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A comparative analysis of services delivered by dairy cooperatives and public departments in Jaipur district of Rajasthan

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Abstract
Dairy cooperatives and public departments are the association or foundation that passes various wellsprings of data and organizations relating to animals creation to the expected customers, either liberated from cost or charging as indicated by the help delivered by them. A study was purposively led following exploratory examination plan in Jaipur locale of Rajasthan to evaluate the status and viability of creation administrations benefited by animals ranchers from the domesticated animals specialist organizations. Data was collected from 120 randomly selected livestock farmers through structured interview plan. Among the production services the paravets were the major source for the artificial insemination services, 90.16 per cent of the livestock farmers utilized. Co-operatives were found major animal production service provider under different categories i.e. concentrate feed (89.28%), mineral mixture (83.92%), training and extension services (53.57%) and supply of fodder seeds and sleeps (35.71%). A moderate percentage of the respondent (20.83%) was access the credit facilities from various commercial and cooperative banks situated in the territory of the livestock farmers.

Keywords: Dairy cooperatives, exploratory examination, production services, training and extension services

Introduction
Indian livestock sector makes up for a significant position and amount of world's livestock resource. It not only helps in catering the nutritional needs of people but also acts as a major livelihood option for rural households. Which help to move out of poverty, as a way into rewarding business sectors, as a wellspring of foreign exchange, as significant financial assets and as method for saving (Scoones and Wollmer, 2006) [9]. The extension approaches and services followed by specialist service providers mainly, institutions of State of Agriculture, have resulted into wider spread of modern technologies in livestock production worldwide. Also, the plenty of studies has demonstrate state department of animal husbandry, is significant service provider for livestock farmers, apart from other private agencies, dairy cooperatives and NGOs which function at the regional level (Shweta and Ravikumar *et al.* 2014) [8, 13].

The delivery system is defined as a means or procedure for providing a product or service to the public and therefore the system is an assembly of parts or components together in an organized way. Livestock production services as genetic upgrading of livestock through artificial insemination, the improved formulation of feed, the use of improved forages and change in management practices and human health protection, such as sanitary inspection of animal products (Umali and de Haan) [15]. Furthermore, Ahuja and Redmond [1] recognized another service as the marketing of service involving marketing information and output marketing.

Livestock services around the world are usually delivered through a system composed of the government institution and to greater or lesser extent, organization and individual belonging to the private sector (Kleeman) [4]. Since independence in India, the livestock service delivery is under the control of public sector and the major agencies dealing with livestock extension

service in India are Directorate of Extension (Ministry of Agriculture), Indian Council of Agricultural Research, National Dairy Development Board, Krishi Vigyan Kendra, State Agricultural and Veterinary Universities and State Department of Animal Husbandry. In addition, national and regional level extension services are also provided by private agencies, Dairy Cooperatives and NGOs. The livestock service delivery by dairy cooperatives in India is getting attention during the past few decades since they are very helpful in overcoming access barriers to assets, information, services and the markets for small-holders

Methodology

The present study was conducted in purposively chose Jaipur district of Rajasthan. Out of 16 tehsils of Jaipur district, four tehsils *viz*. Phulera, Amber, Chomu and Jamwa Ramgarh were selected purposively on the basis of higher livestock population and presence of various livestock service delivery systems. In the following phase of testing, three villages were chosen randomly from each selected tehsils making a total of 12 villages. Ten livestock farmers availing the services of different livestock service providers were selected randomly from each village. In this manner, a sum of 120 respondents were selected and interviewed personally through a structured interview schedule.

This was operationalised as different livestock services delivery systems from which the respondents has profited the production services. In counsel with specialists, procurement agencies and literature, eight service delivery systems *viz*., dairy cooperatives, private integrators, public departments, private vets, paravets, educational institutes, pharmacies and others were identified and included for the study. The usual methodology of the different livestock service delivery systems were ensured from the officials working in the different systems. The respondents were asked which delivery systems you would avail for the production services needs. A score of "one" was given for each of the service delivery system from which the respondents has availed the various production services and "zero" for not availing any services. It was determined by developing a schedule for the same. Accordingly percentage was worked out and presented.

