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Services delivered by mobile veterinary units (MVUs): service providers' perspective

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Abstract

Mobile Veterinary Unit (MVU) is an ingenious way of livestock service delivery extending services to farmers' doorstep is being operational under the *Rastriya Krishi Vikas Yojana* (RKVY) in all the 314 blocks of Odisha. The study was carried in one of the remotest district i.e. Kandhamal district of Orissa to assess the types of services delivered by MVU in the distantly located villages, as per the views of service providers i.e. both Veterinary Surgeons (V.Ss) and Livestock Inspectors (L.Is) of MVU. The study came out with the conclusion that, MVU was not only concerned with supply driven services but also concerned towards many of the demand driven services like outbreak of disease, flood, fire and road accident etc. Among the supply driven services they were emphasizing towards vaccination, awareness camp and deworming activities, whereas, provision of curative and diagnostic services at field level was not adequate due to certain reasons like curative services need constant follow-up and for diagnostic services good facilities were not available at field level. In case of emergency situations the MVU professionals were getting information mostly from public sources, so telephone as a source of information lagging behind in the study area. In those situations they were trying to reach the location as early feasible, which mostly varied between within 1 hr. to 2-4 hrs. depending on the distance of the area. Coming to the importance service providers attached to the services, "more farmer awareness programmes" was ranked top and they believed more of activities of this kind in MVU will improve the service delivery and will make it a better intervention.

Keywords: services delivered, mobile veterinary units, service providers

Introduction

India being one of the leading countries in terms of livestock population and production, the productivity of livestock is 20-60 per cent lower than the global average (Animal Husbandry Report, 2012-17). For example, milk productivity of native breeds is very low (2.54 kg milk/day), when compared with exotic breeds (7.15 kg/day) (Basic Animal Husbandry Statistics, 2015). The productive potential of animals mainly depends on quality of nutrition, genetic constitution and animal health system, and, on all these counts, India has a poor record (Ahuja *et al.*, 2008) ^[1]. So a dynamic livestock service delivery system can play a major role to raise the productivity of this sector and to support Indian economy (Bardhan, 2010) ^[2]. Again coming to actual scenario, as per the NCA (1976) ^[4] recommendation one veterinarian should cater to 5000 cattle unit and one veterinary institution for four villages, but it is estimated that in India one veterinary institution exists for 11 villages covering about 62 sq. km area (VCI, 2008). With the changing global economic scenario, public services are coming under pressure all over the world for not performing adequately (Sen and Chander, 2003) ^[6]. There are various alternatives tried to increase the efficacy of livestock service delivery such as Community Based Animal Health Workers (CBAHW) in countries like Africa, Afghanistan, and Kenya (Mugunieri *et al.*, 2004) ^[3]. In India, trained personnel for the same are called as either paravets, *Gopalmitras*, *pashu sakhis*, *Sanghamitras* etc. In this context it is appropriate to discuss about one of the unique ways of service delivery to extend the services to the doorstep of farmers by mobile veterinary units (MVUs). The concept of MVU has become quite common in India. Many Indian states such as Karnataka, Tamil Nadu, Andhra Pradesh, Odisha, Arunachal Pradesh, Meghalaya, Rajasthan, Gujarat, Madhya Pradesh, and Chhattisgarh provide door step veterinary services through MVU or ambulatory clinics. In the state of Odisha, the concept of MVU was initiated on 10th July, 2011 under *Rastriya Krishi Vikas Yojana* (RKVY) and now it covers all the 314 blocks of the state. The aim of MVU is to ensure the desired veterinary services in interior pockets according to the preferred time of the farmers, so as to enable livestock owners and consider Animal Husbandry (A.H) activities as potential livelihood option and maximize profit through livestock rearing. A team comprising one Veterinary Surgeon (VS), one Livestock Inspector (LI) and one attendant with a vehicle

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called MVU van moves remote villages which are very difficult to be covered by stationary veterinary institutions to organize animal health camps. Total working days for MVU in a month are 20 days. In every working day, the team organizes one camp, which caters to the livestock owners of a minimum of two villages. The camps are organized on normal working days *i.e.* Monday to Friday. The remaining two days are meant for compiling monthly report and attending meeting.

Materials and Methods

The study was conducted in one of the remotest district *i.e.* Kandhamal district, in Orissa. The area was selected purposively, as a majority of the land areas of the district (71%) are forests, the connectivity within the district and with other districts is very poor. The transportation facility is inadequate and veterinary institutions are distantly located. All these attributes made this area suitable to study the functioning of MVU. In the 12 administrative blocks of Kandhamal district, 12 MVUs were in operation. Again from 12 MVUs of Kandhamal district, 12 veterinarians and 11 livestock inspectors, who were working in MVUs, were selected to study their perspectives on services delivered by MVU.

