

## An Economic Analysis of Production of Cashew Nut (*Anacardium occidentale*) in Srikakulam District of Andhra Pradesh

Bathula Sasi Pritam\* and Ramchandra\*\*

Author, \*Department of Agriculture Economics, SHUATS, Prajagraj

Assistant Professor, \*\*Department of Agriculture Economics, SHUATS, Prajagraj

Sam Higginbottom University of Agriculture Technology and Sciences Prayagraj-211007, Uttar Pradesh, India

\*Corresponding Author E-mail: [b.sasipritam@gmail.com](mailto:b.sasipritam@gmail.com)

Received: 8.11.2020 | Revised: 13.12.2020 | Accepted: 22.12.2020

### ABSTRACT

The present study entitled “An Economic Analysis of Production of cashew nut in Srikakulam district of Andhra Pradesh” was conducted in the year 2019-2020. The study made use of a multi-stage sampling and random sampling technique to select 105 farmers among the selected villages. Data for the selected study were collected with the aid of well-structured questionnaires. Data collected were analyzed using the tabulation method along with the required statistical tool. The Production of Cashew nut has increased in the area largely due to productivity increase and increase in the area under crop. Resource use structure in Cashew nut was found to be varied among the size groups. The per cost of cultivation was varied among the size groups of Cashew nut was highest on the small size (Rs.54415.98) and lowest on the large size (Rs.48317.64) and medium (Rs.52748.27) on the medium size the input-output ratio is highest on large size farms and lowest on small size farms.

**Keywords:** Cashew nut, Cost and return, input-output ratio.

### INTRODUCTION

Cashewnut (*Anacardium occidentale*), also called as 'wonder nut,' is native to Brazil and is of greater commercial value. It was introduced by the Portuguese traveller's in the sixteenth century in the Malabar Coast.

Cashew nut, popularly also known as the “Gold Mine of Waste Land”. It is noted for its wide adaptability, its variety of soil and agro-climate, as well as its eco-friendly behaviour.

### MATERIALS AND METHODS

The study was conducted in Srikakulam district of Andhra Pradesh which is one of the

13 districts of Andhra Pradesh. Srikakulam district comprises of 38 blocks among 2 blocks were selected i.e Vajarapu Kotoru and Palasa blocks were selected for the study. A list of 6 villages was selected randomly out of them. A list of all Cashew nut farmers/ respondents is prepared with the help of the head of the villages pradhan or head of each selected villages in both block, thereafter farmers/respondents are categorized in 3 size groups based on their landholding and then from each village 10% farmers were selected randomly from all the different size of farm groups.

**Cite this article:** Pritam, B. S., & Ramchandra (2021). An Economic Analysis of Production of Cashew nut (*Anacardium occidentale*) in Srikakulam district of Andhra Pradesh, *Ind. J. Pure App. Biosci.* 9(1), 331-335. doi: <http://dx.doi.org/10.18782/2582-2845.8484>

Data for the study was collected from all 105 farmers randomly i.e 45 small farmers, 40 medium farmers and 20 large farmers.

Tabulation method is used for the analysis of data along with required statistical tools for the interpretation of the results for the objectives.

