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ECONOMICS OF REARING AND MARKETING OF SHEEP IN NORTH-WESTERN ZONE

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ABSTRACT

A study was conducted in Salem and Dharmapuri districts with 100 sample respondents to find out the economics of sheep rearing. The study revealed that 73 per cent of the farmers tended macheri cross breed and on an average, each farmer tended 19.20 ewes and 1.39 rams. Annual addition of sheep per farm was 12.78 of which 6.11 were ewes. Maintenance cost per farm worked out to Rs. 1952.81, of which labour accounted for 75.04 per cent and feed cost 17.10 per cent. Income from sheep per farm amounted to Rs. 2699.33 of which 78 per cent by sale of sheep. Marketing cost per sheep worked out to Rs. 3-5 and marketing was mainly carried out in the nearby villages and in shandies.

Sheep population in North Western Zone comprising of Salem and Dharmapuri districts estimated to be 7.22 lakhs accounting for 13.18 per cent of Tamil Nadu. Among various subsidiary occupations, sheep rearing is found popular among the farming community in this region, particularly to small and marginal farmers. The objectives of the study were (i) to find out the farmers attitude, (ii) to examine economics of sheep rearing, (iii) to assess its contribution to farm income and (iv) to estimate

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the resource use efficiency of sheep rearing.

REVIEW OF PAST STUDIES

Kapoor (1983) reported from a study in Gujarat that the gross income from a flock of 56 was Rs. 4980 of which 48 per cent is from milk, 30 per cent from sale of rams and the rest 22 per cent from manure and miscellaneous sources. The average income from a sheep was Rs. 88.92.

Sharma et al (1983) reported from a study in Haryana that the share of earnings from sheep rearing in small (40), medium (62) and large (99) flocks were 61, 68 and 76 per cent of the total income, respectively.

Reddy and Reddy (1981) reported a scheme for modern sheep farm from Palamaner in Andhra Pradesh which revealed that the total cost for 100 ewes and 3 rams unit was Rs. 5, 641 and gross income was Rs. 8796 per annum.

Swain et al (1982) in a study in the semi arid regions at Rajastan studied flocks (30 malpura breed) maintained on free range grazing on highly degraded land. The sheep gave a net income of Rs. 145.45 per year per sheep.

TABLE 1 : Size Groupwise Maintenance Cost of Sheep/Farm (Rs.)

Particulars	Feed cost	Labour cost	Veterinary charges	Expenditure on lambs	Total cost
PALACODE					
Marginal farmers (< 1ha.)	70.66	1311.11	76.66	61.11	1519.54
Small farmers (1-2ha.)	260.75	1454.16	59.58	103.33	1877.82
Large farmers (> 2ha.)	675.00	1062.50	112.50	87.50	1937.50
PENNAGARAM					
Marginal farmers	119.80	1385.00	16.50	81.50	1602.80
Small farmers	175.00	1560.00	47.50	121.00	1903.50
Large farmers	305.00	1300.00	50.00	140.00	1795.00
OMALUR					
Marginal farmers	43.42	1520.83	29.17	126.66	1720.08
Small farmers	67.50	1600.00	25.00	112.50	1805.00
Large farmers	70.00	1656.66	40.00	126.66	1893.32
MOHANUR					
Marginal farmers	490.00	1550.00	31.25	106.25	2177.50
Small farmers	629.00	1583.33	38.66	100.00	2351.65
Large farmers	1100.00	1600.00	50.00	100.00	2850.00
AVERAGE	33.90 (17.10)	1465.30 (75.04)	48.07 (2.46)	105.54 (5.40)	1952.81 (100.0)

(Figures in the parantheses are percentage to the total)

Atchuta Kumar (1980) estimated the economics of Nellore breed of sheep in Nellore district of Andhra Pradesh. The net cash income per year worked out to Rs. 367.50 per sheep unit of 20 ewes and one ram.

Kareemulla (1985) reported in a study at Andhra Pradesh that the labour wages accounted to 87 per cent of the variable cost and the problems are grass shortage in summer, non-availability of quality breeds, high disease incidence, higher mortality of existing breeds and capital shortage.

Marimuthu et al (1985) reported that income from goat (20 + 1) was Rs. 2250/- to 2500/- per annum.

MATERIALS AND METHODS

The sample size for this study was 100, constituting 50 respondents from each Dharmapuri and Salem districts. Based on higher sheep population two blocks were selected in each district namely Palacode and Pennagaram in Dharmapuri, Omalur and Mohanur in Salem district. In each block, five villages were selected again based on sheep population and in each village five respondents were selected for this study which was conducted during 1986-87. The collected data were analysed by using percentage analysis and to estimate the resource use efficiency, the following Cobb-Douglas production function was used.

$$Y = a\, x_1^{b_1}\ x_2^{b_2}\ x_3^{b_3}\ x_4^{b_4}$$

Where

Y = Income from sheep in rupees (Sale + value added)

a = Constant

b_i = elasticities of production

X_1 = No. of ewes

X_2 = Maintenance cost excluding labour in rupees

X_3 = Labour cost in rupees

X_4 = Average value of sheep in rupees.

RESULTS AND DISCUSSION

The study revealed that 73 per cent of the farmers are rearing Mecheri cross breed and the remaining 27 per cent reared Trichy/Dharmapuri black breeds of wool type. From the enquiry , it is known that the wool were sheared during July-August and the wool sold at a very low price of Rs. 2-3 per sheep. On an average, each respondent maintained 19.20 ewes and 1.39 rams with an average value of Rs. 263.04 and Rs.. 289.84, respectively. Annual addition of sheep per farm was found to be 12.78 No. with 6.11 ewes and 6.67 rams. The disposal of sheep per farm was found to be 9.47 No., consisting of 6.36 rams and 3.11 ewes valued at Rs. 2075.25.