Data

Primary data were collected through a pre-tested questionnaire. The questionnaires were distributed to all the veterinarians and livestock inspectors during the monthly meeting to get their response on functioning of MVUs.

Analytical framework used in the analysis

The collected primary data were subjected to weighted mean score analysis. Total Weighted Score (TWS) was calculated by adding each respondent's score. Using the following formula, Total Weighted Mean Score (TWMS) was calculated.

Where,

$TWMS = TWS/N$

TWS= Addition of all respondent's score

N= No of respondents

Accordingly rank was given, for maximum score rank 1 followed rank 2 and so on.

Results and Discussion

I. Main supply driven activities by the service providers

Table 1: Ranking of main supply driven activities by the service providers

Services	TWS	L.I.			V.S.		
		TWMS	Rank	TWS	TWMS	Rank	
Vaccination	51	4.636	I	55	4.583	I	
Deworming	38	3.454	III	40	3.333	III	
Treatment	22	2	IV	24	2	IV	
Diagnostic	8	0.727	V	9	0.75	V	
Extension	43	3.909	II	49	4.083	II	

It can be inferred from the table that, service providers (both L.Is and V.Ss) were asked to rank the supply driven activities in order of most provided to least provided by MVU. For each first rank 5 points were given, for each second rank 4 points were given and so on. Accordingly, rank was given on total weighted mean score basis.

According to both L.Is and V.Ss, vaccination ranked first, with TWMS 4.636 for L.Is and 4.583 for V.Ss, while extension activities ranked second with TWMS of 3.909 for L.Is and 4.083 for V.Ss, while deworming activity ranked 3rd, treatment ranked 4th and diagnostic activity ranked 5th in the field by MVU professionals.

In MVU, vaccination, extension awareness camp and deworming activities were going on well as compared to other activities like treatment *i.e.* curative aspect and diagnostic activity. Mass scale vaccination is widely practiced by MVU of Kandhamal district, which is a good sign as "prevention is better than cure". Awareness among farmers' about diseases, their symptoms, how to prevent them and what are the steps to be taken during diseases in making farmers aware to take appropriate steps to reduce the economic losses due to diseases. In this regard MVU could be a very good intervention by the government. However, Saravana (2006) [5] who reported private service providers mostly focused towards clinical services followed by A.I.

II. Demand driven services

Table 2: Distribution of service providers according to response in which situation service is demand driven

Situations	L.I. (n=11)	V.S. (n=12)	Total (N=23)
Outbreak	11(100)	12(100)	23(100)
Fire	11(100)	11(91.7)	22(95.7)
Road accident	9(81.8)	9(75)	18(78.3)
Flood	11(100)	12(100)	23(100)

Figures in the parenthesis indicate percentage.

From the table it can be concluded that, cent percent L.Is reported that services were demand driven in all the situations like outbreak, fire, flood, while 81.8 percent told in road accident cases too, service was demand driven. Similarly, cent percent V.Ss reported that during outbreak and flood situation where service is demand driven, while 91.7 percent V.Ss told in fire and 75 percent V.Ss informed, in road accident also services were demand driven.

In overall sample, cent percent respondents reported that during outbreak and flood, services were demand driven, but 95.7 percent respondents mentioned fire, 78.3 percent respondents told in road accident cases also services were demand driven.

III. Sources of receiving call for services

Table 3: Distribution of service providers according to sources of receiving call for service in demand situation

Sources	L.I. (n=11)	V.S. (n=12)	Total (N=23)
Farmers' call	1(9.1)	1(8.3)	2(8.7)
Personal letter	0(0)	1(8.3)	1(4.3)
Telephone	8(72.7)	8(66.7)	16(69.6)
Person	9(81.8)	10(83.3)	19(82.6)
Public sources	10(90.9)	10(83.3)	20(87)

Figures in the parenthesis indicate percentage.

Table depicts that 9.1 percent, 0 percent, 72.7 percent, 81.8 percent and 90.9 percent of L.Is reported that the sources of receiving call for service of MVU in demand situation were farmers' call, personal letter, telephone, person and public sources, respectively. Similarly, 8.3 percent, 8.3 percent, 66.7 percent, 83.3 percent and 83.3 percent V.Ss reported the sources of receiving call for services in MVU was farmers'

call, personal letter, telephone, person and public sources, respectively.

