

## **ECONOMIC LOSSES DUE TO DISEASES IN SHEEP FARMS OF NORTHERN TAMIL NADU**

**A. Serma Saravana Pandian, S. Theepika, J.R. Dhanalakshmi, A. Mohamed Safiullah  
and B. Jaya Varathan**

Department of Animal Husbandry Economics  
Madras Veterinary College, TANUVAS, Chennai-7, INDIA  
E-mail: pandian23@gmail.com

**Abstract:** A study was conducted to estimate the economic losses due to diseases in the sheep farms of Northern Tamil Nadu. For this study four districts were selected viz., villupuram, salem, Tiruvannamalai and Thiruvallur. The data regarding socio economic status and economic losses were collected from 120 sample respondents (30 from each districts) selected randomly, using a pre tested and well-structured interview schedule. The collected data were tabulated and analysed using conventional analysis in the form of averages and percentages. The results revealed that most of the farmers were of the middle age group (51.67 per cent), had upto primary level of education (60 per cent) with marginal land holding (35.83). The results showed that average annual loss due to sheep diseases was Rs.3843.88, Rs.2427.34, Rs. 2446.66 in small, medium and large farms respectively. The loss due to mortality of animals was estimated to be Rs. Rs.3678.43, Rs.2142.86, and Rs.1911.77 in small, medium and large farms respectively. The loss due to mortality was high to an extent of 85 per cent and loss due to cost of vaccination was low with 0.77 per cent and this could be due to lack of knowledge about occurrence of diseases and control methods. The overall loss per animal was Rs.301.58. The loss due to mortality, veterinary expenses, labour charges and cost of vaccination was Rs.275.67, Rs.17.13, Rs.4.86, and Rs.3.92 respectively.

**Keywords:** Sheep Farming –economic losses – Tamil Nadu.

### **INTRODUCTION**

Sheep and Goats are one of the major livestock species reared by many of the world's poor. Sheep with its multi-facet utility for wool, meat, milk, skins and manure, form an important component of rural economy particularly in the arid, semi-arid and mountainous areas of the country. It provides a dependable source of income to the shepherds through sale of wool and animals. Tamil Nadu has a sheep population of 4.7 million as per 2012 livestock census and it contributes nearly 25 per cent of the total livestock population in Tamil Nadu and a meat production of 35.38 thousand metric tonnes during 2013- 2014..However, sheep populations are threatened by number of diseases which have been considered as major constraint in small ruminant development in recent years. Diseases act a negative influence

on production system, thus lead to low production, low income and affects the livelihood of sheep farmers. These diseases have numerous impacts, including productivity losses (production losses, cost of treatment, market disturbances), loss of income from activities using animal resources, prevention and control costs. Highly contagious diseases such as Foot and Mouth disease, Haemorrhagic Septicaemia and Sheep pox cause irreparable economic losses to the sheep farming community. In this study an attempt was made to study the economic losses due to diseases in the sheep farms of Northern TamilNadu.

### MATERIALS AND METHODS

The northern Districts of TamilNadu viz. Tiruvallur, Thiruvannamalai, Villupuram and Salem were selected as the study area, since these districts are having high concentration of sheep in Northern TamilNadu. In order to estimate the economic losses due to diseases, a total of 120 sheep farmers (30 sample respondents from each districts) were chosen adopting simple random sampling technique. Using the structured and pilot-tested interview schedule, the data regarding the economic losses due to diseases were collected from the chosen sample respondents. The collected data were tabulated and analysed.

The socio economic status of the sheep farmers was found out using percentages and averages. The economic losses incurred due to diseases in sheep farming was estimated by taking into account the loss in value of animals, mortality pattern, veterinary expenses, additional labour charge and vaccination cost using conventional analysis in the form of averages and percentages. The average loss per affected animal was also estimated using percentages and averages. The economic loss due to diseases was estimated by using the method adopted by Bera *et al.*, (2010) in their study.

