

Farmers' willingness to pay for Livestock Extension Services

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Livestock extension services in India have been traditionally funded, managed and delivered by public sector with significant subsidies or free of cost. But, in the recent past, the quality of these services has deteriorated considerably mainly because of the fiscal deficits faced by Government in their provision. So, taking positive outcomes of experiences of some developing countries like Mali, Cameroun, Chad, Malaysia, Northern Malawi etc. into account (Anteneh, 1984; Mariam, 1993; Angniman, 1996; Babjee, 1996; and Huttner, 2000), cost recovery has been considered as one of the options to enhance the quality of the services, apart from reducing the financial and administrative burden on the Government. As a result, some of the State Animal Husbandry departments, State Agricultural Universities and cooperatives have now started charging for the livestock extension services. Since, major portion of livestock in our country is owned by small, marginal farmers and landless laborers whose ability to pay for the livestock services is poor, hence it is necessary to safeguard their interests while implementing cost recovery measures for livestock extension services. Hence, to provide empirical evidence in this regard, the present study was conducted to study the willingness of the farmers to pay for livestock extension services.

Methodology

The study was conducted in Guntur district of Andhra Pradesh using exploratory research design. Three mandals namely; Sattenapalle, Bapatla and Narasaraopet were selected randomly, one from each revenue division of Guntur district. A total of six villages at the rate of two from each selected

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mandal, namely; Pedamakkena, Nandigama, Appikatla, Kankatapalem, Pamidipadu and Reddypalem were selected randomly. By using quota and proportionate random sampling techniques, a total sample of 120 livestock farmers at the rate of 20 from each village were selected for the study and the final sample comprised of 38 small, 51 medium and 31 large categories of livestock farmers based on their herd size. Livestock farmers with 1-5 adult livestock units were considered as small, 5-10 adult livestock units as medium farmers and more than 10 adult livestock units as large farmers for the study according to conversion criteria given by Singh (1998). The livestock farmers comprised of dairy farmers, sheep and goat farmers and poultry farmers.

Data were collected with the help of a pre tested and semi structured schedule, which consisted of five categories of livestock extension services viz., Breeding, Diagnostic, Prophylactic, Curative and Miscellaneous services. From these listed services, the respondents were asked to identify the services for which they are willing to pay and also to specify the possible amount they could pay for those identified services, which included the service charge and the cost of inputs required for the services. The data thus collected were analyzed with statistical tools viz., frequency, percentage and average and presented separately for small, medium and large farmers as well as for total number of farmers.

Results and Discussion

Livestock extension services are categorized into Breeding, Diagnostic, Prophylactic, Curative and Miscellaneous services and the willingness of three categories of livestock farmers to pay for each service is presented individually (Table 1).

1. Breeding Services

a. Artificial insemination

It can be noticed from Table 1 that majority of the small, medium, large and overall farmers were willing to pay for artificial insemination (78.95%, 88.24%, 90.32% and 85.83%) respectively. The preferred fee range that all

Table 1: Farmers willingness to pay for the livestock extension services

N = 120

S.No.	Type of service	Small farmers(N = 38)			Medium farmers(N = 51)			Large farmers(N = 31)			Total farmers		
		Willing	PFR	AF	Willing	PFR	AF	Willing	PFR	AF	Willing	PFR	AF
1	Breeding services												
	a) Artificial insemination	30 (78.95)	10-20	13.33	45 (88.24)	10-20	14.44	28 (90.32)	10-20	17.14	103 (85.83)	10-20	14.97
	b) Pregnancy diagnosis	16 (42.11)	5-10	7.10	37 (72.55)	5-15	7.75	23 (74.19)	10-20	12.58	76 (63.33)	5-20	9.14
2	Diagnostic services												
	a) Laboratory diagnosis	25 (65.79)	10-30	14.21	40 (78.43)	10-40	16.47	24 (77.42)	20-50	26.70	89 (74.17)	10-50	19.13
	b) Postmortem	14 (36.84)	20-50	33.42	10 (19.61)	20-150	78.00	25 (80.65)	50-150	90.00	49 (40.83)	20-150	67.14
	c) Radiography	18 (47.37)	10-20	14.44	31 (60.78)	10-30	17.09	27 (87.10)	10-50	20.37	76 (63.33)	10-50	17.30
3	Prophylactic services												
	a) Deworming	14 (36.84)	5-10	6.42	30 (58.82)	5-10	6.67	26 (83.87)	5-10	6.77	70 (58.33)	5-10	6.62
	b) Vaccination	28 (73.68)	5-10	6.43	38 (74.51)	5-10	7.63	28 (90.32)	5-10	7.74	100 (83.33)	5-10	7.27
4	Curative services												
	a) Medical treatment	23 (60.53)	10-50	20.45	44 (86.27)	20-50	33.63	29 (93.55)	20-100	58.62	96 (80.00)	10-100	37.56

