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Production services availed by livestock farmers from different service providers in Jaipur district of Rajasthan

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Abstract

A study was purposively conducted following exploratory research design in Jaipur district of Rajasthan to assess the status and effectiveness of production services availed by livestock farmers from the livestock service providers. Data were collected from 120 randomly selected livestock farmers through structured interview schedule. 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. Overall it was concluded that the public department was effective in providing insurance, artificial insemination services and mineral mixture to the livestock farmers with the weighted mean score of 297.00, 292.40 and 272.72, respectively. While co-operatives were found to be effective in credit facilities and training and advisory services weighted mean score of 294.54 and 288.66, respectively. The commercial feed agencies and neighbours were perceived as the effective service provider in supplying concentrate cattle feed and fodder seeds and slips to the livestock farmers, respectively.

Keywords: Concentrate cattle feed, livestock farmers, production services, service providers

Introduction

Livestock is essential assets for livelihoods which help to move out of poverty, as a way into lucrative markets, as a source of foreign exchange, as important socio-economic resources and as means of saving (Scoones and Wollmer) [8]. Fortunately, India is blessed with tremendous livestock wealth. It has the largest population of buffalo and the second largest population of cattle in the world. Livestock production and agriculture are intrinsically linked, each being dependent on the other and both crucial for overall food security.

The livestock service delivery system is an agency or institution that delivers various inputs and services pertaining to livestock production to the intended clientele, either free of cost or charging according to the service rendered by them. Livestock services can be classified in four categories: curative services, particularly the diagnosis and treatment to treat diseased animals; preventive services to stop the emergence and spreading of diseases through vaccination, vector control measures, such as quarantine and forced slaughter of affected animals; 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) [13]. In addition, Ahuja and Redmond [1] identified another service as the marketing of service comprising marketing information and output marketing.

Delivery of quality and affordable veterinary services is one of the effective means of enhancing livestock productivity. The extent to which growth in livestock production can be accelerated would depend on how technology, institutions and policies address constraints facing the livestock sector. Effective and efficient delivery of animal health and production services is considered as vital for gainful livestock development and hence, efficient delivery of livestock services has become a subject of rising concern to many national and international

organizations including FAO (Kleeman) [4]. The acquaintance of the services to farmer's doorstep has to be accomplished through implementation of strategies with cost-effectiveness and authenticity. Hence there is need to understand the opportune delivery of the service of millions of farmers in an effective way is a necessity for their monetary progress.

Methodology

The present study was conducted in purposively selected 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 different livestock service delivery systems. In the next stage of sampling, three villages were selected 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. Thus, a total of 120 respondents were selected and interviewed personally through a structured interview schedule.

This was operationalised as various livestock services delivery systems from which the respondents has availed the production services. In consultation with experts, 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 modus operandi 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 different delivery systems was ascertained in terms of regularity, timeliness, quality, quantity, costliness etc. The opinions 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 availed by the livestock farmers from different livestock service delivery systems are presented in Table 1. Majority of the livestock farmers (35.71%) procured fodder seed and slips from dairy cooperatives. It was accounted that the training and extension programme is arranged once in a week and the members reported that communication regarding such programs was not conveyed properly by the co-operative officials. Aside from this, the livestock farmers were given hands-on training regarding scientific cattle management, fodder cultivation and clean milk production by the officials in the milk Union.

Majority of the livestock farmers purchased concentrate feed from dairy co-operative (89.28%), commercial feed agencies (66.66%) and private integrators (46.87%). Sharma [9] and

Karthikeyan *et al.* [3] also found that majority of the dairy farmers purchased concentrate feed from dairy co-operative. Almost (83.92%) of the livestock farmers purchased mineral mixture from dairy co-operative and 60.00% of them purchased directly from pharmacies. This may be because 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 availed only by meagre percentage of the dairy farmers. Among those availed, 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. Additionally, the department was giving insurance facilities to the selected respondents and subsidy was given on their premium charges which are funded 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 debit will be paid off throw the milk sale to the vendors amid the flush season.

Artificial Insemination services were predominantly availed from para-veterinarians (90.16%) followed by private veterinarians (70.00%), private integrators (68.75%) and dairy co-operative (57.14%). The service of the paravets was favoured alongside the private vets due to the way that they were quickly accessible to the customers when required and the greater part of them were neighbourhood people thus they had the validity among the agriculturists and expenses charged by them was less as compared to 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 however integrators had selected trained inseminated to take care of the A.I. services, their service was minimum utilized because of poor reaction and their non availability at the required time.