Economic loss due to disease = loss due to mortality + veterinary expenses + additional  
Labour charges + vaccination cost

Loss due to mortality =  $\frac{\text{No. of animals died} \times \text{value of animals}}{\text{Total number of animals in the flock}}$

### RESULTS AND DISCUSSION

#### Average annual economic losses due to sheep diseases

The average annual economic loss due to diseases in sheep in different farm size categories are given in table 1. Average annual loss due to sheep diseases was found to be Rs.3843.88, Rs.2427.34, Rs. 2446.66 in small, medium and large farms respectively. The loss due to mortality of affected animals was Rs.3678.43, Rs.2142.86, Rs.1911.77 in small, medium and large farms respectively. The loss due to mortality ranged from 78 to 95 per cent

of total loss which was found to be high in small farms which could be due to less care provided to the animals because of small flock size. The overall losses due to veterinary expenses, labour charges and vaccination was Rs.60.60, Rs. 305.31 and Rs.20.72. The overall loss due to mortality of animals was found to be high around 85 per cent and this is probably due to death of the most affected animals. The results were found to be similar with the findings of Senthilkumar et al., (2010) where the loss due to mortality was found to be high. The overall losses due to cost of vaccination was low which could be due to lack of awareness among farmers about sheep diseases and their control methods.

### **Economic losses due to sheep diseases per animal**

The economic loss due to diseases in sheep was found out for each affected animal using averages and percentages and is presented in table 2. The overall loss per animal was Rs.301.58. The loss due to mortality, veterinary expenses, labour charges and cost of vaccination was Rs.275.67, Rs.17.13, Rs.4.86, and Rs.3.92 respectively. The loss due to mortality is higher than other losses because most of the animals affected with diseases died and other losses due to veterinary expenses, labour charges, and cost of vaccination are negligible.

Disease occurrence in sheep is considered to be a major problem by the sheep farmers. It was found that sheep are mostly affected with Foot and Mouth Disease, Enterotoxaemia, Sheep Pox and other parasitic infections. The mortality rate was high due to the fact that farmers lack knowledge about disease occurrence and methods to control them. Awareness programs on diseases of sheep, their symptoms and methods to control them can be implemented to improve knowledge among sheep farmers to minimize occurrence of diseases.

### **Conclusion**

Sheep rearing is a source of livelihood for most of the rural farmers and they are a source of income by the sale of meat and wool. The study revealed that most of the farmers were of the middle age group had upto primary level of education with marginal land holding. The results of economic losses due to diseases showed that average annual loss due to sheep diseases was Rs.3843.88, Rs.2427.34, Rs. 2446.66 in small, medium and large farms respectively. The loss due to mortality of animals was estimated to be Rs. Rs.3678.43, Rs.2142.86, Rs.1911.77 in small, medium and large farms respectively. The loss due to mortality was high to an extent of 85 per cent and loss due to cost of vaccination was low with 0.77 per cent and this could be due to lack of knowledge about occurrence of diseases and control methods. The overall loss per animal was Rs.301.58. The loss due to mortality,

veterinary expenses, labour charges and cost of vaccination was Rs.275.67, Rs.17.13, Rs.4.86, and Rs.3.92 respectively.

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**Table 1: Average economic losses due to diseases in sheep**

<b>Components of Economic loss</b>	<b>Small</b>	<b>medium</b>	<b>Large</b>	<b>Overall</b>
Mortality	3678.43 (95.7)	2142.86 (88.28)	1911.77 (78.14)	2303.4 (85.63)
Veterinary expenses	47.79 (1.24)	77.6 (3.2)	29.43 (1.2)	60.6 (2.25)
Additional Labour charges	96.29 (2.5)	185.88 (7.66)	479.88 (19.61)	305.313 (11.35)
Vaccination cost	21.37 (0.56)	21 (0.86)	25.58 (1.05)	20.725 (0.77)
Total	3843.88 (100.00)	2427.34 (100.00)	2446.66 (100.00)	2690.043 (100.00)

(Figures in parentheses indicate percentages)

**Table 2. Economic loss due to sheep diseases per animal**

<b>Components of Economic loss</b>	<b>Average Economic loss In rupees / animal</b>
Mortality	275.67 (91.41)
Veterinary expenses	17.13 (5.68)
Labour charges	4.86 (1.61)
Cost of vaccination	3.92 (1.3)
Total	301.58 (100.00)