**Table 1: Resource use and Cost and Cultivation of Cashew nut crop per hectare in different Size of Farms Group**

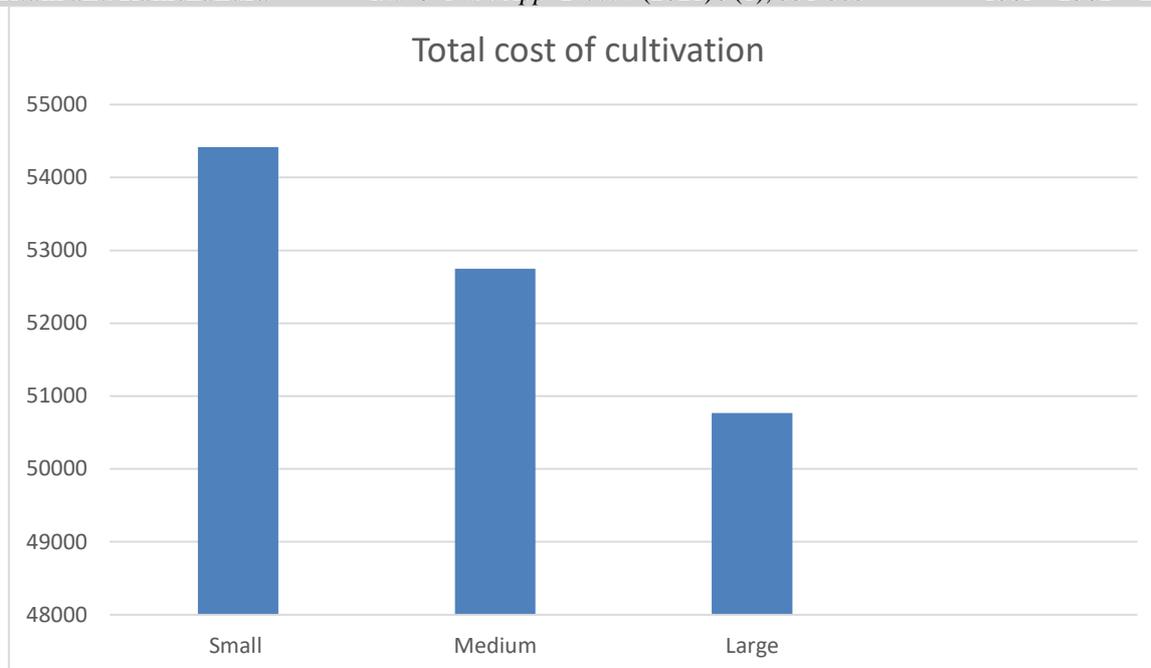
S.NO	Particulars	Small	Medium	Large	Sample Average
1	Hired Human Labour	6000 (11.02)	6500 (12.32)	6800 (13.39)	6433.33 (12.22)
2	Machinery charges	2500 (4.59)	2800 (5.30)	3000 (5.9)	2766.66 (5.25)
3	Cost of seed	4500 (8.26)	4125 (7.82)	3750 (7.3)	4125 (7.83)
4	Cost of FYM	3750 (6.89)	3340 (6.33)	3000 (5.90)	3363.33 (6.38)
5	Cost of Fertilizers	15000 (27.56)	14500 (27.48)	14000 (27.57)	14500 (27.54)
6	Cost of irrigation	0	0	0	0
7	Cost of Plant chemicals	3850 (7.07)	3650 (6.91)	3200 (6.30)	3566.66 (6.77)
8	Interest on working capital@8%	2848 (5.23)	2793.2 (5.29)	2700 (5.31)	2780.4 (5.28)
9	Depreciation on fixed capital	1914.4 (3.51)	1498.8 (2.84)	1045.2 (2.05)	1486.13 (2.82)
10	Land Revenue Paid to Govt	0	0	0	0
11	Rental Value of own land	10000 (18.37)	10000 (18.95)	10000 (19.69)	10000 (18.99)
12	Interest on Fixed Capital @11%	553.98 (1.01)	541.27 (1.02)	522.44 (1.02)	539.234 (1.02)
13	Family Labour charges	3500 (6.43)	3000 (5.68)	2750 (5.41)	3083.33 (5.85)
14	<b>Total cost of cultivation</b>	54415.98 (100)	52748.2 (100)	50767.64 (100)	52644.1 (100)

The table 1 reveals that among the different size of farms, the total cost incurred by the small farms were high (Rs.54415.98/ha) as compared to medium and large size farms (Rs.52748.277/ha and Rs.50767.64/ha). Sample average for total cost was Rs.52644.1/ha in different size of farms group. The cost of human labour, fertilizers, seeds were the items for the cost with major share in the variable costs, because most of the operations like harvesting and weeding were human labour intensive operations and the other operations like land preparation and inter culture were bullock labour cost of human labour intensive. The distribution of the pattern of operational cost under various inputs revealed that cost of human labour was highest in large size farms (Rs.6800 /ha), as compared to medium-size farms (Rs.6500/ha) and lowest in small size farms (Rs.6000/ha).

