International Journal of Science, Environment and Technology, Vol. 6, No 3, 2017, 1721 – 1726
ISSN 2278-3687 (O)
2277-663X (P)

AN INDEX TO MEASURE THE FARMERS PREPAREDNESS TOWARDS SHEEP HEALTH CARE WITH SPECIFIC REFERENCE TO VACCINATION

***Mastanbi, Shaik[1], Subrahmanyeswari, B.[2], Sharma, G.R.K.[3] and Suresh, J.[4]**
[1]Ph.D Scholar and [2]Professor and Head,
Department of Veterinary and Animal Husbandry Extension Education,
NTR College of Veterinary Science, Gannavaram, [3]Professor and University Head,
Department of Veterinary and Animal Husbandry Extension Education,
College of Veterinary Science, Tirupati, [4]Professor and Head,
Department of Livestock Production Management,
College of Veterinary Science, Tirupati
E-mail: drmastanbi@gmail.com (**Corresponding author*)

Abstract: Sheep husbandry is a low-investment sustainable enterprise with reasonably high rates of return. However, disease out-breaks cause major losses to the sheep farmer where preventive animal health care practices play major role in safeguarding the farmer against such losses. Farmers should be well prepared to combat against such untoward losses. Hence an index was developed to measure the farmers preparedness towards sheep health care with specific reference to vaccination. Weighted mean score method was used to develop the index and the finalised index comprised of seven components viz awareness about sheep diseases, knowledge about sheep diseases, perception on the probability of occurrence of sheep diseases, attitude towards sheep health care practices, information seeking behaviour, risk management behaviour and scientific orientation. The farmers preparedness index thus developed was standardized for administration. Awareness about sheep diseases contributed more followed by scientific orientation with regard to farmers preparedness in carrying out sheep health care practices in general and vaccination in specific, Which indicates their positive attitude towards the new technology generated time to time.
Keywords: Index; farmers preparedness; sheep farmers.

INTRODUCTION

Livestock developmental programs have been implemented with the ultimate aim to improve the livestock production and thereby the socio-economic condition of livestock farmers. Sustainability of the farm depends upon managerial efficiency of the farmer which inturn depends on the farmers' socio-economic situation along with knowledge and attitude towards the recommended practices. In developing countries, the loss of even a single animal has a significant and sometimes crippling effect on a family (Wallace *et al*., 2014). Large sums of money have been invested by governments, non-governmental organisations (NGO's) and other donors into research and methods of control of livestock disease,

*Received Apr 6, 2017 * Published June 2, 2017 * www.ijset.net*

however, there are still major gaps in our ability to control a large number of these diseases (Perry and Sones, 2009). Moreover many studies revealed that disease out-breaks cause major losses to the sheep farmer and hence, preventive animal health care practices play major role in safeguarding the farmer against such losses. A highly effective way of controlling infectious diseases is through vaccination. Which is an integral part of preventive animal health care. This has obvious implications for shepherds to raise the need for improved diagnosis and early detection of diseases along with greatly increased awareness and preparedness to deal with disease patterns and vaccination programmes that are manifestly changing. Hence, an index was developed to assess the preparedness of sheep farmers towards sheep health care with specific reference to vaccination.

METHODOLOGY

The present study was conducted in Prakasam and Nellore districts of Andhra Pradesh. A total of 180 shepherds who were having at least 50 sheep were selected from 18 villages of six mandals of two districts through multistage sampling and interviewed through direct interview method. The data were collected by using a pre-structured interview schedule developed for the purpose in consultation with other experts. Sheep farmers were categorised into three groups based on flock size viz., small (66-231), medium (232-397) and large (398-562). Following the tabulation and necessary sorting, statistical analysis viz., frequency and percentile were used to draw the inferences.

Farmers preparedness index

In this study, farmers preparedness has been operationalized as the extent to which the selected characteristics were perceived by the respondents at a given point of time. The components were identified by reviewing the literature and as quoted by various authors.

