Perception towards Livestock Breeding Service Delivery by Dairy Cooperatives

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ABSTRACT

A study was conducted in Western Maharashtra region to know the perception of farmers towards livestock breeding services delivered by Gokul Dairy Cooperative with regard to timely availability, amount paid and satisfaction level of the farmers towards the services. The study revealed that 76.66 per cent of the farmers perceived that breeding services were timely available while 23.34 per cent responded that services were late. With regards to amount paid for the services, 31.33 per cent of the respondents perceived that breeding services were freely available while 44.67 per cent farmers answered that services were at nominal rates. In the study area, 37.34 per cent respondents were satisfied and 46.0 per cent of the farmers were partly satisfied with the breeding service delivery. The relation between timely availability of services and the independent variables depicted that variables education, livestock possession and economic orientation were significant while factors viz. annual income, scientific orientation and economic orientation were significant at 5 per cent level of significance with amount paid for breeding services. The variables age, education, occupation and annual income were found significant with satisfaction level of dairy farmers. Majority of the farmers perceived that high cost of Artificial Insemination (AI) and less number of veterinarians were the major constraints in livestock breeding service delivery. The study concluded that Gokul Dairy Cooperative provided various livestock breeding services for the farmers mostly on time at free or nominal rates. Since majority of the farmers were partly satisfied with breeding services, there is an urgent need to improve upon the quality of breeding services so that farmers would be more content and satisfied with the services of dairy cooperatives.

Key words: *Livestock breeding service; Dairy Cooperatives; Perception;*

The delivery of livestock services is emerging as an important priority area due to increasing demand for livestock and its products for enhancing and optimizing livestock production and management. Recent advances in animal husbandry sector have increased the demand for various livestock services like animal breeding, health care, feed and fodder production, marketing, etc. which are provided by multifarious agencies in India. The plethora of studies (*Shweta, 2014; CALPI, 2008; Ravikumar et. al., 2007*) has indicated State Department of Animal Husbandry and Veterinary Services as the main and primary provider of veterinary services apart from other private agencies, Dairy Cooperatives and NGOs which function at the regional level. Due to public sector constraints (*Shweta, 2014;*

Chander and Rathod, 2013; Pratap et al., 2012) the availability and effectiveness of public veterinary services has been limited which has led to shift from public towards the private and cooperative sector. Hence, livestock service delivery by dairy cooperatives in developing countries are getting attention during the past decade since they are very helpful in overcoming access barriers to assets, information, services, and the markets for small-holders (*Rathod et al.,2011; Nishi et al., 2011*).

Dairy cooperatives play an instrumental role in delivering animal breeding services to enhance efficiency in dairying, due to which they are getting attention from the past decade in developing countries. Presently, 1.44 lakh village dairy cooperatives are

federated into about 170 district milk unions which are subsequently federated into 22 state cooperative dairy federations (GOI, 2012). But, due to competitive market players, these cooperatives are able to handle only about 17 per cent of the marketable milk surplus. However, the ability of the cooperative to attain its full productive potential is influenced by the availability and quality of services being delivered to the rural masses apart from its resource mobilization and economic growth. Hence, fulfilling the members' demand by timely satisfactory service delivery in a cost effective manner is very important for the success of any dairy cooperative. The impact of the livestock breeding service delivery was evaluated by studying the farmers' perception towards the breeding services delivered by Dairy Cooperatives in Western Maharashtra, India.

METHODOLOGY

Out of the six regions in Maharashtra, Western Maharashtra (Pune region) region was selected for study due to the presence of the highest livestock population, maximum milk production and procurement as compared to other divisions (*Government of Maharastra, 2009*). Gokul Dairy cooperative is considered to be the biggest and advanced dairy cooperative in this region, both in terms of number of members and volume of production. The Dairy Cooperative namely "Kolhapur Zilla Dudh Utpadak Sangh Limited, Kolhapur" functioning in the brand name "Gokul" was being purposively selected due to its landmarks in milk procurement, breeding, animal health care, milk processing, product making and marketing. The Cooperative presently can handle 11.25 lakh litres of milk per day. This milk union covers 3788 village level dairy cooperatives on 238 milk routes for milk procurement every day.

