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## Scale development to measure the perceived extent of crisis in sheep farming

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#### Abstract

The present study scale was developed to measure the level of crisis perception of sheep farmers about sheep farming. Initially 70 items / statements on eight dimensions of crisis were selected to measure the crisis of sheep farmers. Based on 40 jury opinions the relevancy weightage score for each item was worked out. Relevancy weightage score of 0.70 and above were finally include in the study. A total of 25 items which fulfilled criteria were selected for study. Reliability test was done by using split-half method co-efficient of correlation was found to be 0.86 which was found to be significant at 0.01 level of probability indicating high internal consistency of the scale. Hence scale developed was highly reliable to measure the perceived extent of crisis in sheep farming.

**Keywords:** Scale, measure, perceived, crisis, sheep farming

#### Introduction

In India livestock acts as safeguard during the subsistence crisis (Kitalyi *et al.* 2005) <sup>[3]</sup> Sheep husbandry occupies a prominent place in the farming systems due to their ability to convert resources unusable by man, with limited land or water providing 'year round employment' and 'sustainable income' (Dinakar *et al.* 2019) <sup>[1]</sup>. Sheep farming enterprise has inherent qualities such as early maturity, ability to thrive even under harsh environment and, act as insurance during crop failure (Dixit *et al.* 1995) <sup>[2]</sup>. The success of any enterprise depends mainly on its efficient management in achieving higher production and productivity. However, the frequent occurrence of natural calamities such as cyclones, flood, drought and disease outbreaks etc., causes sudden disturbances in economic equilibrium of the enterprise. Sheep farms have experienced a structural crisis for last two decades (Rivas *et al.* 2019) <sup>[4]</sup>. Sheep enterprise is no exception to this and the sheep farmers often face severe crisis on successfully managing their enterprise due to several unforeseen factors. The scale was developed with utmost care in eight dimensions such as environmental, disease outbreaks, management factors, marketing, governmental, institutional, personal, management and marketing of crisis in sheep farming.

#### Items/statements collections

The content of scale is consisted of statement called items. Based on the exhaust review of literature, as well as consultation with experts, professional colleagues, subject matter specialist and extension functionaries' items were collected. Initially 70 items / statements on eight dimensions of crisis were selected to measure the crisis of sheep farmers. Based on these items a schedule was developed.

#### Operationalization

It was defined as a perceived situation of concentrated period of disturbance caused by environmental and/or man made factors affecting sheep production and productivity and in turn the sheep farmers income, thereby stimulating action on the part of sheep farmers to overcome crisis situation.

#### Editing of items/statements

The 70 items/statements selected were sent to 60 experts/judges comprising of experts in the field of Animal Husbandry Extension and Veterinary Assistant Surgeons to indicate the relevancy of each item / statement on a four point continuum ranging from "most relevant",

“least relevant” and “not relevant” with assigned weightages of 4,3,2 and 1 respectively. Out of 60 judges, 40 judges responded.

## Result and Discussion

### Item selection

In the present study, the relevancy weightage score for each item / statements was worked out. The 25 items / statement which possessed the relevancy weightage score of 0.70 and above were finally included for the study. The selected items/statements along with their relevancy weightage score are given in Table 1.

### Scoring Pattern

The sheep farmers were requested to indicate their degree of perception on the selected items keeping in mind its occurrence in the last three years on a four point continuum of “strongly felt” “felt” “least felt” and “not felt” with respective scores of 4, 3, 2 and 1. The scores of each item were summed up to arrive at the total score which ranged from 25 to 100 for an individual respondent.

**Table 1:** Relevancy weightage score

S. No.	Crisis statements	Relevancy weightage score*
1	Gastro-intestinal parasitism	0.890
2	Exploitation by middlemen	0.882
3	Occurrence of Enterotoxaemia	0.875
4	Acute shortage of green fodder	0.875
5	Occurrence of sheep pox	0.859
6	High lamb mortality	0.843
7	Liver fluke infestation	0.843
8	Absence of organized marketing	0.843
9	Occurrence of Bluetongue	0.828
10	Non-availability of grazing land	0.828
11	Prolonged period of drought	0.781
12	Frequent attack of sheep flock by predators like stray dog, foxes, etc.	0.781
13	Occurrence of PPR	0.765
14	Tick infestation	0.765
15	Occurrence of Anthrax	0.757
16	Heavy rain during monsoon	0.750
17	Vaccination failure	0.750
18	Indebtedness	0.742
19	High cost of concentrate feed	0.718
20	Coccidial infection	0.718
21	Proclamation of legislation/executive orders preventing grazing of sheep in forest land	0.718
22	Extreme hotness/heatstroke	0.710
23	Wound myiasis	0.710
24	Lack of formal crisis/disaster management institution nearby	0.710
25	Occurrence of FMD	0.703

\*Relevancy weightage score = (Actual score/Maximum possible score) x 100

### Reliability of the scale

The reliability of the crisis items was tested in the following way

### Split-half method

In this study the split half method was employed to work out the reliability. In this method the scores for the odd and even numbered items / statements of the 20 pre-tested samples were correlated. The co-efficient of correlation was found to

be 0.86 which was found to be significant at 0.01 level of probability indicating high internal consistency of the scale.

### Validity of the Scale

The crisis items in the preliminary test pertaining to the crisis in sheep were collected from literatures. Apparently the scale possesses concurrent and face validity, as it involved rigorous approach in developing the scale.

### Measurement of extent of crisis in sheep farming

It was arrived by ranking the 25 items/statements selected for the study based on the index of each item which was calculated as follows:

$$\text{CrisisIndex} = \frac{\text{Actualscoreforanitem}}{\text{Maximumpossibleforthatitem}} \times 100$$

Based on score obtained, the respondents were classified as high, medium and low level categories using mean and standard deviation.

### Conclusion

The scale developed to assess the perceived extent of crisis in sheep will give an idea about sheep farmers crisis. Suitable measures can be taken to enhance management level of farmers. Institutions and Non Governmental Organization can organize various activities such training, sensitization programme will helpful to overcome crisis. Hence the developed scale was highly reliable and content validated for measuring the perceived extent of crisis.

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