



Effectiveness of livestock delivery services of dairy cooperatives of Kerala state[#]

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Abstract

The present study aimed to know the effectiveness of livestock services delivered by the veterinarians working under state regional cooperative milk producers' union (SRCMPU) and farmers views on these services. An ex-post-facto research design was adopted for the study. A total of fifteen veterinarians working under SRCMPU, Kerala, and thirty livestock farmers dependent on SRCMPU for the livestock services were selected. Data collection was done through using structured interview schedule method. The result from the study revealed that majority of the veterinarians and livestock farmers perceived curative services (60.00% and 46.66%), production services (53.33% and 63.33%), preventive services (53.34% and 56.66%), extension services (60.00% and 50.00%) and miscellaneous services (60.00% and 60.00%) as average. About satisfaction level, majority of the livestock farmers had medium level of satisfaction towards curative services (66.66%), production services (43.33%), preventive services (60.00%), extension services (50.00%) and miscellaneous services (60.00%). It is concluded from the result that there is need to improve the quality of livestock services from both veterinarians and farmers point of view. It is the need of hour to analyze and interpret the current scenario of service delivery systems of state regional cooperative milk producers' union through assessing the constraints perceived by them in livestock service delivery.

Keywords: Effectiveness, livestock farmers, livestock services, veterinarians

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Livestock sector is an important subsector of the Indian rural economy. This sector imparts important avenues for a plethora of livelihood activities for millions of farmers. It is also instrumental in supporting agriculture in the form of ensuring supply of crucial inputs, contributing to the health and nutrition of the household, offering supplementary income, employment opportunities and serving as a dependable “bank on hooves” for farmers in the times of crisis. Through all these activities this sector acts as a supplementary and complementary enterprise.

The development of dairy has been a boon for livestock farmers which are customarily weak especially the small landholders, landless laborers and women farmers. The rapid growth and modernization of dairy is largely credited to the contribution of dairy cooperatives in India. These cooperatives have prevented the exploitation of dairy farmers by exploitative middlemen and private contractors. Further, dairy cooperatives play an important role in furnishing livestock extension services to enhance the competence of dairy and it is the lone reason why dairy cooperatives are earning much attention in developing countries. Presently, 70,000 village dairy cooperative societies are federated into about 170 district milk unions which are then federated into 22 state cooperative dairy federations (Ramananda, 2012). But, due to competitive market players, these cooperatives are in position to handle only about 17% of the merchandisable milk (Rathod *et al.*, 2012). In a cooperative system most of the unions also provide a range of inputs and services to the village societies like feed, veterinary services, artificial insemination and other services (Rajendran *et al.*, 2004).

In this background, it was felt that is of foremost importance to know the effectiveness of livestock service delivery provided by the state regional cooperative milk producers union, and satisfaction of the farmers towards these services.

Materials and methods

An *ex-post-facto* research design was adopted for the study. An *ex-post-facto* research design is a method in which groups

with qualities that already exist are compared on some dependent variable. The present study is conducted in the state of Kerala. The primary societies of Kerala Cooperative Milk Marketing Federation (KCMMF), which are grouped under three Regional Co-operative Milk Producers' Unions viz. TRCMPU for Thiruvananthapuram region, ERCMPU for Ernakulam region and MRCMPU for Malabar region, were taken for the study. A total of fifteen veterinarians were selected for the study using simple random sampling technique. Out of 15 veterinarians, 10 were selected from the Trivandrum regional cooperative milk producer's union and five veterinarians from the Malabar regional cooperative milk producer's union, as these unions were mostly providing livestock services. The data collected through personal interview method is statistically analysed.

Further, 30 livestock farmers who depend on these unions for livestock services were selected using simple random sampling technique. The data were collected through personal interview method. The collected data were statistically analysed and the results were presented in percentage.