Following multistage random sampling, 15 farmers were selected from each of the 10 villages to make the final sample of 150 farmers. A pretested structured interview schedule was used to study the perception of farmers towards livestock breeding services through personal interview method during April to June, 2010. Totally, 16 breeding service activities like Artificial Insemination (AI), pregnancy diagnosis including breeding extension activities (infertility camps, trainings etc) were selected based on discussion with experts and various literatures. The perception was studied on a 3 point continuum for timely availability, amount paid and satisfaction level towards the services. The constraints in livestock breeding service delivery were also enlisted. Following the completion of data collection, the collected data were coded, tabulated, classified and further categorized using frequency, percentage, mean and standard deviation. Correlation coefficient was used to study the relationship between socio-economic profile of dairy farmers and the perception towards livestock breeding services.

RESULTS AND DISCUSSION

Personal and socio-economic characteristics of dairy farmers: The study of personal and socio-economic characteristics was carried with reference to age, education, occupation, knowledge level on dairy farming, land holding, annual income, social participation, livestock possession, innovativeness, information seeking behaviour, decision making ability, scientific orientation and economic orientation. The data is furnished in Table 1.

The study as depicted in Table 1 reveals that about 71 per cent respondents belong to middle age group followed by 16 per cent belonging to young and about 13 per cent in the old age category. With regard to education, 37.33 per cent respondents possessed higher schooling followed by 29.33 per cent in the college level category and 20.67 per cent were illiterate. The study reported that 83.3 per cent of the farmers had agriculture as their main occupation followed by 5.3 per cent of the respondents being involved in animal husbandry as major occupation. The study indicated that 80 per cent farmers possessed medium knowledge followed by high (16%) and low (04%) knowledge level categories. The findings of the study revealed that 76.67 per cent respondents were medium farmers followed by small (12.67%) and larger land holding (10.66%) farmers (Table 1). The study pointed out that 69.34 per cent respondents were under medium income category followed by 20.33 per cent in low income and 10.33 per cent in higher annual income category. The study depicted that 68 per cent were members of one organization followed by 30.33 per cent farmers having membership in more than one organization while 1 per cent did not participate in any social activities (Table 1).

Table 1 indicates that 87.4 per cent farmers maintained medium livestock units followed by 12.6 per cent possessing large livestock units. The report revealed

that 75.34 per cent dairy farmers belong to medium level of innovativeness followed by 13.33 per cent in high level and 11.33 per cent in low level category of innovativeness. The study found that 56.67 per cent of the farmers had medium information seeking behavior

Table 1. Distribution of dairy farmers based on personal and socio-economic profile

Variables	Intervals	No.	%
Age	Young (22-33)	24	16.00
	Middle (34-60)	106	70.66
	Old (61-84)	20	13.34
Education	Illiterate	31	20.67
	Primary	19	12.67
	High School	56	37.33
	College	44	29.33
Occupation	Agriculture	125	83.33
	Animal Husbandry	08	5.33
	Business	06	04.00
	Government Service	05	3.33
	Laborers	06	04.00
Knowledge	Low (60-61.77)	06	04.00
Level	Medium (61.78-68.15)	120	80.00
	High (68.16-73)	24	16.00
Landholding	Small(0.25-0.39)	19	12.67
(acres)	Medium (0.40-5.61)	115	76.67
	Large (5.62-21)	16	10.66
Annual Income	Low (6000-10730)	31	20.33
	Medium (10731-128650)	103	69.34
	High (128651-500000)	16	10.33
Social	One organization	102	68.00
participation	More than one	46	30.33
	Office bearer	00	00
	Wide public leader	01	0.67
	Nil	01	01.00
Livestock/cattle	Small (0-0.38)	00	00
Unit	Medium (0.38-5.42)	131	87.4
	Large (5.42-25)	19	12.6
Innovativeness	Low (21-30.76)	17	11.33
	Medium (30.77-38.60)	113	75.34
	High (38.61-52)	20	13.33
Information	Low (27-33.08)	35	23.33
Seeking	Medium (33.09-37.88)	85	56.67
	High (37.89-40)	30	20.00
Decision making	Low (15-21.05)	18	12.00
ability	Medium (21.06-24.63)	123	82.00
	High (24.64-27)	09	06.00
Scientific	Low (12-15.20)	28	18.66
Orientation	Medium (15.21-17.04)	120	80.00
	High (17.05-18)	02	1.34
Economic	Low (12-14.56)	18	12.00
Orientation	Medium (14.57-16.52)	108	72.00
	High (16.53-189)	24	16.00