Machinery cost was Rs.2500/ha in small size farms and for medium-size farms was (Rs.2800/ha) and large size farms

(Rs.3000/ha). The cost of seeds was highest in small size farms (Rs.4500/ha), as compared to medium-size farms (Rs.4125/ha) and lowest in large size farms (Rs.3750/ha). As Cashew nut would respond well with chemical fertilizer so the cost of farmyard manure used was ranged from Rs.3200/ha in large size farms, Rs.3650/ha in medium-size farms and Rs.3850/ha in small size farms. Whereas, the expenditure on fertilizers was highest in small size farms (Rs.15000/ha), as compared to medium-size farm (Rs.14500/ha) and lowest in large size farms (14000/ha) respectively. Sample average for depreciation on fixed resources was Rs.1486.13. Interest on working capital Rs.2780.4, interest on fixed capital was Rs.539.23, labour charges for different size of farms group are Rs.3083.33.

The cost rental value of own land was Rs.10000/ha in Small, medium and large size of farms group respectively. Sample average for the rental value of own land was Rs.10000/ha for different size of farm groups.

**Table: 2**

Source	Df	SS	MSS	F Cal	F Tab 5%	Result	S .Ed	C.D at 5%
<b>Channel</b>	12	376461155.4	31371762.9	1311.009	2.686	s	60.675	13.166
<b>Particular</b>	1	314376.4	314376.4	13.137	4.747	s	154.69	335.67
<b>Error</b>	12	287153.6	23929.4					
<b>Total</b>	25							

In the above ANOVA table, in due to size group degrees of freedom is 12, sum of squares is 376461155.4, mean sum of squares is 31371762.9, F. Calculated value is 1311.009, F. tabulated value @ 5% is 2.686, the result is Significant, the standard deviation is 85.61 and critical difference @ 5% is 13.166 In due to particulars degrees of freedom is 1,

sum of squares is 314376.4, mean sum of squares is 314376.4, F. Calculated value is 13.137, F. tabulated value is 4.747, the result is significant, standard deviation is 154.69 and critical difference @ 5% is 335.67. In error degrees of freedom is 12, sum of squares is 287153.6 and mean sum of squares is 23929.4.

**Table: 3 cost concepts of Cashew nut per hectare in different size farm groups**

S.No	Cost concepts	small	Medium	Large	Sample average
<b>1</b>	Cost A1	40362.4	39207	37495.2	39021.53
<b>2</b>	Cost A2	50362.4	49207	47495.2	49021.533
<b>3</b>	Cost B	50916.38	49748.27	48317.64	49660.76
<b>4</b>	Cost C	54415.98	50767.64	50767.64	52643.96

Table 3 reveals that cost concepts on different size of farms group per hectare. CostA<sub>1</sub> was highest in small size farms (Rs.40362.4/ha) followed by medium-size farms (Rs.39207/ha) and large size farms (Rs.37495.2/ha) respectively. Cost A<sub>2</sub> in small, medium and large size of farms group was Rs.50362.4/ha, Rs.49207/ha and Rs.47495.2/ha respectively.

Copyright © Jan.-Feb., 2021; IJPAB

Cost B was highest in small size farms (Rs.50916.38/ha) and lowest in large size farms (Rs.48317.64/ha) as compared to medium-size farms (Rs.49748.27/ha) respectively. Cost C was highest in small size farms (Rs.54415.98/ha) and lowest in large size farms (Rs.50767.64/ha) as compared to medium-size farms (Rs.52748.27/ha)

respectively. Sample average for Cost A<sub>2</sub>, Cost B and Cost C was Rs.49021.53/ha,

Rs.49660.76/ha and Rs.52643/ha in different size of farms group.

**Table 4: Cost and returns in Cashew nut Per hectare in different size of farms.**

	Particulars	Size of farm groups			Sample Average
		Small	Medium	Large	
1	Total Cost of cultivation (Rs. /ha)	54415.98	52748.277	50767.64	52643.96
2	Yield(qtls/ha)	10	10.3	10.5	10.26
3	Cost of production (Rs. /qtls)	54415.98	5121.19	4835.01	5130.99
4	Return (Rs. /qtls)	15000	15000	15000	15000
5	Return (Rs. /ha)	150000	154500	157500	153900
6	Gross returns per hectare	150000	154500	157500	153900
7	Net returns per hectare	95584.02	101751.7	106732.26	101256
8	Input output ratio	1:1.75	1:1.92	1:2.1	1:1.92