In overall sample, 87 percent reported public sources as means of information in case of demand while 82.6 percent of respondents reported they received information about emergencies from directly person, 69.6 percent respondents reported telephone, and. 8.7 percent respondents, said farmers' call, 4.3 percent respondents said personal letter as sources of information in demanding situations.

Though telephone is quickest medium for information dissemination among all the sources, still only 69.6 percent of respondents reported getting information through this medium. This could be due to poor network connectivity throughout the study area. In this digital era, poor telephone connectivity in rural areas is not a good sign. These findings goes against the findings of Saravana (2006) [5], who reported telephone as the most used sources of receiving call for services in demand situation.

IV. Time lag in receiving services in case of emergency

Table 4: Distribution of service providers according to response on time lag in delivering services in case of demand

Time lag (in hrs.)	L.I. (n=11)	V.S. (n=12)	Total (N=23)
< 1 hrs.	7(63.6)	7(53.3)	14(60.9)
2-4hrs	2(18.2)	3(25)	5(21.7)
4-6hrs	1(9.1)	2(16.7)	3(13)
6-8hrs	1(9.1)	0(0)	1(4.3)
> 8 hrs.	0(0)	0(0)	0(0)

Figures in the parenthesis indicate percentage.

Table reveals that time lag between information received and delivery of service ranged between less than 1 hr. to more than 8 hrs. Majority of L.Is (63.3%) and V.Ss (53.3%), reported that time lag in delivering services was below 1 hr. followed by time lag of 2-4 hrs. as reported by 18.2 percent of L.Is and 25 percent of V.Ss.

In overall sample, 60.9 percent of respondents reported, less than 1 hr. In delivering service followed by 2-4 hrs. time lag as reported by 21.7 percent of the respondents.

In case of any emergency, MVU attempts to reach the area, as early as possible i.e. within 1 hr. to 2-4 hrs. Depending on the distance to be covered. Saravana (2006) [5] found out, the time taken to provide the services varied between 30 minutes to two hours in private agencies.

V. Importance attached to activities by service providers

Table 5: Distribution of service providers according to importance attached to activities

Activities	L.I. (n=11)			V.S. (n=12)		
	TWS	TWMS	Rank	TWS	TWMS	Rank
Treatment	47	4.272	V	59	4.916	III
A.I/Breeding	30	2.727	VI	35	2.916	IV
Vaccination	72	6.545	III	73	6.083	II
Record work	20	1.818	VII	13	1.083	VI
Fertility camp	74	6.717	II	73	6.083	II
Medicine distribution	50	4.545	IV	59	4.916	III
Staff meeting	18	1.636	VIII	27	2.25	V
Farmer awareness	85	7.727	I	14	7.833	I

Service providers were requested to rank the services, in order of importance they attached to each service. For each first rank, 8 points were given, for each second rank 7 points were given and so on. According to weighted score analysis rank was finally given.

As such, farmers' awareness ranked 1st by both the service providers of MVU with TWMS value of 7.727 and 7.833 by L.Is and V.Ss, respectively. As unless until farmers will be aware about the services, their importance, their impact on productivity, ill effects of poor animal management so also about zoonotic importance of diseases they will not even try to take proper benefits of these free or subsidized services. Again, information related to more fertility camps was ranked 2nd by both. Along with fertility camp, V.Ss reported vaccination as 2nd among all other activities, whereas, vaccination was ranked 3rd by L.Is. Again medicine distribution ranked 4th and 3rd, A.I/ breeding ranked 6th and 4th, treatment of animals ranked 5th and 3rd, record work 7th and 6th and staff meeting of MVU professionals ranked 8th and 5th by L.Is and V.Ss, respectively.

Conclusion

MVU is extending the services to the farmers' doorstep with their own mandate of providing certain services along with they were trying to provide certain demand driven services to the farmers. Among supply driven services they were mostly concerned towards mass scale vaccination, awareness camp and deworming of animals. For other services like curative and diagnostic services they are focusing less, due to certain reasons like curative services needs frequent follow-up which was not feasible in part of MVU considering only one MVU for a block so frequency to particular village is very less and for diagnostic services the facilities for diagnosis were poor in field condition. Disease outbreak at certain area, flood, fire and road accidents were some of the emergencies where they were providing services as per the need. For those emergency situations they were receiving information mostly from public sources followed by persons of the concerned village whereas, telephone comes third as sources of information. In those emergency situations they were taking within 1 hr. to 2-4 hr. to reach at the target place again that depends upon the distance of the area. The service providers of MVU both V.Ss and L.Is felt that "making farmers aware" will solve multiple purposes directly or indirectly and will help in improving the service delivery of MVU and which will make MVU a more successful intervention.

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