The perceived effectiveness of various delivery systems was learned as far as of regularity, timeliness, quality, quantity, costliness etc. The suppositions were obtained by interviewing the respondents with the help of a schedule developed for this purpose. Different production services were ascertained for their perceived effectiveness using different indicators. The weighted score is computed by allotting 3 for good, 2 for average and 1 for poor, then multiplying % of observations by the score & finally adding the total observations.

Results and Discussion

Existing livestock service delivery systems

The production services benefited by the livestock farmers from different livestock service delivery systems are presented in Table 1. Greater part of the livestock farmers (35.71%) obtained fodder seed and slips from dairy cooperatives. It was accounted that the training and extension programme is organised once in a week and the members revealed that correspondence with respect to such projects was not conveyed as expected by the co-operative authorities. Beside this, the livestock farmers were given active preparation with respect to scientific cattle management, fodder cultivation and clean milk production by the authorities in the milk Union.

Larger part of the livestock farmers purchased concentrate feed from dairy co-operative (89.28%), commercial feed agencies (66.66%) and private integrators (46.87%). Sharma [10] and Karthikeyan *et al.* [3] also found that majority of the dairy farmers bought concentrate feed from dairy co-operative.

Nearly (83.92%) of the livestock farmers purchased mineral mixture from dairy co-operative and 60.00% of them straightforwardly from pharmacies. This might be a result of the way that pharmacies are the fundamental source in the study area to give the needed veterinary medicines as and when required. Credit facilities were profited simply by small level of the dairy farmers. Among those profited, 20.83% and 19.64% were availed from commercial/co-operative banks and dairy co-operative respectively. Insurance facilities were availed by 32.14% and 16.67% of the livestock farmers from dairy co-operative and public department respectively. Furthermore, the department was giving insurance facilities to the selected respondents and subsidy was given on their premium charges which was supported by the government. The livestock farmers were additionally furnished with smaller than normal unit for the advancement and seeds and slips for high yielding assortments by the department officials. In case of credit facilities, a portion of the vendors pay advance remuneration to the respondent for their critical needs and amid the lean season while their charge will be paid off throw the milk deal to the vendors amid the flush season.

Artificial Insemination services were transcendently profited from para-veterinarians (90.16%) followed by private veterinarians (70.00%), private integrators (68.75%) and dairy co-operative (57.14%). The help of the paravets was inclined toward close by the private vets due to the way that they were rapidly available to the clients when required and most of them were individuals consequently they had the validity among the agriculturists and expenses charged by them was less when contrasted with that of private vets. A moderate rate (68.75%) and an extensive rate (46.87%) of the livestock farmers got the A.I. services and concentrate feed supplied by the private integrators, respectively. It was accounted that anyway integrators had selected trained inseminated to take care of the A.I. services, their service was least used due to unfortunate response and their non accessibility at the necessary time.

Livestock farmers are visiting the dairy co-operative daily for milk pouring and subsequently the vast majority of the livestock farmers (53.57%) are getting the advisory services from dairy co-operative. Rathod *et al.* [7] and Karthikeyan *et al.* [3] likewise revealed that majority of the farmers availed advisory services from dairy co-operative. Dairy farmers are also approaching public department for availing treatment and scheme facilities, might be the reasons for 53.12% acquiring training and advisory services from public departments.

Comparison of services delivered by dairy cooperatives and public departments were assessed by the livestock farmers

In a different situation there where different livestock service providers, it is basic to assess the sufficiency of the unmistakable possible providers on various standards remembering the ultimate objective to recognize who can best do the action. In this way, administrations conveyed by dairy cooperatives and public departments suppliers were assessed by the livestock farmers for their apparent adequacy and

introduced in various segments *viz*. mineral mixture and other supplements, credit facilities, insurance, A.I. services, training and extension services.