Identification and selection of components

Identification of characteristics / attributes that may influence the farmers preparedness was carried out through detailed analysis of literature and about 11 components were selected through discussion with experts in the field of Veterinary and Animal husbandry Extension. Based on the preliminary discussion, 11 components were selected considering the situation existed in the region.

Relevancy rating of the components

The list of components with detailed instructions were sent to the judges i.e. extension specialists of different universities. The judges were asked to indicate degree of relevance for each component on a 3 point continuum ranging from most relevant, relevant and least

relevant with respective weightages of 3, 2 and 1 to measure the sheep farmers' preparedness. Out of 40 judges to whom mailed questionnaire was sent, 35 gave their responses and the score of three responses of 35 judges for each item were added and divided by the number of judges to arrive at the overall weighted mean i.e., 2.401. The items whose means were equal or above overall mean score of 2.401, were finally selected to constitute the farmers' preparedness index (Table 1).

Farmers preparedness index has been arrived as follows:

$$\text{Overall mean score} = \frac{\text{Total score of attributes for all judges}}{\text{Total no. of attributes x Total no. of judges}}$$

$$\text{Mean score of each attribute} = \frac{\text{Total score of each attributes}}{\text{Total no. of judges}}$$

Procedure for development of farmers preparedness index

The finalised schedule with seven components with respective statements were administered to the respondents. The scores were provided based on measurement and the scoring procedure already developed for the study.

In case of qualitative components, the respondents were asked to give their responses based on a three point continuum scale viz., agree (A), undecided (UD) and disagree (D) for which the scores given were 3, 2 and 1 respectively.

Quantification of components

Each component was measured by means of scoring procedure developed for the study. To evolve a composite farmers preparedness index and to derive meaningful conclusions comprehensive schedule was developed for each component and the details of quantification of each component are furnished below:

Farmers awareness index: Farmers awareness index has been operationalised as the level of basic information possessed by the sheep farmers about sheep diseases. The farmers awareness index was worked out by using the following formula:

$$FAI = SFAxi / TFAyi$$

Where, FAI = Farmers awareness index, SFAxi = Score secured by a sheep farmer on awareness about sheep diseases, TFAyi = Total possible score for a sheep farmer on awareness about sheep diseases. Thus calculated FAI score was used for further analysis.

Farmers knowledge index: Farmers knowledge index has been operationalised as the extent of known information possessed by the sheep farmer regarding the sheep diseases and preventive measures. The farmers knowledge index was worked out by using the following formula:

$$FKI = SFKxi / TFKyi$$

Where, FKI = Farmers knowledge index, SFKxi = Score secured by a sheep farmer on knowledge about sheep diseases, TFKyi = Total possible score for a sheep farmer on knowledge about sheep diseases. Thus calculated FKI score was used for further analysis.

Farmers perception index: Farmers perception index has been operationalised as the process of organizing and interpreting sensory data in terms of one's previous experiences with regard to probability of occurrence of sheep diseases. The farmers perception index was worked out by using the following formula:

$$FPI = SFPxi / TFPyi$$

Where, FPI = Farmers perception index, SFPxi = Score secured by a sheep farmer on perception with regard to probability of occurrence of sheep diseases, TFPyi = Total possible score for a sheep farmer on perception with regard to probability of occurrence of sheep diseases. Thus calculated FPI score was used for further analysis.

Attitude towards sheep health care practices index: Attitude towards sheep health care practices index has been operationalised as the degree of positive or negative feeling of the farmer towards sheep health care practices. Attitude towards sheep health care practices index was worked out by using the following formula:

$$ATSHCPI = SATSHCPxi / TATSHCPyi$$

Where, ATSHCPI = Attitude towards sheep health care practices index, SATSHCPxi = Score secured by a sheep farmer on attitude towards sheep health care practices, TATSHCPyi = Total possible score for a sheep farmer on attitude towards sheep health care practices. Thus calculated ATSHCPI score was used for further analysis.