followed by low (23.33 %) and high (20 %) categories of information seeking behavior (Table 1). The study found that 82 per cent farmers belong to medium level of decision making followed by 12 per cent respondents in the low level. The report depicted that 80 per cent farmers had medium scientific orientation followed by low (18.66%) and high scientific orientation (1.34%) categories. The study revealed that 72 per cent of the farmers had medium economic orientation followed by 16 per cent farmers in high economic orientation category (Table 1).

Delivery of livestock breeding services: The major dairy inputs delivered by Gokul dairy cooperative is breeding service, which included 16 different activities like AI, pregnancy diagnosis and breeding extension activities like conducting animal breeding and infertility camps, trainings etc. During the year 2010 around two lakh cases were reported under 387 mobile AI centers. The villages had village level AI workers who were well trained by the union to act as fulltime AI technician in order to get higher fertility rates by inseminating in appropriate time. Similar findings were also revealed by *Rathod et al. (2011)* and *Ahuja (2004)* who reported that dairy cooperatives provided animal breeding services.

Perception of farmers towards livestock breeding services: Perception of farmers towards livestock breeding services is depicted in Table 2 which revealed that 76.66 per cent of the respondents perceived that animal breeding services were timely available while 23.34 per cent of respondents replied that the services were delayed. This was noticed due to effective service delivery in the form of static and mobile AI centers and conducting animal breeding and infertility camps. However, in the case of emergencies and complicated cases, 23.34 per cent farmers perceived that services were delayed. Farmers also opined that the veterinarian should recheck the cases handled by local AI workers.

Table 2 depicted that 31.33 per cent of the respondents perceived that animal breeding services were free and 44.67 per cent of respondents replied that the services were nominally charged. Further, the study also depicted that 24.0 per cent respondents perceived that services were highly charged. The present reports are in resonance with the findings of *Pratap et al. (2012)* who depicted that cooperatives charged common rates for all the farmers. However, majority

Table 2. Perception of farmers towards livestock breeding services

Perception of farmers towards timeliness in availability of breeding services

On Time Availability		Delayed Availability		Not Availability	
No.	%	No.	%	No.	%
115	76.66	35	23.34	0	0

Perception of farmers towards amount paid for breeding services

Free		Nominal		Costly	
No.	%	No.	%	No.	%
47	31.33	67	44.67	36	24.0

Satisfaction level of farmers towards livestock breeding services

Satisfied		Partly Satisfied		Not Satisfied	
No.	%	No.	%	No.	%
56	37.34	69	46.0	25	16.67

of the villages had trained AI workers who didn't serve the farming community effectively. The trained workers were unable to detect heat and hence the fertility rate was relatively low even after frequent inseminations. During the pregnancy diagnosis also, these village level AI workers charged the farmers during each visit.

With regard to animal breeding service delivery, 37.34 per cent of the respondents were satisfied and 46.0 per cent of the farmers were partly satisfied (Table 2). This was due to the fact that farmers appreciated the services rendered by the union to their door step which was also reported by Ahuja and co-workers in *CALPI, (2008)*. The study also revealed that 16.66 per cent of farmers perceived the breeding services as unsatisfactory. This was due to the fact that majority of the villages had trained AI workers who lacked the advanced knowledge to serve the farming community effectively. Hence, the farmers felt that the veterinarian should visit the village twice a week apart from any emergency visits.