Supply of mineral mixture and other supplements

With most extreme weighted scores introduced in the Table 2, with maximum weighted scores, the livestock farmers perceived that the supply of mineral mixture and other supplements from public departments was efficient in terms of regularity (263.63), timeliness (263.63), quality (272.72), quantity (236.63) and cost effective (300.00) as compared to dairy cooperatives. Other than dairy cooperatives were viewed less cost effective (223.40), it was seen that their supply was not available regularly, timely and in required quantity next to public departments with the weighted scores of 170.22, 210.63 and 234.05 respectively.

Credit facilities

The aftereffects of livestock farmers' view on credit facilities are introduced in Table 2. It tends to be concluded from table that with most noteworthy weighted scores of 300.00 for accessibility and administrative procedure and 290.90 for timeliness, interest rate and their flexibility in repayment, farmers preferred the credit facilities from dairy cooperative over that of the banks and others credit agencies. According to Chander *et al.* [2] uncovered that insufficient financing by the government for the provision of veterinary service and major portion of the budg*et al*location was spent on heading and administration rather than veterinary services and animal health.

Insurance

The two major service providers, who are giving the insurance of the livestock in the review region, were considered for the comparison. From Table 2, with a most noteworthy score of 300.00, the insurance facility of dairy cooperatives and the public departments were seen as similarly viable as far as their premium charges by the livestock farmers.

Artificial insemination services

It is obvious from the Table 2 that there were two significant specialist service providers in the review region who were providing artificial insemination service. With maximum weighted scores, it can be concluded that the service of public departments was seen to be effective in timeliness (286.00), providing semen of varied breeds (292.00), quality of services (292.00), success rate (300.00) and cost effectiveness (292.00) in comparison to public departments. This outcome is as per Shinde [12] who saw that Department of Animal Husbandry and Dairying provided effective veterinary services such as breeding and health services.

Training and extension services

The two service providers i.e. dairy cooperatives and public departments who were giving training and extension services to the livestock farmers in the review region were considered for the comparison. Table 2 presents the results of livestock farmers' view on the training and extension services. Based on the weighted score determined, it tends to be concluded that the respondents saw the service of dairy cooperative as effective over that of the public departments in terms of their knowledge and skills (293.33), facilities (280.00), staff attitude (296.66), flexibility (283.33) and need-based (290.00).

Overall perceived effectiveness of different livestock service providers

The generally seen viability of dairy cooperatives and public departments were studied based on their weighted percentage mean score. The information introduced in the Table 3, that the raised weighted mean scores, the public departments were situated first in giving production services which are comprehensive of insurance 297.00, A.I. services 292.40 and in supplying mineral mixture and other supplements 272.72. It very well may be a direct result of how the public departments are functioning reliably. This finding is not in consonance with the earlier finding of Rajshree [5] who reported that the service of distribution of fodder seedlings and round the clock services provided by state department of animal husbandry were not available to majority of livestock owners.

The service of dairy cooperative was seen as the impacts in delivering credit facilities to the individuals and providing training and extension services with the weighted mean score of 294.54 and 288.66, respectively. The individuals from the dairy Cooperative were given standard camp formed in the villages and extension services were also given to the respondents. The credit facilities were organised by the cooperatives at a nominal rate of interest and it was quick in the milk cost. These observations are in congruity with the findings of Salastri and Maharjan [14], Rathod *et al.* [6] and Shinde [11] who revealed that dairy cooperatives saw as exceptionally compelling according to the delivery of livestock services to the farmers.