Result and discussion

Curative services

Referring to the result from the Table 1 about clinical intervention, majority of the veterinarians working under dairy cooperative has perceived treatment of animal disease (46.66%) as excellent as the main motto of the veterinarians is treatment of the animals. Majority perceived pre-clinical examination (60.00%), clinical examination (46.66%) and diagnosis of diseases (40.00%) as average which may be attributed to factors such as inadequate facility and lack of time availability. About obstetrical and gynecological intervention, majority of the veterinarians has perceived pre-clinical examination (53.34%) as excellent. This may be due to the importance of preclinical examination without which a professional veterinarian cannot proceed with the treatment of disease. Clinical examination (60.00%), treatment of diseases (46.66%) and diagnosis of diseases condition (40.00%) were average. The average perception in this regard

may be because of their heavy workload, lack of time availability, lack of subordinate staffs, lack of infrastructure facility and lack of cooperation from the owners. The findings are in line with the findings of Ravikumar (2007) who reported that majority of the veterinarians perceived curative services as average.

The data from the Tables 2 and 3 indicate that majority of the livestock farmers dependent on dairy cooperative for livestock services perceived that clinical intervention services as excellent (50.00%) and majority of them were satisfied (63.34%) with it. Regarding obstetrical and gynecological interventions majority of them perceived it as average (56.67%) and 50.00 percent of them were satisfied with it. Majority of the veterinarians perceived treatment for animal disease as excellent, this may be because the ultimate aim of the veterinarians is to cure the disease. Majority of the livestock farmers were convinced with the curative services provided by the dairy cooperatives. Regarding obstetrical and gynecological interventions majority of them perceived it as average which may be due to improper diagnosis and lack of timely availability of the services. The findings are in line with the findings of Deepthi (2017) who reported that majority of the farmers were satisfied with clinical and gynecological intervention. The findings are in contrary with the findings of the Ravikumar (2007) and Jain (2016) who reported that majority of the veterinarians has perceived medicinal treatment as average and gynecological treatment as below average.

Production services

It is apparent from the Table 1 that majority of the veterinarians working under dairy cooperative has perceived pregnancy diagnosis service (53.34%) as excellent. While equal number of veterinarians has perceived both average and poor for nutritional therapy (40.00%). The average and poor nutritional therapy may be because of lack of interaction and lack of demand by the farmers. It shows that there is need for improvement of nutritional therapy. The findings are in line with the findings of the Goyal (2017) as majority of the veterinarians were satisfied with pregnancy diagnosis service and not satisfied with feed

additive distribution.

It is evident from Tables 2 and 3, that majority of farmers had perceived pregnancy diagnosis service as excellent (46.66%) and majority of them were satisfied (66.66%) with it. Majority of them perceived average (46.66%) for feed additive distributions and 56.66 per cent of the respondents were not satisfied with it due to the lack of timely available service from the union. From both view point distribution of feeds was found poor. Hence, more concern should be given on this service to make production service more effective. The findings are in partial agreement with Deepthi (2017) who reported that majority of the farmers were satisfied with pregnancy diagnosis services and partly satisfied with feed additive distribution. The findings are in contrary with the findings of Ravikumar (2007) and Jain (2016) who reported that majority of the farmers perceived pregnancy diagnosis services as average.

Preventive services

The study (Table 1) indicated that majority of the veterinarians working under dairy cooperative has perceived deworming (80.00%) and vaccination (80.00%) as excellent, whereas majority of them perceived average for management and control of diseases (60.00%). The average factor may be due to the fact that irrespective of the control of diseases, outbreaks are affected often.

It could be observed from the Tables 2 and 3 that majority of the livestock farmers have perceived monitoring and control of diseases as average (53.34%) and that they were not satisfied with it. With respect to vaccination and deworming majority of them perceived it as excellent (53.34% and 46.66%) and they were satisfied (70.00%) with it. Referring to monitoring and control of diseases majority of the farmers were fairly convinced in terms of preventing infestation and contagious diseases. The average for disease control by veterinarians may be due to the fact that irrespective of the control of diseases, outbreaks are affected often. There is need for concern about monitoring and control of diseases as majority of them rated average. The findings are in contrary with the findings of the Ravikumar (2007) and Jain

(2016) who reported that majority of the farmers perceived deworming and vaccination services as average. The findings are in line with the findings of Deepthi (2017) who reported that majority of the farmers were satisfied with deworming and vaccination services and not satisfied with control diseases.