S.No.	Type of service	Small farmers(N = 38)			Medium farmers(N = 51)			Large farmers(N = 31)			Total farmers		
		Willing	PFR	AF	Willing	PFR	AF	Willing	PFR	AF	Willing	PFR	AF
5	b) Minor surgical treatment	5 (13.16)	10-20	14.00	7 (13.73)	10-20	14.28	9 (29.03)	10-30	18.89	21 (17.50)	10-30	15.72
	c) Major surgical treatment	33 (86.84)	25-100	43.18	48 (94.12)	50-200	85.41	31 (100.00)	50-500	164.51	112 (93.33)	25-500	97.70
	d) Gynaecological and obstetrical treatment	32 (84.21)	25-100	53.12	47 (92.16)	25-150	70.21	30 (96.77)	50-200	100.00	110 (91.67)	25-200	74.44
	Miscellaneous services												
	a) Livestock advisory services	4 (10.53)	5-10	6.25	21 (41.18)	5-10	7.38	17 (54.84)	5-10	7.64	42 (35.00)	5-10	7.09
	b) Distribution of fodder seedlings	23 (60.53)	3.00	3.00	41 (80.39)	3.00	3.00	28 (90.32)	3.00	3.00	92 (76.67)	3.00	3.00
	c) On farm consultancy services	0 (0.00)	0	0	27 (52.94)	10-50	20.37	26 (83.87)	10-100	30.76	53 (44.17)	10-100	25.56
	d) Supply of Publications	5 (13.16)	5-10	6.00	15 (29.41)	5-10	6.66	16 (51.61)	5-10	7.81	36 (30.00)	5-10	6.82
	e) Round the clock service	23 (60.53)	10-20	14.34	42 (82.35)	20-40	30.47	29 (93.55)	20-50	40.68	94 (78.33)	10-50	28.49
	f) Issue of health certificate	8 (21.05)	10-20	15.00	22 (43.14)	20-50	33.64	28 (90.32)	20-50	41.42	59 (49.17)	10-50	30.02
	g) Issue of postmortem certificate	7 (18.42)	20-50	27.14	10 (19.61)	20-100	32.85	25 (80.65)	20-100	52.00	42 (35.00)	20-100	37.33

Note: Figures in parenthesis indicate the percentage

AF – Average Fee and PFR – Preferred Fee Range

the categories of farmers were willing to pay was Rs.10-20 and the average fee arrived was Rs.13.33 by small farmers, Rs.14.44 by medium farmers, Rs.17.14 by large farmers and Rs.14.97 by overall farmers.

b. Pregnancy diagnosis

It is evident from Table 1 that among the small farmers, only 42.11 per cent were willing to pay for pregnancy diagnosis and their preferred fee range was Rs. 5-10 with an average of Rs.7.10, whereas, majority of the medium and large categories of farmers were willing to pay for the pregnancy diagnosis (72.55% and 74.19%) respectively and their preferred fee range was Rs.5-15 and Rs.10-20 with an average of Rs.7.75 and Rs.12.58 respectively. Among the total sample of farmers, majority (63.33%) were willing to pay for pregnancy diagnosis and the preferred fee range was Rs.5-20 with an average of Rs.9.14.

2. Diagnostic Services

a. Laboratory diagnosis

It can be observed from Table 1 that majority of the small, medium and large farmers were willing to pay for the laboratory diagnosis (65.79%, 78.43% and 77.42%) and their preferred fee range was Rs.10-30, Rs.10-40 and Rs.20-50 with an average of Rs.14.21, Rs.16.47 and Rs.26.70 respectively. Among the overall farmers, majority (74.17%) were willing to pay for laboratory diagnosis and the range of fee they were willing to pay was Rs.10-50 with an average of Rs.19.13.

