



International Journal of Agriculture Extension and Social Development

ISSN Print: 2618-0723
ISSN Online: 2618-0731
NAAS Rating (2026): 5.04
IJAESD 2026; 9(10): 102-104
www.extensionjournal.com
Received: 25-07-2026
Accepted: 19-09-2026
Published: 03-10-2026

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Economics of cost and returns of coffee production in Kodagu district of Karnataka

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DOI: <https://www.doi.org/10.33545/26180723.2026.v9.i10b.4365>

ABSTRACT

The present investigation was undertaken to examine the cost and returns of coffee production in Kodagu district of *Karnataka*. The study was based on primary data collected from 90 coffee growers selected from Madikeri, Virajpet and Somvarpet taluks, with equal representation of small and large farmers. The farm-size groups were classified as small farmers having less than 10 hectares and large farmers having more than 10 hectares. The cost of cultivation was estimated using the standard cost concepts, namely Cost 'A', Cost 'B' and Cost 'C'. At the overall level, Cost 'A', Cost 'B' and Cost 'C' were ₹1,32,057.55, ₹1,95,669.31 and ₹1,96,791.61 per hectare, respectively. The total Cost 'C' was ₹2,01,858.58 per hectare for small farmers and ₹1,91,724.64 for large farmers. Human labour was the major paid-out cost component. The overall production was 13.53 quintals per hectare and gross income was ₹3,38,262.62 per hectare. Net returns over Cost 'C' were ₹1,38,991.95 for small farmers, ₹1,43,950.07 for large farmers and ₹1,41,471.01 at the overall level. The Benefit-Cost ratio at Cost 'C' was 1.69 for small farmers, 1.75 for large farmers and 1.72 overall, indicating that coffee cultivation was economically viable and profitable in the study area. Large farmers recorded comparatively better profitability due to their lower per-hectare cost and slightly higher net returns.

Keywords: Cost of cultivation, Karnataka, Coffee, Kodagu

Introduction

Coffee is an important plantation crop and a major source of farm income in the traditional coffee-growing regions of *Karnataka*. Kodagu is one of the prominent coffee-producing districts of the state, where coffee cultivation forms an important component of the agricultural economy. The profitability of coffee production depends not only on yield and price realization but also on the level and composition of cultivation costs. Increasing expenditure on hired labour, manure, fertilizers, irrigation and other farm operations makes the assessment of cost and returns essential for understanding the economic viability of coffee cultivation.

The economic performance of a plantation enterprise is commonly assessed through standard cost concepts such as Cost 'A', Cost 'B' and Cost 'C'. These concepts help in separating paid-out expenses from fixed and imputed costs and provide a comprehensive measure of profitability. Cost and return analysis also enable comparison among different farm-size groups and helps identify whether the returns generated from coffee are sufficient to cover both explicit and implicit costs. Therefore, the present study was undertaken with the specific objective of estimating the cost and returns of coffee production among small and large farmers in Kodagu district of *Karnataka*.

Materials and methods

Kodagu district was purposively selected for the study. Three taluks, namely Madikeri, Virajpet and Somvarpet, were selected for the investigation. A total of 90 coffee growers were included in the sample, comprising 45 small farmers and 45 large farmers. Small farmers were defined as those operating less than 10 hectares, whereas large farmers were those operating more than 10 hectares. Primary data relating to coffee cultivation were collected from the selected growers and used for estimating per-hectare cost and returns.

Tools of analysis

Estimation of Production Costs and Returns: The cost of coffee production was estimated on a per-hectare basis using the standard cost concepts Cost 'A', Cost 'B' and Cost 'C'. Cost 'A' included paid-out cultivation expenses, Cost 'B' included Cost 'A' together with rental value of land, interest on fixed capital and amortization cost, while Cost 'C' further included the imputed value of family labour. Gross income was estimated from the value of coffee output. Net returns were obtained by deducting the respective cost from gross income, and the Benefit-Cost ratio was calculated as the ratio of gross income to the corresponding cost.