Extension services

It could be observed from the Table 1 that majority of the veterinarians working under dairy cooperative has perceived clinical advisory services (46.66%) and consultancy advisory services (53.34%) as excellent, whereas majority of them has perceived average for livestock business management advisory services (66.67%), production advisory services (60.00%), organising animal health/infertility camps (53.34%) and livestock management advisory services (53.34%). Majority of them has perceived organising cattle show/calf rally/exhibition (93.33%), programmes for various transfer of technology (86.66%), organising group meetings (80.00%), supply of printed materials (73.34%) and training programmes for farmers (53.34%) as poor. The poor condition may be due to the more concern of veterinarians towards curative services rather than extension services. The findings are in partial agreement with the findings of Goyal (2017) as majority of the respondents are partly satisfied with extension services.

Result present in the Tables 2 and 3 indicates that regarding extension services, 50.00 per cent of the livestock farmers have perceived average for clinical advisory services and majority (66.66%) of them were satisfied with it. About production advisory services 46.66 per cent of them have perceived it as average and 56.66 per cent of them were not satisfied with it. Regarding livestock management advisory services majority of them rated it as poor (56.66%) and 76.66 per cent of them were not satisfied with it. About livestock extension service, cent percent of the respondents had perceived it as poor and they were not satisfied with the supply of printed materials, group meetings and cattle show/exhibition, whereas regarding animal health/infertility camps, majority of them perceived it as average (60.00%) and majority (73.34%) of

them were satisfied with it. Average for livestock management advisory service and livestock business management advisory services by the majority of the veterinarians may be due to lack of positive interaction with farmers and more time devoted on disease management. About extension services it was found that the majority of the farmers are not convinced with extension services provided by the veterinarians working under dairy cooperative. The findings are in line with the findings of the Ravikumar (2007) who reported that majority of the livestock advisory services as average and supply of printed material as poor. The findings are in partial agreement with the findings of Deepthi (2017) who reported that majority of the farmers were satisfied with advisory services and organizing need-based trainings, but not satisfied with distribution of handouts/literature.

Miscellaneous services

According to data given in the Table 1, majority of the veterinarians working under dairy cooperative has perceived facilitating insurance for various livestock species (60.00%) as excellent, whereas majority of the respondents has perceived average for client management in livestock service delivery (53.34%) and implementing various animal husbandry schemes (46.66%). Client management in livestock service delivery is perceived as average may be because sometimes it is very difficult to convince and manage the clients due to their variant behaviour. Further, about implementation of schemes, not much schemes were delivered by the union.

According to the data given in the Tables 2 and 3, majority of the livestock farmers has perceived facilitating insurance for various livestock species as excellent (53.34%) and majority (60.00%) of them were satisfied with it. Regarding implementation of the schemes, majority of the respondents has perceived it as poor (50.00%) and 76.66 per cent of them were not satisfied with it as majority of them were not convinced with the implementation of the schemes. With respect to facilitating insurance, it is one of the mandates of dairy cooperative veterinarians and majority of them perceived client management in livestock service delivery as average. It may be attributed to lack of

Table 1. Effectiveness of livestock delivery services as perceived by the veterinarians working under dairy cooperatives of Kerala

