constraints of Respondents in Improved Breeding Practices

As far as the breeding practices are concerned the repeat breeding problem in dairy animals was perceived as most serious by the respondents followed by poor conception rate of A.I. and lack of good breeding stock (Table 4).

**Table 3:** Perceived constraints of respondents in improved feeding practices

S. No.	Constraints Related to Feeding Practices	No. of Respondents	Score Obtained	MPS	Rank
1	Lack of knowledge of dairy animal feeding practices	16	36	10	7
2	Non availability of green fodder	9	26	7.22	8
3	Non availability of dry fodder	15	21	5.38	10
4	High cost of dry fodder	55	114	31.66	2
5	Non availability of pasture	49	99	27.5	3
6	Non availability of fodder seed of HYV	12	27	7.5	9
7	Lack of irrigation facilities for green fodder production	38	63	17.5	5
8	Non availability of supplement feed /mineral mixture	22	60	16.66	6
9	High cost of supplement feed/mineral mixture	67	168	46.66	1
10	Non availability of compounded feed	15	20	5.55	11
11	Lack of drinking water sources for dairy animals	2	4	1.11	12
12	Lack of knowledge about preservation of fodders	44	73	20.27	4

Maximum score = 360\*

**Table 4:** Perceived constraints of respondents in improved breeding practices

S. No.	Constraints Pertaining to Improved Breeding Practices	No. of Respondents	Score Obtained	MPS	Rank
1	Inadequate knowledge to detect heat signs in dairy animals	8	8	2.22	11
2	Lack of Knowledge regarding silent heat in dairy animals	24	43	11.94	5
3	Non availability of A.I. facilities	16	28	7.77	7
4	Poor Conception rate of A.I.	44	100	27.77	2
5	No A.I. facility available on holidays	12	15	4.16	8
6	High charges for breeding through A.I.	27	42	11.66	6
7	Unable to take dairy animals to A.I. centre/hospital	23	50	13.88	4
8	Repeat breeding problem in dairy animals	65	134	37.22	1
9	Problem of abortion in dairy animals	16	14	3.88	9
10	Untrained and inexperienced staff at A.I. centre/hospital	9	13	3.61	10
11	Lack of good breeding stock	46	92	25.55	3

Maximum score = 360\*

These finding were in agreement with the findings of Jeelani *et al.* (2015); Meena *et al.* (2007) and Rupasi *et al.* (2006) who reported that poor conception rate of artificial insemination, prolonged age at first calving (4-6 years) were the major constraints in animal husbandry sector. Inadequate knowledge to detect heat

signs in dairy animals was perceived as least serious. More or less similar constrain have been reported earlier by Jeelani *et al.* (2015).

### Perceived Constraints of Respondents in Improved of Health Care Practices

In case of health care practices (Table 5) high cost of treatment was perceived as most serious by the respondents followed by distant location of veterinary hospital.

**Table 5:** Perceived constraints of respondents in improved of health care practices

S. No.	Constraints in Dairy Animal Health Care Practices	No. of Respondents	Score Obtained	MPS	Rank
1	Non availability of veterinary hospital	18	36	10	7
2	High cost of treatment of animals	83	210	58.33	1
3	Not Knowing about services and facilities provided by the govt.	8	15	4.16	8
4	Ineffective treatment of animals	19	39	10.83	4
5	Non availability of door step health services	20	38	10.55	5
6	Lack of knowledge about schedule of deworming/ vaccination	37	45	12.5	3
7	Distant location of veterinary hospital/ centre	25	54	15	2
8	Vaccination facilities are not timely available	30	37	10.27	6

Maximum score = 360\*

Lack of awareness about the facilities and services provided by the government were perceived as least serious by the respondents. More or less similar constraints have been reported earlier by other workers like Keshava and Mandape (2001), Jeelani *et al.* (2015), Meena *et al.* (2007) and Rupasi *et al.* (2006).

### Conclusion

The livestock products' demand is more income elastic, as income rises in relation to the cost of living, consumers generally tend to spend more on protein products of animal origin than before. This increased demand will have to be largely met with by increasing the productivity of the milch animals as the option of increasing their number is undesirable. The productivity enhancement can be made by adoption of animal husbandry practices and also by providing the systemic approach to generate empirical data on various socio-economic factors and constraints associated with the adoption of scientific animal husbandry techniques. Constraints in improved animal husbandry practices mostly related to economy of respondents are perceived as more serious for management practices, high cost of feed supplements or mineral mixture was perceived as most serious constraint followed by high cost of dry fodder and non-availability of pastureland for feeding practices, repeat breeding problem in dairy animals was perceived as most serious

followed by poor conception rate of A.I. and lack of availability of breeding stock for breeding practices and high cost of treatment was perceived as most serious constraint for health care practices by the respondents. To overcome these constraints there was need to relook at the performance of rural banking system, micro finance institutions, packages of dairy loans and other schemes like Kisan credit cards and livestock insurance at grass root level, alternative models for delivery of health services are required that are less costly, and need for less costlier feeds and additives.

### Suggestions

- a) Increase in credit supply for scientific animal husbandry activities.
- b) Stress on breeding and feeding practices should be given.
- c) Alternative models for delivery of health services are required that are less costly.
- d) Need for less costlier feeds and additives

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