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Results and discussion

Cost of cultivation of coffee

The per-hectare cost of cultivating coffee for the two farm-size groups and the overall sample is presented in Table 1. The cost of cultivation was estimated using the standard cost concepts Cost 'A', Cost 'B' and Cost 'C'. At the overall level, Cost 'A' was ₹1,32,057.55 per hectare, representing 67.11 per cent of Cost 'C'. Cost 'B' amounted to ₹1,95,669.31 per hectare, while Cost 'C' was ₹1,96,791.61 per hectare. Thus, the inclusion of rental value of land, interest on fixed capital, amortization and family labour considerably increased the total cost from Cost 'A' to Cost 'C'.

Among the farm-size groups, small farmers incurred a higher total cost of cultivation than large farmers. Cost 'A', Cost 'B' and Cost 'C' for small farmers were ₹1,36,816.43, ₹2,00,908.38 and ₹2,01,858.58

per hectare, respectively. In the case of large farmers, the corresponding values were ₹1,27,298.68, ₹1,90,430.24 and ₹1,91,724.64 per hectare. The lower Cost 'C' among large farmers indicates a modest advantage in per-hectare cost management at the larger farm scale.

Human labour constituted the most important paid-out component of cultivation cost. For small farmers, hired male labour amounted to ₹91,298.97 per hectare, accounting for 45.23 per cent of Cost 'C', while hired female labour accounted for 9.86 per cent. For large farmers, hired male labour was ₹87,479.55 per hectare, representing 45.63 per cent of Cost 'C', and hired female labour accounted for 6.30 per cent. Manure accounted for 5.60 per cent and 6.56 per cent of Cost 'C' among small and large farmers, respectively. These results show that labour and other operating inputs were the major contributors to coffee cultivation expenditure.

Table 1. Cost of Cultivation of Coffee

Sr.No.	Items of cost	Small			Large			Overall		
		Qty	Value	Per cent	Qty	Value	Per cent	Qty	Value	Per cent
1	Hired Human labour (Man days)									
	a) Male	193.56	91298.97	45.23	218.70	87479.55	45.63	206.13	89389.26	45.42
	b) Female	70.17	19897.81	9.86	48.31	12077.84	6.30	59.24	15987.83	8.12
2	Bullock power (pair days)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	Manures (q)	28.28	11311.72	5.60	31.43	12571.47	6.56	29.85	11941.60	6.07
4	Fertilizers (kg)									
	N	101.73	712.12	0.35	103.01	721.07	0.38	102.37	716.60	0.36
	P	74.10	889.24	0.44	97.77	1173.21	0.61	85.94	1031.23	0.52
	K	101.73	3764.07	1.86	97.77	3617.40	1.89	99.75	3690.73	1.88
5	Irrigation Charges (Rs.)		156.11	0.08		917.45	0.48		536.78	0.27
6	Plant protection charges (Rs.)		150.00	0.07		150.00	0.08		150.00	0.08
7	Incidental charges (Rs.)		67.06	0.03		273.03	0.14		170.05	0.09
	Working capital (Rs.)		128358.52	63.59		119093.04	62.12		123725.78	62.87
9	Int. on Working Capital @ 6% (Rs.)		7701.51	3.82		7145.58	3.73		7423.55	3.77
10	Depre. on farm implements		606.39	0.30		910.05	0.47		758.22	0.39
11	Land revenue and taxes		150.00	0.07		150.00	0.08		150.00	0.08
	Cost 'A'		136816.4	67.78		127298.6	66.40		132057.5	67.11
12	Rental value of land		56658.42	28.07		55795.79	29.10		56227.10	28.57
13	Int. on fixed cap- ital @ 10% (Rs.)		947.06	0.47		1415.86	0.74		1181.46	0.60
14	Amortization cost (Rs.)		6486.47	3.21		5919.91	3.09		6203.19	3.15
	Cost 'B'		200908.3	99.53		190430.2	99.32		195669.3	99.43
15	Family labour									
	a. Male	1.28	575.17	0.28	2.01	805.49	0.42	1.65	690.33	0.35
	b. Female	1.37	375.03	0.19	1.96	488.92	0.26	1.66	431.97	0.22
	Cost 'C'		201858.58	100.00		191724.64	100.00		196791.61	100.00
	Output (Qtls.) and income Rs.	13.63	340850.5		13.43	335674.7		13.53	338262.6	

(continued on next page)