Sl. No.	Types of services	Effectiveness		
	Curative Services	Excellent (%)	Average (%)	Poor (%)
1	Clinical intervention			
	a) Pre-clinical examination	26.66	60.00	13.34
	b) Clinical examination	20.00	46.66	33.34
	c) Diagnosis of disease	26.66	40.00	33.34
	d) Treatment	46.67	40.00	13.33
2	Obstetrical and gynaecological intervention			
	a) Pre-clinical examination	53.34	40.00	6.66
	b) Clinical examination	20.00	60.00	20.00
	c) Diagnosis of condition	26.66	40.00	33.34
	d) Treatment	33.34	46.66	20.00
	Production Services			
1	Pregnancy diagnosis	53.34	46.66	
2	Nutritional therapy	20.00	40.00	40.00
	Preventive Services			
1	Management and control of diseases	26.66	60.00	13.34
2	Deworming	80.00	20.00	
3	Vaccination	80.00	20.00	
	Extension Services			
1	Livestock advisory services			
	a) Production advisory service	26.66	60.00	13.34
	b) Clinical advisory service	46.66	40.00	13.34
	c) Livestock management advisory service	26.66	53.34	20.00
	d) Livestock business management advisory services	6.67	26.66	66.67
	e) Consultancy advisory service	53.34	26.66	20.00
2	Livestock extension services			
	a) Supply of printed materials		26.66	73.34
	b) Organising group meetings (Seminar/conferences/group discussion)		20.00	80.00
	c) Organising cattle show/calf rally/exhibition		6.67	93.33
	d) Organising animal health/infertility camps	13.33	53.34	33.33
	e) Organising programmes for various transfer of technology		13.34	86.66
	f) Organising training programmes for farmers	13.33	33.33	53.34
	Miscellaneous/Other Services			
1	Facilitating insurance for various livestock species	60.00	40.00	
2	Implementing various animal husbandry schemes	20.00	46.66	33.33
3	Client management in livestock service delivery	33.33	53.34	13.34

experience which they had on contractual basis and majority of the farmers are not convinced with the implementation of schemes of SRCMPU.

The findings are in partial agreement with the findings of Deepthi (2017) who reported that majority of the farmers were satisfied with issue of health certificates, post-mortem certificate and implementation of Government

Table 2. Effectiveness of livestock services delivery as perceived by the farmers dependent on dairy cooperative for livestock services

Sl. No.	Types of services	Effectiveness		
	Curative Services	Excellent (%)	Average (%)	Poor (%)
1	Clinical intervention (Examination, diagnosis and treatment of animal)	50.00	40.00	10.00
2	Obstetrical and gynaecological interventions (Examination, diagnosis and treatment of animal)	16.67	56.67	26.66
	Production Services			
1	Pregnancy diagnosis	46.66	36.66	16.66
2	Feed additive distribution	30.00	46.66	23.34
	Preventive Services			
1	Monitoring and control of diseases	26.66	53.34	20.00
2	Deworming	53.34	36.66	10.00
3	Vaccination	46.66	33.34	20.00
	Extension Services			
1	Livestock advisory services			
	a) Production advisory services	23.34	46.66	30.00
	b) Clinical advisory services	33.34	50.00	16.66
	c) Livestock management advisory services	20.00	23.34	56.66
2	Livestock extension services			
	a) Supply of printed materials			100.00
	b) Group meetings			100.00
	c) Cattle show/calf rally/exhibition			100.00
	d) Animal health/infertility camps	6.66	60.00	33.34
	Miscellaneous Services			
1	Facilitating insurance for various livestock species	53.34	33.33	13.33
2	Implementing various animal husbandry schemes	13.34	36.66	50.00

schemes. The findings are in partial agreement with the findings of Ravikumar (2007) and Jain (2016) who reported that issue of health certificate as average and issue of postmortem certificate as above average.

As far as overall services are concerned, majority of the veterinarians and livestock farmers perceived these services as average. The factors attributed to this are heavy workload of veterinarians, lack of supporting staff, inadequate qualified veterinarians, lack of education of the farmers and lack of time availability. Similar results were also reported by Ravikumar (2007) and Biradar (2009) who found that majority of veterinary surgeons were perceived livestock services as average.

Distribution of the veterinarians and livestock farmers according to their perception on livestock service delivery provided by the dairy cooperatives

The data from the Table 4 revealed that majority of the veterinarians working in the dairy cooperative and majority of the livestock farmers dependant on dairy cooperative for livestock services has perceived curative services (60.00% and 46.66%), production services (53.33% and 63.33%), preventive services (53.34% and 56.66%), extension services (60.00% and 50.00%) and miscellaneous services (60.00% and 60.00%) as average.