b. Postmortem

Table 1 shows that only 36.84 per cent and 19.61 per cent of the small and medium farmers respectively were willing to pay for the postmortem and their preferred fee range was Rs.20-50 and Rs.20-150 with an average of Rs.33.42 and Rs.78 respectively, whereas, majority (80.65%) of the large farmers were willing to pay for postmortem with a preferred fee range of Rs.50-150 and the average fee was Rs.90. An overview of total sample indicated that only 40.83 per cent were willing to pay for postmortem. The range of fee they were willing to pay was Rs.20-150 and the average fee was Rs.67.14.

c. Radiography

Table 1 indicates that only 47.37 per cent of small farmers were willing to pay for radiography and their preferred fee range was Rs.10-20 with an average of Rs.14.44 whereas majority of the medium and large farmers were willing to pay for radiography (60.78% and 87.10%) and their preferred fee range was Rs.10-30 and Rs.10-50 with averages of Rs.17.09 and Rs.20.37 respectively. Among the overall farmers, majority (63.33%) were willing to pay for radiography and they were willing to pay between Rs.10-50 and the average fee was Rs.17.30.

3. Prophylactic Services

a. Deworming

It can be observed from Table 1 that only 36.84 per cent of the small farmers were willing to pay for deworming and their preferred fee range was Rs.5-10 with an average of Rs.6.42, whereas, majority of the medium and large farmers were willing to pay for deworming (58.82% and 83.87%) and their preferred fee range was Rs.5-10 by both the categories with averages of Rs.6.67 and Rs.6.77 respectively. Among the total farmers, majority (58.33%) were willing to pay for deworming and the preferred fee range was Rs.5-10 with an average of Rs.6.62.

b. Vaccination

From Table 1, it is evident that majority (73.68%, 74.51% and 90.32%) of the small, medium and large farmers were willing to pay for the vaccination and the preferred fee range was Rs.5-10 by all the categories of farmers with averages of Rs. 6.43, Rs.7.63 and Rs.7.74 respectively. It was also evident that majority (83.33%) among the overall farmers were willing to pay for vaccination with a preferred fee range and average fee of Rs.5-10 and Rs.7.27 respectively.

4. Curative Services

a. Medical treatment

The results from Table 1 reveal that majority of the small (60.53%), medium (86.27%) and large (93.55%) farmers were willing to pay for the

medical treatment with preferred fee range of Rs.10-50, Rs.20-50 and Rs.20-100 and their averages were Rs.20.45, Rs.33.63 and Rs.58.62 respectively. Among the total farmers, majority (80%) were willing to pay for medical treatment with a preferred fee range of Rs.10-100 and the average fee was Rs.37.56.

b. Minor surgical treatment

It can be noticed from Table 1 that only 13.16 per cent of the small, 13.73 per cent of the medium and 29.03 per cent of the large farmers had shown willingness to pay for minor surgical treatment and their preferred fee range was Rs.10-20, Rs.10-20 and Rs.10-30 which on an average came to Rs.14, Rs.14.28 and Rs.18.89 respectively. An overview of the over all sample indicated that only 17.50 per cent of the farmers were willing to pay for minor surgical treatment and the range of fee preferred was Rs.10-30 which on an average came to Rs.15.72.

c. Major surgical treatment

Table 1 shows that majority (86.84%, 94.12% and 100%) of the small, medium and large farmers had expressed their willingness to pay for the major surgical treatment and their preferred fee range was Rs.25-100, Rs.50-200 and Rs.50-500 which on an average came to Rs.43.18, Rs.85.41 and Rs.164.51 respectively. Among the total farmers, majority (93.33%) had expressed their willingness to pay for major surgical treatment and the preferred fee range was Rs.25-500, which on an average came to Rs.97.70.

d. Gynaecological and Obstetrical treatment

Table 1 indicates that 84.21 per cent of small, 92.16 per cent of medium and 96.77 per cent of large farmers had shown willingness to pay for gynaecological and obstetrical treatment and their preferred fee range was Rs.25-100, Rs.25-150 and Rs.50-200 which on an average came to Rs.53.12, Rs.70.21 and Rs.100 respectively. It was also indicated that majority (91.67%) of the total farmers were willing to pay for gynaecological and obstetrical treatment. The preferred fee range was Rs.25-200 which on an average came to Rs.74.44.