Sr.No.	Items of cost	Small	Large	Overall
	Per quintal cost	14805.51	14279.05	14542.28

Costs, returns, gross income and B:C ratio from coffee cultivation

Table 2 presents the costs, returns, production, gross income and Benefit-Cost ratios from coffee cultivation. At the overall level, gross income from coffee was ₹3,38,262.62 per hectare. The corresponding net return over Cost 'A' was ₹2,06,205.07, while profit over Cost 'B' was ₹1,42,593.31. After accounting for all components included in Cost 'C', the net return was ₹1,41,471.01 per hectare. The production was 13.53 quintals per hectare, indicating that the returns generated from coffee were sufficient to cover the comprehensive cost of cultivation.

For small farmers, gross income was ₹3,40,850.53 per hectare and production was 13.63 quintals per hectare. Their net return over Cost

'C' was ₹1,38,991.95. Large farmers realized a gross income of ₹3,35,674.71 per hectare from 13.43 quintals of coffee and obtained a higher net return of ₹1,43,950.07 over Cost 'C'. Although small farmers recorded slightly higher production and gross income per hectare, large farmers obtained higher net returns because their total Cost 'C' was lower.

The Benefit-Cost ratio at Cost 'A' was 2.49 for small farmers, 2.64 for large farmers and 2.56 overall. At Cost 'B', the ratio was 1.70, 1.76 and 1.73, respectively. At the most comprehensive Cost 'C', the B:C ratio was 1.69 for small farmers, 1.75 for large farmers and 1.72 overall. Since the B:C ratio exceeded unity for both farm-size groups, coffee production was economically viable. The comparatively higher B:C ratio among large farmers indicates better profitability at the larger farm scale.

Table 2. Costs and Returns from Coffee Cultivation

Particulars	Small	Large	Overall
Profit at Cost 'A' (₹/ha)	2,04,034.11	2,08,376.03	2,06,205.07
Profit at Cost 'B' (₹/ha)	1,39,942.15	1,45,244.48	1,42,593.31
Net return at Cost 'C' (₹/ha)	1,38,991.95	1,43,950.07	1,41,471.01
Production (q/ha)	13.63	13.43	13.53
Gross income (₹/ha)	3,40,850.53	3,35,674.71	3,38,262.62
B:C ratio at Cost 'A'	2.49	2.64	2.56
B:C ratio at Cost 'B'	1.70	1.76	1.73
B:C ratio at Cost 'C'	1.69	1.75	1.72

The profitability estimates clearly demonstrate that coffee cultivation generated positive returns even after accounting for comprehensive production costs. The overall Cost 'C' B:C ratio of 1.72 means that every rupee spent on the total cost of coffee cultivation generated approximately ₹1.72 as gross income. The results are in line with the general findings of studies on coffee economics reported in the reviewed literature, where positive returns and B:C ratios above unity were observed. Radhakrishnan *et al.* (2024) highlighted differences in cost concepts and returns across farm-size groups in *Karnataka coffee* plantations, while Ramesh and Kumar (2025) reported the importance of labour and other cost components in determining net profitability of coffee cultivation in Kodagu. Kumar *et al.* (2021) [1] also emphasized the economic viability of coffee-based production systems in Kodagu.

Conclusions

The study revealed that coffee cultivation in Kodagu district was economically viable and profitable for both small and large farmers. The overall Cost 'C' was ₹1,96,791.61 per hectare, while gross income and net return were ₹3,38,262.62 and ₹1,41,471.01 per hectare, respectively. Hired human labour was the major component of cultivation cost. Large farmers incurred a comparatively lower Cost 'C' of ₹1,91,724.64 per hectare and obtained a higher net return of ₹1,43,950.07 per hectare. The overall B:C ratio of 1.72 at Cost 'C' confirms the economic feasibility of coffee production. Therefore, improved labour management, efficient input use and cost control can further strengthen the profitability of coffee cultivation in Kodagu district.

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How to cite this article: HV H, Deokate T, Bhakre M. Economics of cost and returns of coffee production in Kodagu district of *Karnataka*. *International Journal of Agriculture Extension and Social Development*. 2026;9(10):102–104. doi: <https://www.doi.org/10.33545/26180723.2026.v9.i10b.4365>