Livestock farmers are visiting the dairy co-operative daily for milk pouring and hence most of the livestock farmers (53.57%) are getting the advisory services from dairy co-operative. Rathod *et al.* [7] and Karthikeyan *et al.* [3] also reported 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.

A small percentage of livestock farmers (53.12%) have received the benefits of training and extension services provided by the integrators. The extension activities were conducted to educate the farmers regarding the scientific management and regarding the scientific management and rearing of animals.

Effectiveness of different livestock service delivery systems as perceived by the livestock farmers

In a diverse situation there where different livestock service providers, it is imperative to evaluate the adequacy of the distinctive conceivable suppliers on different criteria keeping in mind the end goal to distinguish who can best carry out the activity.

In like manner, services delivered by more than one supplier were assessed by the livestock farmers for their apparent adequacy and introduced in various segments *viz.* supply of

fodder seed and slips, concentrate feed, mineral mixture and other supplements, credit facilities, insurance, A.I. services, training and extension services.

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

Fodder seed and slips

It can be observed from table 2 that the supply of fodder seeds and slips from neighbours was found to be most regular (207.50), timely (247.50), adequate in quantity (285.00) and variety (282.50) as well as cost effective (297.50) than other sources. However, their quality (260.00) was perceived to be inferior as compared to other sources.

With a weighted score of 285.00, the quality of fodder seeds and slips from dairy cooperatives was perceived to be most superior among all the systems. In terms of quantity, variety and cost effectiveness, the services were next to the service available from neighbours with weighted scores of 260.00, 280.00 and 210.00, respectively. However, they were not available regularly (175.00) and in time (195.00).

Supply of concentrate feed

It was discovered from the table 2 that there were three major service providers in the study area supplying concentrate cattle feed which includes dairy co-operatives, private integrators and the commercial cattle feed agencies. With maximum weighted scores, the livestock farmers saw that the supply of commercial agencies was effective in term of regularity (296.25), timeliness (287.58), quality (288.75),

quantity (295.00) and type of feed (292.5) and then different systems accept their service was not considered cost-effective (143.75). With weighted score of 236.00 the supply of concentrate feed by dairy cooperative was perceived to be most effective. However, the supply of dairy cooperatives was seen as not regular and timely by the livestock farmers and consequently got the less weighted score of 210.00 and 236.00, respectively.

Supply of mineral mixture and other supplements

With maximum weighted scores presented in the Table 2, with maximum weighted scores, the livestock farmers perceived that the supply of mineral mixture and other supplements from pharmacies was efficient in terms of regularity (300.00), timeliness (300.00), quality (300.00) and quantity (300.00) as compared to other systems. However, their service was not considered cost effective (130.55). Although public departments were cost effective (300.00) in providing the mineral mixture and other supplements to farmers as compared to other systems, it was seen that their supply was available regularly, timely and in required quantity next to pharmacies with the weighted scores of 263.63 each and was good in quality also (272.72).

Table 2: Livestock farmers' view on effectiveness of livestock production services by service providers

Service provider	Effectiveness					
	Regularity	Timeliness	Quality	Quantity	Variety	Cost
Supply of fodder seeds and slips						
Dairy Cooperatives	175.00	195.00	285.00	260.00	280.00	210.00
Educational Institute	200.00	205.55	261.11	194.44	261.11	205.55
Neighbours	207.50	247.50	260.00	285.00	282.50	297.50
Supply of concentrate feed						
Service provider	Regularity	Timeliness	Quality	Quantity	Variety	Cost
Dairy Cooperatives	210.00	236.00	260.00	244.00	244.00	236.00
Private Integrators	293.33	280.00	280.00	260.00	280.00	213.33
Commercial Cattle Feed Agencies	296.25	287.50	288.75	295.00	292.50	143.75
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	
Pharmacies	300.00	300.00	300.00	300.00	130.55	

Credit facilities

The results of livestock farmers' view on credit facilities are presented in Table 3. It can be concluded from table that with highest 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] revealed that inadequate financing by the government for the provision of veterinary service and major portion of the

budget allocation was spent on direction and administration rather than veterinary services and animal health.