Correlation coefficient between independent variables and feed and fodder production services: To study the relationship between the timely availability of services and the independent variables, correlation coefficient (r) was computed and the results are presented in Table 3. The variables age, education, occupation, knowledge level, annual income and information seeking behaviour were found to be positively correlated, while parameters like land holding,

Table 3. Correlation coefficient between independent variables and livestock breeding services

Independent Variables	'r¹'	'r²'	'r³'
Age	+0.11	-0.022	-0.69*
Education	+0.330*	+0.025	+0.52*
Occupation	+0.092	-0.073	+0.36*
Knowledge level	+0.016	+0.048	+0.058
Landholding	-0.083	-0.067	+0.024
Annual income	+0.078	-0.321*	+0.341*
Social participation	-0.042	+0.014	-0.092
Livestock/cattle unit	-0.54*	-0.0682	+0.068
Innovativeness	-0.072	-0.0405	+0.0321
Information seeking behaviour	+0.0022	-0.0122	-0.089
Decision making ability	-0.058	+0.232	-0.046
Scientific orientation	-0.0628	-0.318*	-0.0785
Economic orientation	-0.428*	-0.431*	-0.023

* Significant at 0.05 level of significance.

'r¹'=Availability; 'r²'=Amount paid; 'r³'=Satisfaction

social participation, livestock possession, innovativeness, decision making ability, scientific orientation and economic orientation were found to be negatively correlated with the availability of breeding services. The variables education, livestock possession and economic orientation were significant at 5 per cent level of significance.

Correlation coefficient (r) was computed to study the relationship between amount paid for the services and the independent variables which are presented in the Table 3. The variables education, knowledge level, social participation and decision making ability were found to be positively correlated, while variables like age, occupation, land holding, annual income, livestock possession, innovativeness, information seeking behaviour, scientific orientation and economic orientation were found to be negatively correlated. The variables annual income, scientific orientation and economic orientation were significant at 5 per cent level of significance.

To study the relationship between the satisfaction level of dairy farmers and the independent variables, correlation coefficient (r) was computed and the results are presented in the Table 3. The variables education, occupation, knowledge level, land holding, annual income, livestock possession and innovativeness were found to be positively correlated, whereas parameters like age, social participation, information seeking behaviour, decision making ability, scientific orientation and economic orientation were found to be negatively correlated with the satisfaction level of the respondents. The variables age, education, occupation and annual income were

Table 4. Constraints in effective animal breeding service delivery

Constraints	F	%	Rank
Less number of veterinarians	85	56.66	II
Higher incidence of diseases	69	46.00	III
Poor adaptability of cross bred	32	21.33	VIII
Low conception rate through AI	58	38.66	IV
Poor knowledge about heat detection	54	36.00	V
High cost of AI	94	62.66	I
Lack of training programme	19	12.66	IX
Unawareness about the ext.activities	35	23.33	VII
Unavailability of information booklet	50	33.33	VI

Significant at 5 per cent level of significance.

Constraints in effective animal breeding service delivery: Table 4 depicts that high cost of AI (62.66%) followed by less number of veterinarians (56.66%) and higher incidence of disease occurrence (46.0%) were the major constraints in breeding service delivery. The study also revealed that low conception rate through AI (38.66%), poor knowledge about heat detection (36.0%) and poor adaptability of cross bred animals (21.33 %) were also relatively major constraints for the farmers. Similar findings were reported by *Rathod et al. (2012)* who also reported that farmers were unable to pay for services and perceived these as major constraints for farming. Table 4 indicates that, 33.33 per cent farmers perceived non availability of information booklets followed by unawareness about extension activities (23.33%) and lack of training programmes (12.66 %) as other major constraints in livestock breeding service delivery. The probable reason for this may be poor outreach of extension activities and general tendency to ignore extension activities as compared to curative services. Similar findings were reported by *Tefera (2008)* and *Roy and Rangnekar (2007).*

CONCLUSION

The study concluded that Gokul Dairy Cooperative provided various livestock breeding services for the farmers mostly on time at free or nominal rates depending on the services. Since majority of the farmers were partly satisfied with breeding services, there is an urgent need to improve upon the quality of breeding services to make the farmers more content and satisfied with the services of dairy cooperatives.

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