Information seeking behaviour index: Information seeking behaviour index has been operationalised as the degree or intensity of getting information from various sources of information by the respondents regarding sheep husbandry activities. The information seeking behaviour index was worked out by using the following formula:

$$ISBI = SISBxi / TISByi$$

Where, ISBI = Information seeking behaviour index, SISBxi = Score secured by a sheep farmer on information seeking behaviour, TISByi = Total possible score for a sheep

farmer on information seeking behaviour. Thus calculated ISBI score was used for further analysis.

Risk management behaviour index: Risk management behaviour index has been operationalised as the degree to which an individual could bears the risk, uncertainties in respect to maintenance of sheep. The Risk management behaviour index was worked out by using the following formula:

$$RMBI = SRMBxi / TRMByi$$

Where, RMBI = Risk management behaviour index, SRMBxi = Score secured by a sheep farmer on risk management behaviour, TRMByi = Total possible score for a sheep farmer on risk management behaviour. Thus calculated RMBI score was used for further analysis.

Scientific orientation index: Scientific orientation index has been operationalised as the degree to which sheep farmer was oriented to use of scientific methods in farming. The Scientific orientation index was worked out by using the following formula:

$$SOI = SSOxi / TSOyi$$

Where, SOI = Scientific orientation index, SSOxi = Score secured by a sheep farmer on Scientific orientation, TSOyi = Total possible score for a sheep farmer on Scientific orientation. Thus calculated SOI score was used for further analysis.

Relative contribution of components of farmers preparedness components among different categories of sheep farmers:

Awareness about sheep diseases contributed more followed by scientific orientation with regard to farmers preparedness in carrying out of sheep health care practices in general and vaccination in specific. Which indicates their positive attitude towards the new technology generated time to time (Table 2).

CONCLUSION

An over view of findings indicate that sheep farmers should be made well aware and educated that every small investment on his farm's preventive health care practices is going to yield higher returns in terms of improved flock size, disease free flock, decreased investment on curative measures, saving of time, disease free and quality meat whose demand is on the raise locally as well as internationally. They should realise the importance of frequent consultation of a veterinarian and following the recommended scientific practices to avoid any untoward losses resulting from any disease outbreaks.

References

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Table 1: List of selected components selected by weighted mean score method

S. No	COMPONENTS	WEIGHTED MEAN SCORE
1.	Awareness about sheep diseases	2.846*
2.	Knowledge about sheep diseases	2.615*
3.	Perception on the probability of occurrence of Sheep diseases	2.740*
4.	Adoption of sheep health care practices	2.115
5.	Attitude towards sheep health care practices	2.461*
6.	Attitude towards veterinarian / para veterinarian	2.076
7.	Information seeking behaviour of sheep farmer	2.484*
8.	Risk management behaviour of farmer	2.507*
9.	Achievement motivation of farmer	2.000
10.	Cosmopoliteness of livestock farmer	1.807
11.	Scientific orientation of farmer	2.446*

* Components selected for the study

Table 2: Relative contribution of components of farmers preparedness components among different categories of sheep farmers

S.no	Component	Category of sheep farmer N=180					
		Small (n=157)		Medium (n=15)		Large (n=08)	
		%	Rank	%	Rank	%	Rank
1.	Awareness about sheep diseases	86.43	I	88.57	I	86.60	I
2.	Knowledge about sheep diseases	73.60	VI	74.31	VI	72.13	VI
3.	Perception on the probability of occurrence of the diseases in Sheep	79.83	V	81.79	IV	80.28	III
4.	Attitude towards sheep health care practices	80.17	IV	80.17	V	79.93	V
5.	Information seeking behaviour	37.71	VII	41.53	VII	36.85	VII
6.	Risk management behaviour	82.05	III	85.00	III	80.20	IV
7.	Scientific orientation	84.60	II	87.77	II	86.45	II