Insurance

The two major service providers, who are providing the insurance of the livestock in the study area, were considered for the comparison. From Table 3, with a highest weighted score of 300.00, the insurance facility of dairy cooperatives and the public departments were found equally effective in terms of their premium charges by the livestock farmers.

Artificial insemination services

It is clear from the Table 3 that there were four major service providers in the study area who were providing artificial insemination service. With maximum weighted scores, it can be concluded that the service of public departments was perceived 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 other systems. This result is in accordance with Shinde ^[11] who observed 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 providing training and extension services to the livestock farmers in the study area were considered for the comparison. Table 3 presents the results of livestock farmers' view on the training and extension services. Based on the weighted score calculated, it can be concluded that the respondents perceived 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).

Table 3: Livestock farmers' view on effectiveness of livestock production services by service providers

Service provider	Effectiveness				
	Accessibility	Timeliness	Interest Rate	Administrative procedure	Flexibility in Repayment
Credit Facilities					
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 Integrators	254.54	213.63	277.27	295.45	277.27
Public Departments	286.00	292.00	292.00	300.00	292.00
Paravets	274.54	261.81	268.18	248.18	197.27
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

Overall perceived effectiveness of different livestock service providers

The overall perceived effectiveness of dairy service delivery systems were studied based on their weighted percentage mean score. The data presented in the Table 4, that the elevated weighted mean scores, the public departments were positioned first in providing 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 might be because of the way that the public departments are working consistently. 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 supplying fodder seeds and slips rendering credit facilities to the members and providing training and extension services with the weighted mean score of 234.16, 294.54 and 288.66, respectively. The dairy cooperatives keep up the stock of good quality fodder seeds and slips of different improved

varieties which were distributed to the members regularly on payment when they needed it by charging and nominal cost. The members of the dairy Cooperative were given periodical training in improved with dairy farming and fodder cultivation and they were also taken for field visits routinely. Likewise, regular camp composed in the villages and extension services were also given to the respondents. The credit facilities were arranged by the cooperatives at a nominal rate of interest and it was rapid in the milk cost. These observations are in conformity with the findings of Salastri and Maharjan ^[12], Rathod *et al.* ^[6] and Shinde ^[10] who reported that dairy cooperatives found very effective in relation to the delivery of livestock services to the farmers. With the weighted mean score of 267.29, the commercial feed agencies was perceived as the effective service provider in supplying commercial concentrate feed to the livestock farmers which was not satisfactorily accessible from different systems the livestock farmers. In spite of the fact that the service was not cost-effective, they irregularity, quality and timeliness in supplying made it as the best system in the market.

Table 4: Overall perceived effectiveness of different livestock service providers

SI. No	Type of service	Service Provider	Weighted mean score	Rank
1.	Supply of fodder seeds and slips	Neighbours	263.33	1
		Dairy Cooperatives	234.16	2
		Educational Institutes	221.30	3
2.	Supply of concentrate feed	Commercial Feed Agencies	267.29	1
		Private Integrators	266.77	2
		Dairy Cooperatives	238.33	3
3.	Supply of Mineral Mixture and other Supplements	Public Departments	272.72	1
		Pharmacy	218.11	2
		Dairy Cooperatives	214.90	3
4.	Credit facilities	Dairy Cooperatives	294.54	1
		Others	242.40	2
5.	Insurance	Public Departments	297.00	1
		Dairy Cooperatives	293.33	2
6.	A.I. services	Public Departments	292.40	1
		Private Integrators	263.63	2
		Dairy Cooperatives	260.00	3
		Paravets	250.00	4
7.	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

The study concluded that majority of livestock farmers found that public departments were most effective in delivering first in providing artificial insemination services, insurance and mineral mixture and other supplements while the dairy co-operative was perceived to be effective in supplying fodder seeds and slips, credit facilities and training and advisory services. The commercial feed agencies were perceived as effective service provider in supplying commercial concentrate feed than others. The A.I. Services were predominantly availed from the paravets followed by private and public departments.

Hence the dairy cooperatives and private integrator should train and employ sufficient personnel to take care of the breeding needs of dairy animals of their members. The private integrators should make necessary attempt to setup concentrate feed plants at regional level and develop for fodder farms to ensure the regular supply of subsidised concentrate feed, fodder seeds and slips and other nutritional supplements to the livestock farmers. There is a need to restructure the delivery mechanism of private integrators and dairy co-operatives for efficient and essential service delivery in tandem with the requirement of livestock farmers.

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