5. Miscellaneous Services

a. Livestock advisory services

The results from the Table 1 reveal that only 10.53 per cent of small and 41.18 per cent of medium farmers had expressed their willingness to pay for livestock advisory services and the preferred fee range was Rs.5-10 by both the categories, which on an average came to Rs.6.25 and Rs.7.38 respectively. But, majority (54.84%) of the large farmers were willing to pay for livestock advisory services and the preferred fee range was Rs.5-10, which on an average came to Rs.7.64. An overview of the total sample revealed that only 35 per cent of the farmers were willing to pay for livestock advisory services and the preferred fee range was Rs.5-10, which on an average came to Rs.7.09.

b. Distribution of fodder seedlings

From Table 1, it is evident that majority (60.53%, 80.39% and 90.32%) of the small, medium and large farmers were willing to pay for distribution of fodder seedlings and the amount they were willing to pay was about Rs.3 / kg. Among the total farmers majority (76.67%) were willing to pay for distribution of fodder seedlings and the fee they were willing to pay was Rs.3 / kg.

c. On farm consultancy services

It can be observed from Table 1 that none of the small farmers had expressed their willingness to pay for the on farm consultancy services where as majority (52.94% and 83.87%) of the medium and large farmers had expressed their willingness and the preferred fee range was Rs.10-50 and Rs.10-100 which on an average came to Rs.20.37 and Rs.30.76 respectively. Among the total farmers, it was observed that only 44.17 per cent were willing to pay for on farm consultancy services and the preferred fee range was Rs.10-100 which on an average came to Rs.25.56.

d. Supply of publications

Table 1 shows that 13.16 per cent of small, 29.41 per cent of medium and 51.61 per cent of large farmers had expressed willingness to pay for the

publications and the preferred fee range was Rs.5-10 by all the categories and the average preferred fee was Rs.6 by small, Rs.6.66 by medium and Rs.7.81 by large farmers. Among the total farmers, only 30 per cent were willing to pay for the publications and the preferred fee range was Rs.5-10, which on an average came to Rs.6.82.

e. Round the clock service

It can be noticed from Table 1 that majority (60.53%, 82.35% and 93.55%) of the small, medium and large farmers had expressed willingness to pay for round the clock services and the preferred fee range was Rs.10-20, Rs.20-40 and Rs.20-50 which on an average came to Rs.14.34, Rs.30.47 and Rs.40.68 respectively. An overview of the total sample indicated that majority (78.33%) of the farmers were willing to pay for round the clock services with a preferred fee range of Rs.10-50 which on an average worked out to Rs.28.49.

f. Issue of health certificate

Table 1 indicates that 21.05 per cent of small, 43.14 per cent of medium and 90.32 per cent of large farmers were willing to pay for the health certificates for animals and the preferred fee range was Rs.10-20, Rs.20-50 and Rs.20-50 which on an average worked out to Rs.15, Rs.33.64 and Rs.41.42 respectively. Among the overall farmers, only 49.17 per cent were willing to pay for the health certificates and the preferred fee range was Rs.10-50, which on an average came to Rs.30.02.

g. Issue of postmortem certificate

The results from the Table 1 reveal that 18.42 per cent of small, 19.61 per cent of medium and 80.65 per cent of large farmers expressed their willingness to pay for the postmortem certificates and the preferred fee range was Rs.20-50, Rs.20-100 and Rs.20-100 which on an average worked out to Rs.27.14, Rs.32.85 and Rs.52 respectively. An overview of the total sample revealed that only 42 per cent of the farmers had expressed their willingness to pay for the postmortem certificate and the preferred fee range was Rs.20-100, which on an average came to Rs.37.33.

Conclusion

The study revealed that majority of the livestock farmers are willing to pay for artificial insemination and pregnancy diagnosis among breeding services; laboratory diagnosis and radiography among the diagnostic services; deworming and vaccination among prophylactic services; medical treatment, major surgical treatment and gynecological and obstetrical treatment among the curative services; and distribution of fodder seedlings and round the clock services among miscellaneous services. This clearly indicates that the farmers have shown willingness to pay for only few livestock extension services according to their need and importance. Hence, rationalization of service delivery could be followed by implementing cost recovery measures for those services that provide direct individual benefits to the farmers. The study also showed a clear difference in the willingness of the three categories of livestock farmers in terms of the amount to pay for each of the listed veterinary services, which could be attributed to their need for that particular service, socio-economic status and capacity to pay. Hence, the Government, Non-Government and other related agencies should take farmer's ability to pay and preferences into consideration while implementing cost recovery measures for the provision of livestock extension services.

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