

Original Research Article

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Economic Analysis of Cost and Return Structure of Crop and Dairy Enterprise

S.R. Parve*, R.D. Shelke and S.H. Kamble

Department of Agricultural Economics, College of Agriculture, Latur, India

**Corresponding author*

ABSTRACT

Keywords

Cost returns, Mixed farming, Crop cultivation, net income, Total expenditure.

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The study had been made to examine the economics of dairy farming systems in Latur district of Maharashtra. The investigation was based on the primary data collected by personal interview method from 90 cultivators for the year 2017-18. The farming systems crop + dairy were identified in the study area. The Cost- A for crop is 18923.58 and Cost- A for dairy is 71463.28 and the total Cost- A is 90386.86. The expenditure of crop is 39304.27 and that of dairy is 67326.93 and the total expenditure is 106631.2. Crop cultivation was the best with a net income of ₹ 33521.15 per year against dairy ₹ 18805.59 and their combination gives 52326.74.

Introduction

The concept of farm - livestock ecosystem is gaining momentum to maximize food production and to elevate economic status of the farmers by multifarious farm activities particularly by incorporating livestock enterprises. For human need, the livestock provides food, fiber, skin, traction, fertilizer and fuel. Livestock also constitutes "living bank" providing flexible financial reserve in times of emergency and serve as "insurance" against crop failure for survival. The concept of man - land - livestock ecosystem is gaining momentum to maximize food production and

to elevate economic status of the farmers by multifarious farm activities particularly by incorporating livestock enterprises. For human need, the livestock provides food, fiber, skin, traction, fertilizer and fuel. Livestock also constitutes "living bank" providing flexible financial reserve in times of emergency and serve as "insurance" against crop failure for survival.

Farmers keep cows, buffaloes, sheep and goats including small numbers of poultry in backyard to meet their domestic needs. Therefore, livestock became an integral part of farming system as such. In this system,

animals are raised on agricultural waste. The animal power is used for agricultural operation and the dung is used as manure and fuel. It may be possible to reach the same level of yield with proportionately less input in the integrated farming and the yield would be inherently more sustainable because the waste of one enterprise becomes the input of another leaving almost no waste to pollute the environment or to degrade the resource base.

Objective

To study cost and return structure of crop and dairy enterprise.

Materials and Methods

The specific research requires to adopt an appropriate method and procedure for conducting investigation, analysis and interpretation. For evaluation statistical tools like arithmetic mean, percentage and ratios were used for estimating the results cost concepts like cost 'A', cost 'B' and cost 'C' were used for estimating the cost of cultivation of crops. Cost concepts for dairy included variable costs like feed cost, labour charges and interest on working capital.

Results and Discussion

In *karif* season in case soybean crop per cost-A was 18923.58 per cent and that of cost-B was 34580.51 per cent and cost C was 37125.47 per cent. It was revealed that as the size of farm increase, the cost A and cost B were also increased. In case of green gram crop per hectare cost-A was 19170.08 per cent and that of cost-B was 25157.37 per cent and cost C was 35402.47 per cent, In case of red gram crop per hectare cost-A was 17333.73 per cent and that of cost-B was 23252.63 per cent and cost C was 31846.38 per cent (Table 2).

Forrabi season in case of chickpea crop per hectare cost-A was 22499.67 per cent and that of cost-B was 37646.58 per cent and cost C was 41166.81 per cent. In case of wheat crop cost-A was 20226.60 per cent and that of cost-B was 27355.47 per cent and cost C was 31093.68 per cent, and in case of sorghum crop per hectare cost-A was 21349.26 per cent and that of cost-B was 32980.37 per cent and cost C was 41758.15 per cent.

In sugarcane cultivation per hectare cost-A was 39861.06 per cent and that of cost-B was 83844.68 per cent and cost C was 85367.71 per cent and for the fodder crop maize the per hectare cost-A was 21755.49 per cent and that of cost-B was 24113.72 per cent and cost C was 27890.31 per cent and for the grass per hectare cost-A was 16520.23 per cent and that of cost-B was 16816.18 per cent and cost C was 22087.53 per cent.

From table 3, in case of local cow at overall level, the total cost of maintenance (Cost-C) was worked out to ₹ 36420.12 of which cost-A constituted for 32542.11 per cent and cost-B 33547.44 per cent. In case of local buffalo, total cost of maintenance (Cost-C) was observed to ₹ 56083.32 of which 50453.03 per cent was cost-A and 50760.40 per cent was cost-B.

Regarding the profitability of crop enterprise from table 1, at overall level, Sugarcane was the most profitable crop as its input output ratio was 2.93 followed by Chick pea (2.25), Soybean (2.24), Sorghum (1.75), Red gram (1.48), Wheat (1.46), Green gram (1.12) and Maize and Grass crops were in loss. A rupee invested on maize and grass gave a net loss of ₹ 0.72 and ₹ 0.20 respectively.

From table 4, the input-output ratio was highest in case of local buffalo (1.78) and lowest (1.68) in case of local cow.

Table.1 Size group wise input-output relationship of different crops

Sr. No.	Crop	Input-Output
1	Soybean	1:2.24
2	Green gram	1:1.12
3	Red gram	1:1.48
4	Chickpea	1:2.25
5	Sorghum	1:1.75
6	Wheat	1:1.46
7	Sugarcane	1:2.93
8	Maize	1:0.72
9	Grass	1:0.20

Table.2 Per hectare cost of cultivation for different crops

Sr .no.	Crop	Cost category	Amount (₹)
1	Soybean	Cost A	18923.58
		Cost B	34580.51
		Cost C	37125.47
2	Green gram	Cost A	19170.08
		Cost B	25157.37
		Cost C	35402.47
3	Red gram	Cost A	17333.73
		Cost B	23252.63
		Cost C	31846.38
4	Chickpea	Cost A	22499.67
		Cost B	37646.58
		Cost C	41166.81
5	Sorghum	Cost A	21349.26
		Cost B	32980.37
		Cost C	41758.15
6	Wheat	Cost A	20226.60
		Cost B	27355.47
		Cost C	31093.68
7	Sugarcane	Cost A	39861.06
		Cost B	83844.68
		Cost C	85367.71
8	Maize	Cost A	21755.49
		Cost B	24113.72
		Cost C	27890.31
9	Grass	Cost A	16520.23
		Cost B	16816.18
		Cost C	22087.53

Table.3 Per animal cost of maintenance (Figures in ₹)

Sr. No.	Type of milch animal	Amount (₹)
1.	Local cow	
	Cost 'A'	32542.11
	Cost 'B'	33547.44
	Cost 'C'	36420.12
2	Local buffalo	
	Cost 'A'	50453.03
	Cost 'B'	50760.40
	Cost 'C'	56083.32

Table.4 Input-output relationship for different milch animals

Sr. No.	Type of milch animal	Input-Output
1.	Local cow	1:1.68
2.	Local buffalo	1:1.78
	Overall	1:3.31

In conclusions, per farm profitability of both the enterprises showed that at overall level, crop enterprise gave profit of ₹ 33521.15 and dairy enterprise gave profit of ₹ 34229.52, considering combination of both the enterprises. If both the enterprises are considered together, the combination gave a net profit of ₹ 67750.67. The input-output ratio of enterprise combination at overall level was 3.31.

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