Table 4 reveals that t cost and returns in Cashew nut cultivation in different size of farms group. Among different size of farms groups, the total cost of cultivation incurred by the small farms were high (Rs. 54415.98/ha) as compared to medium (Rs. 52748.277/ha) and large farms (Rs.50767/ha). Sample average for the total cost of cultivation was Rs. 52643.96/ha in different size of farms group. Yield is less in small size farms is 10 QTLs/ha, as compared to medium 10.3 QTLs/ha and large-size farms group is 10.5 QTLs/ha. Returns in small size farms are Rs.15000/ha. Returns for in medium size farms is Rs. 154500/ha. Returns for in large size farms is Rs. 157500/ha. And the sample average is Rs. 153900/ha.

The gross returns obtained per hectare by large size farms were high (Rs. 157500/ha)

as compared to medium and small size farms (Rs. 154500/ha and Rs. 150000/ha) respectively. The net returns per hectare obtained by large size farms were (Rs. 106732.26/ha) as compared to medium and small size farms (Rs. 101751.7/ha and Rs. 95584.02/ha) respectively. The average yield of Cashew nut in different size of farms group was 10.26 qtls/ha. The yield was highest in case of large size farms (10.5 qtls/ha) as compared to medium (10.3 qtls/ha) and small size farms (10 qtls/has) respectively. Average cost of production per quintal was Rs.5130.99qtl/ha. Gross returns per hectare was Rs.153900. Input output Ratio was highest in large size farms (1:2.1) followed by medium size farms (1:1.92) and lowest in small size farms group (1:1.75).

**Table 5:**

Source	d f	S. S	M.S. S	F. Cal	F. Tab 5%	Result	S. Ed	C.D at 5%
Size group	6	60829771338.4	10138295223.0	60.364	4.2838	S	5526.67	11992.87
Particular	1	89538941.5	89538941.5	0.533	5.987	NS	8442.13	18319.422
Error	6	1007702795.3	167950465.8					
Total	13							

In the above anova table, in due to size group degrees of freedom is 6, sum of squares is 60829771338.4, mean sum of squares is 10138295223.0, F. Calculated value is 60.364, F. tabulated value @ 5% is 4.2838, result is Significant, standard deviation is 5526.6 and critical difference is @ 5% is 11992.87. In due

to particulars, degrees of freedom is 1, sum of squares is 89538941.5, mean sum of squares is 89538941.5, F. Calculated value is 0.533, F. tabulated value @ 5% is 5.987, result is non-significant, standard deviation is 8442.1 and critical difference is 18319.42. In error, degrees of freedom are 6, sum of squares is

1007702795.3 and mean sum of squares is 167950465.8.

### CONCLUSION

The production of Cashew nut has increased largely due to productivity increase and increase in the area under the crop. The acreages under Cashew nut not influenced by improvement in the productivity but it largely depended on the other factors like rainfall and price of this crop. The cropping pattern was dominated by Cashew nut crop followed by Mango, Coconut, Date palm Resource use structure in Cashew nut was found to be varied among the size groups of holdings. Production cost of Cashew nut was varied according to size group of holdings. The per hectare cost of cultivation of Cashew nut was the highest on the small size farms and lowest on large size farms. Among the rental value of land, hired labour, fertilizers, manures, seeds were the major items of cost. The cost of cultivation varied among the size groups of Cashew nut growers.

### REFERENCES

- Adejo, P. E., Otitolaye, J. O. & Onuche, U. (2011). Analysis of marketing channel and pricing system of cashew nuts in the north central of Nigeria. *Journal of Agricultural Sciences*. 3(3), 246 -250 p.
- Bharath Kumar, T. P., Sukanya, T. S., Belli, R. J. B. Shashikumar, S., & Girish, R. (2014). Socio- economic profile, knowledge gain and problem faced by the coconut growers of Chikmangalur district of Karnataka state. *International journal of research in humanities, arts and literature*, 2(6), 15-20 p.
- Bhosale, S. R. (2014). A study on the socio-economic status of cashew nut grower in Shriwardhan taluka of Maharashtra. Executive summary of minor research project report, submitted to university grants commission. Western Regional Office, Ganesh Khind, Pune 411007.