

SHEEP PRODUCTION SYSTEM IN SOUTHERN AND NORTHEASTERN ZONES OF TAMILNADU

N. Kumaravelu, Ra. Murallidharan¹, R. Kumararaj², T. Sivakumar³ and K.N. Selvakumar⁴

Department of Livestock Production and Management

Madras Veterinary College

Chennai - 600 007

ABSTRACT

A survey was carried out to analyse the resource use efficiency of sheep production system under field conditions of southern and northeastern agro-climatic zones of Tamil Nadu. A total of 160 sheep farmers from each zone were selected at random for this study. The effect of different input variables on the returns obtained by the flock owners in both the zones were analysed by Multiple linear regression analysis model. The coefficient of multiple determination (R^2) was 0.81 in both the zones studied. The variables included in the function explained 81 per cent of the variation on the dependant variable (Gross return per flock). The flock size and mortality percentage had positive influence and grazing charges negative influences on the gross return per flock, which were significant ($p \leq 0.01$). Health cover charges were not significant in both the zones.

Key Words : Sheep production, regression analysis, Tamilnadu

INTRODUCTION

Sheep farming is an important activity to a large population of small and marginal farmers as well as landless agricultural labourers. In the event of failure of seasonal rains, leading to crop failure, rearing of sheep gives a helping hand to the farmers and therefore sheep is affectionately labeled as 'Mortgage lifter' by the rural poor (Padmanabhan, 1994). It also provides employment opportunities for most of the unemployed and underemployed in the rural areas. Hence a study was conducted to analyze the resource use efficiency of sheep rearers in an econometric context.

MATERIALS AND METHODS

A survey was carried out to analyse the resource use efficiency of sheep production system

under field conditions of southern and northeastern agro-climatic zones of Tamil Nadu. A total of 160 sheep farmers from each zone were selected at random for this study. The effect of various input variables on the returns obtained by the flock owners in both the zones were analysed. The independent variables such as flock size, cost of grazing, mortality percentage and cost of health coverage were considered for the present study. The following linear form of production function for sheep farming was fitted:

$$Y = a_0 + a_1 X_1 + a_2 X_2 + a_3 X_3 + a_4 X_4$$

Where Y = Gross return per flock per annum (in Rupees)

X_1 = Flock size (Number of sheep in a flock was converted into sheep units as follows: 1ewe=

Ph.D., Thesis submitted by the first author to the TANUVAS, Chennai-51. ¹Associate Professor,

^{2,3,4}Professor and Heads, MVC, Chennai-7.

Table 1

Regression coefficients of factors influencing returns in sheep farming

S l. No.	Particulars	North eastern zone	Southern zone
1.	No. of observations	140	140
2.	Constant	1129107 (75414)	660580 (75430)
3.	Flock size (X_1)	128712** (14805)	143458** (15091)
4.	Grazing charges (X_2)	-689** (222)	-932** (229)
5.	Health coverage charges (X_3)	233 ^{NS} (108)	234 ^{NS} (111)
6.	Mortality percentage (X_4)	-1424.48** (240.28)	-1394.88** (242.49)
7.	Coefficient of multiple determination (R^2)	0.81	0.81

Figures in the parenthesis indicates standard errors

** Significant at 1% level

NS – Non significant