Distribution of livestock farmers based on their satisfaction regarding livestock services provided by the dairy cooperatives

It is evident from Fig.1 that majority of the livestock farmers dependant on dairy cooperatives for livestock services has perceived medium level of satisfaction towards curative services (66.66%), production services (43.33%), preventive services (60.00%),

Table 3. Farmers satisfaction towards livestock services provided by dairy cooperatives

Sl. No	Types of services	Satisfaction	
	Curative Services	Satisfied (%)	Not Satisfied (%)
1	Clinical intervention (Examination, diagnosis and treatment of animal)	63.34	36.66
2	Obstetrical and gynaecological interventions (Examination, diagnosis and treatment of animal)	50.00	50.00
	Production Services		
1	Pregnancy diagnosis	66.66	33.34
2	Feed additive distribution	43.34	56.66
	Preventive Services		
1	Monitoring and control of diseases	46.66	53.34
2	Deworming	70.00	30.00
3	Vaccination	70.00	30.00
	Extension Services		
1	Livestock advisory services		
	a) Production advisory services	43.34	56.66
	b) Clinical advisory services	66.66	33.34
	c) Livestock management advisory services	23.34	76.66
2	Livestock extension services		
	a) Supply of printed materials		100.00
	b) Group meetings		100.00
	c) Cattle show/calf rally/exhibition		100.00
	d) Animal health/infertility camps	26.66	73.34
	Miscellaneous Services		
1	Facilitating insurance for various livestock species	60.00	40.00
2	Implementing various animal husbandry schemes	23.34	76.66

Table 4. Distribution of the veterinarians and livestock farmers according to their perception on livestock service delivery provided by the dairy cooperatives

Sl. No	Types of services	Category	Veterinarians (%)	Farmers (%)
1	Curative services	Excellent	20.00	36.67
		Average	60.00	46.66
		Poor	20.00	16.67
2	Production Services	Excellent	33.33	13.34
		Average	53.34	63.33
		Poor	13.33	23.33
3	Preventive Services	Excellent	26.66	30.00
		Average	53.34	56.66
		Poor	20.00	13.34
4	Extension services	Excellent	26.66	16.66
		Average	60.00	50.00
		Poor	13.34	33.34
5	Miscellaneous services	Excellent	13.34	13.34
		Average	60.00	60.00
		Poor	26.66	26.66

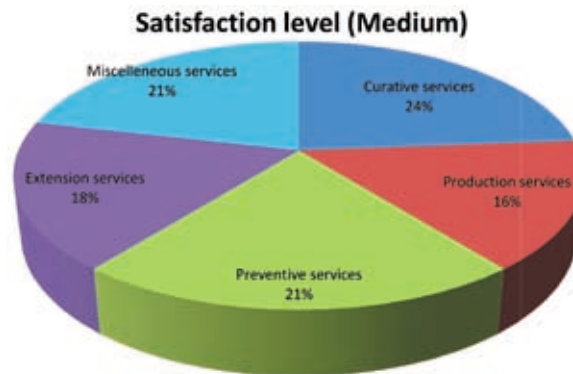


Fig.1. Distribution of livestock farmers based on their satisfaction regarding livestock services provided by the dairy cooperatives

extension services (50.00%) and miscellaneous services (60.00%).

Conclusion

It is concluded from the study that majority of the veterinarians and livestock farmers perceived livestock service delivery as average service as well as majority of the livestock farmers had medium level of satisfaction towards these services. In SRCMPU, decentralized veterinary units are facing the major problems such as lack of infrastructure facilities, lack of diagnostic facilities, lack of qualified veterinarians and subordinate staffs. The average effectiveness on the services as detailed above clearly suggests that there is vast scope available for improving the quality of livestock services provided by regional dairy cooperative.

Conflict of interest

The authors declare that they have no conflict of interest

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