Table 1: Services availed from different livestock service delivery systems

S. No.	Type of Services	Dairy Cooperatives		Private Integrators		Public Departments		Private Vets		Paravets		Educational Institutes		Pharmacies		Other Sources	
		n = 56		n = 32		n = 120		n = 120		n = 120		n = 120		n = 120		n = 120	
		f	%	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%
1.	Supply of Fodder Seeds and Slips	20	35.71	8	25.00	4	3.33	0	0.00	0	0.00	18	15.00	0	0.00	40	33.33
2.	Supply of Concentrate Feed	50	89.28	15	46.87	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	80	66.66
3.	Supply of Mineral Mixture and Other Supplements	47	83.92	6	18.75	11	9.16	15	12.50	5	4.16	12	10.00	72	60.00	0	0.00
4.	Credit Facilities	11	19.64	2	6.25	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	25	20.83
5.	Insurance	18	32.14	4	12.50	20	16.67	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
6.	A.I. Services	32	57.14	22	68.75	50	41.66	84	70.00	110	90.16	0	0.00	0	0.00	0	0.00
7.	Training and Extension Services	30	53.57	17	53.12	45	37.50	0	0.00	0	0.00	15	12.50	0	0.00	0	0.00

Where n = Total number of respondents, *f* = Frequency, % = Percentage

Table 2: Livestock farmers' view on effectiveness of of dairy cooperatives and public departments

Effectiveness					
Supply of mineral mixture and other supplements					
Service provider	**Regularity**	**Timeliness**	**Quality**	**Quantity**	**Cost**
Dairy Cooperatives	170.22	210.63	234.05	236.17	223.40
Public Departments	263.63	263.63	272.72	236.63	300.00
Credit Facilities					
Service provider	**Accessibility**	**Timeliness**	**Interest Rate**	**Administrative procedure**	**Flexibility in Repayment**
Dairy Cooperatives	300.00	290.90	290.90	300.00	290.90
Others	272.00	248.00	232.00	240.00	220.00
Insurance					
Service provider	**Accessibility**	**Coverage**	**Premium Charges**	**Administrative procedure**	**Claiming**
Dairy Cooperatives	294.44	294.44	300.00	300.00	277.77
Public Departments	300.00	295.00	300.00	290.00	300.00
Artificial Insemination services					
Service provider	**Regularity**	**Semen of Varied Breeds**	**Quality of Services**	**Quality of Services**	**Cost-effectiveness**
Dairy Cooperatives	256.25	259.37	253.12	262.50	268.75
Public Departments	286.00	292.00	292.00	300.00	292.00
Training and extension services					
Service provider	**Knowledge and Skills**	**Facilities**	**Staff Attitude**	**Flexibility**	**Need-Based**
Dairy Cooperatives	293.33	280.00	296.66	283.33	290.00
Public Department	253.33	246.66	248.88	242.22	260.00

Table 3: Overall perceived effectiveness of dairy cooperatives and public departments

SI. No.	Type of service	Service Provider	Weighted mean score	Rank
1.	Supply of Mineral Mixture and other Supplements	Public Departments	272.72	1
		Dairy Cooperatives	214.90	2
2.	Credit facilities	Dairy Cooperatives	294.54	1
		Others	242.40	2
3.	Insurance	Public Departments	297.00	1
		Dairy Cooperatives	293.33	2
4.	A.I. services	Public Departments	292.40	1
		Dairy Cooperatives	260.00	2
5.	Training and extension services	Dairy Cooperatives	288.66	1
		Public Departments	250.22	2

Note: The weighted mean score was obtained by dividing the sum of total scores for all the indicators of a specific system by the total number of indicators for the particular service.

Conclusion

Based on the research, it was reasoned that the public department was effective in providing insurance, artificial insemination services and mineral mixture to the livestock farmers, while co-operatives were found to be effective in credit facilities and training and advisory services. Subsequently the dairy cooperatives ought to train and employ sufficient personnel to take care of the breeding needs of dairy animals of their members. There is a need to rebuild the conveyance system of private integrators and dairy co-operatives for effective and fundamental help conveyance pair with the necessity of livestock farmers.

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