The size groupwise maintenance cost of sheep per farm was presented in Table 1. which revealed that the average maintenance cost was Rs. 1952.81 of which labour alone accounted for 75.04 per cent, feed cost 17.10 per cent, expenditure on lambs 5.40 per cent and veterinary charges 2.46 per cent. Mohanur block had higher maintenance cost for marginal, small and large farmers with Rs. Rs. 2177.50, 2351.65 and 2850.00, respectively, perhaps due to higher feed cost.

The size groupwise income from sheep per farm was presented in Table 2. The average income per farm amounted to Rs. 2699.33, of which 77.95 per cent by sale of sheep and 21.71 per cent from manures. Highest income was observed among large farmers in Pennagaram with Rs. 4741.80, for small farmers in Mohanur with Rs. 2666.66 and for marginal farmers in Omalur with Rs. 4375.82. The marketing of sheep was mainly carried out in the nearby villages/town shandies. Marketing cost per sheep worked out to Rs. 3-5. However, there was no marketing cost when sheep were disposed at farm itself.

TABLE 2 : Income from Sheep per Farm (Rs.)

Particulars	Sale of sheep	Manures	Wool	Total
PALACODE				
Marginal farmers	755.55	416.66	21.11	1193.32
Small farmers	954.16	433.33	24.00	1411.49
Large farmers	2100.00	587.50	16.00	2703.50
PENNAGARAM				
Marginal farmers	800.00	293.00	1.50	1094.50
Small farmers	1865.00	482.50	6.00	2353.50
Large farmers	3720.00	980.00	41.80	4741.80
OMALUR				
Marginal farmers	3919.16	456.66	-	4375.82
Small farmers	1625.00	475.00	-	2100.00
Large farmers	3066.66	661.11	-	3727.77
MOHANUR				
Marginal farmers	2450.00	631.25	-	3081.25
Small farmers	1948.33	718.33	-	2666.66
Large farmers	2050.00	900.00	-	2950.00
Average	2104.49 (77.95)	586.28 (21.71)	9.16 (0.34)	2699.93 (100.00)

(Figures in the parantheses are percentage to the total)

Resource use efficiency estimated through Cobb-Douglas production function for the three size group is given below :

Marginal farmers	Y =	-3.238 (6.8503)	+ 0.3496 X_1 (0.2081)	+ 0.4788 X_2** (0.0972) 0.7622 X_4 (0.5293),	+ 0.4843 X_3 (1.0107)
	R^2 =	0.59	F = 12.04		N =39
Small farmers	Y =	-6.9047 (5.2950)	+ 0.1291 X_1 (0.2768)	+ 0.1397 X_2 (0.1128) 1.1799 X_4* (0.5078)	+ 2.7167 X_3** (0.8082)
	R^2 =	0.49	F = 6.25		N =41
Large farmers	Y =	7.3095 (6.8071)	+ 0.9677 X_1** (0.3320)	+ 0.1267 X_2 (0.1341) 0.1732 X_4 (0.7576)	- 0.4904 X_3 + (0.8277)
	R^2 = 0.51		F = 3.96		N = 20

The coefficient of multiple determination (R^2) were 0.59, 0.49 and 0.51 for marginal, small and large farmers, respectively, which implied that 59, 49 and 51 per cent of variation in income from the sheep were explained by the independent variables. For marginal farmers, the regression coefficient for maintenance cost excluding labour (X_2) was significant at one per cent level i.e. one per cent increase in maintenance cost, ceteris paribus would increase the income from sheep by 0.48 per cent. In the case of small farmers the variables labour cost (X_3) and value of sheep (X_4) were significant at 1 and 5 per cent level, whereas for large farmers the variable No. of ewes (X_1) was significant at one per cent level. The sum of regression coefficient showed increasing returns to scale for marginal farmers (λ=2.07) and small farmers (λ=1.80) implying that percentage increase of all variables would results in more than one per cent increase in output. For large farmers (λ = 0.77) decreasing returns to scale was observed i.e. increased use of inputs did not increase the income from sheep.

CONCLUSION

The study revealed that still there is great scope for expansion of sheep rearing in Salem and Dharmapuri districts particularly forest adjoining places like Palacode and Pennagaram. Establishment of community grazing lands, opening of sheep regulated market to cater to the needs of sheep rearers, extension of credit facilities through financial institutions like commercial banks and co-operatives, encouraging sheep co-operative societies, starting of adequate veterinary facilities and extension centres and encouraging sheep rearing through various measures are some of the suggestions that augurs well for sheep rearing in the years to come.

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INFLUENCE OF TIME OF FORAGE CUTTING ON SEED YIELD AND QUALITY OF LUCERNE (*Medicago sativa* L.) Cv CO 1

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A field study involved 12 treatments represented by 12 monthly forage cutting given to the seed crop of cv Co 1 lucerne viz. during February 1980 (M_1), March 1980 (M_2), April 1989 (M_3), May 1980 (M_4), June 1980 (M_5), July 1980 (M_6), August 1980 (M_7), September 1980 (M_8), October 1980 (M_9), November 1980 (M_{10}), December 1980 (M_{11}) and January 1981 (M_{12}). Observations were recorded on pod and seed yields, recovery of quality seeds retained in 5/63" round perforated sieve, germination and vigour index (Germination % x seedling length). The seed crop which received a forage cutting during the 1st week of June recorded the highest seed yield of 197 kg/ha while the minimum seed yield of