

# A Study on Production of Coconut in Coimbatore District, Tamilnadu

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## Abstract

*This study intends to analyse the production aspects of coconut cultivation in Coimbatore district of Tamil Nadu state. Multistage sampling technique was used to select the respondents by selecting district in first stage, blocks in second stage, villages in third stage and farmer respondents in fourth stage. gross returns estimated for one acre of coconut cultivation was Rs. 81907.94 for small farmer, Rs. 76794.40 for medium farmers and Rs. 67395.72 for large farmers and the estimated gross for over all farms was estimated as Rs. 75366.02 in considering the variable costs alone.*

**Keywords:** coconut, cost and returns, farmers

## Introduction

This study intends to analyse the production aspects of coconut cultivation in Coimbatore district of Tamil Nadu state. During the medieval ages, the coconut was known as "Nux idica", the Indian nut. During the same period, it was also referred as Nargil tree, "the tree of life". Western literature mentioned the Malayalam name "Tenga" for the coconut palm which is related to Tamil 'Tennai' and believed to have been introduced from SriLanka.

India occupies a predominant position in the world in coconut production. India ranks third in the world map of coconuts and in due course became the largest producer of coconut with the production of 16.9 billion nuts from acreage under plantation of about 1.89 million hectares. Even though India is among the largest producer of coconut with a distinction of having the highest productivity of 7779 nuts per hectare as against 3630 nuts per hectare in Indonesia and 3859 nuts per hectare in Philippines, the per capita annual availability of coconut is estimated to have been 10 nuts only which is quite low, when compared to 222 of Philippines, 145 of Sri Lanka and 55 nuts of Indonesia.

## Production and global trade scenario of coconut

The global exports of some coconut products during the last 5 years showed an increasing trend, particularly for coco powder, desiccated coconut, coco chemicals, shell charcoal, and coir and coir products. There was a decrease in the export of copra, coconut oil, coconut crease and copra meal, and a significant increase in coco chemicals, coconut shell charcoal, coir as well as coir products. Apart from the recent global financial crisis, shortage of raw materials for the processing industry, high domestic price of raw materials, decline of export prices, and increase of the cost of production are some of the factors which affected coconut product exports in the last five years.

## Major Trading Centres of Coconut

Major markets of coconuts in the world are: Indonesia, Philippines and Sri Lanka

## Strengths of Indian Coconut Industry

1. One of the leading producers of coconut in the world producing 13 billion nuts per annum.
2. Coconut area distributed in 18 states and three union territories under different agro-climatic conditions.
3. 3000 years tradition in coconut cultivation.
4. Premier coir producing country in the world.
5. Producer of best grade milling copra in the world yielding high grade coconut oil known for its aroma and flavour.
6. A large number of farmers' cooperative societies in primary processing and marketing.
7. Government agencies such as Kerafed, State Trading Corporation, Kerala State Marketing Federation and Karnataka state Marketing Federation in manufacturing and marketing of branded coconut oil in small packs.
8. Hundreds of reputed and established private firms in manufacturing and marketing of various coconut products including branded coconut oil in small packs.
9. Wide range of coconut products, both edible and non-edible, available for export.
10. Technical know-how and trained manpower for the manufacture of various coconut based products.
11. Availability of research support by reputed research organizations such as CSIR, ICAR and DRDO.

To conclude, the coconut economy of India is in a comfortable position. India accounts about 22.34 per cent of the world's coconut production and is one of the major players in the world's coconut trade. Currently, the crop is grown in 1.91 million hectares with an annual production of nearly 13,000 million nuts. Copra processing, coconut oil extraction and coir manufacturing are the traditional coconut based industries in the country.

## Objectives of the Study

To study on socio economic conditions of coconut cultivators in Coimbatore district

To assess the cost and profitability in cultivation

of coconut by different categories of farmers of selected district.

## Review of Literature

Shyamal Roy (1982) in his study states that, in a study conducted in India, the yield performance varied from about 3,000 to 10,000 nuts per hectare, giving an all India average of 5,400 nuts hectare. In Tamil Nadu yield per hectare was over 9,000 nuts whereas in Kerala, the major coconut producing state, it was about 6,000 nuts. In the other coconut growing states, the yield ranges between 4,000 and 5,000 nut per hectare

Das (1984) in his report states that the cost of production of coconuts in Kerala had been estimated at Rs. 1.10 per nut in 1982-83 factor costs, without taking the value of land into consideration. In view of the fact that the rate of appreciation of land was significantly higher than that of bank interest rates and the land market was out of normal economic ambit, there was no justification to include land value in the investment in the present situation of Kerala. When a moderate price of Rs.50,000 per hectare of land was added to the investment on coconuts, the production cost came about Rs.1.94 per nut. Considering the average production cost and farm gate price of coconut as Rs. 1.10 and Rs. 1.50 per nut respectively, the net returns worked out to be Rs. 4,200 per hectare. The cost of bringing one hectare of coconut garden to bearing or the total establishment cost per hectare came about Rs. 35,000. The annual maintenance cost came about Rs. 5,500. Since coconut was a small holder plantation crop, at least 75 per cent of labour required for various operations, excluding harvesting could be expected from the farmer's family itself. Therefore, the returns to family labour and investment per hectare of coconut garden worked out to be Rs. 5,760 per annum. The study thus reveals that coconut cultivation under good management was a profitable proposition in Kerala.

## Methodology

### Collection of Primary Data

Primary data required for the study were collected from the selected respondents (coconut grower) of Coimbatore district in order to analyse the technical efficiency of the farmers.

### Selection of Respondents

Multistage sampling technique was used to select the respondents by selecting district in first stage, blocks in second stage, villages in third stage and farmer respondents in fourth stage.

Coimbatore district constituted the universe for this study. Coimbatore district was chosen purposively partly due to prominence of coconut cultivation. From the 12 blocks of the district three blocks of the district were chosen purposively and they were Annamalai, Pollachi South and Pollachi North blocks. From each blocks three villages were selected purposively. The blocks and villages selection were made based on the prominence of coconut cultivation. Disproportionate random sampling technique was used to select the farmer respondents. Due to time and resource constraints, from each villages 10 per cent of the farmers were selected and in total 345 farmers were selected.

Later, the respondent farmers were classified into three categories namely small, (Less than 7 acres), medium (7 to 15 acres) and large farmers (more than 15 acres), for the purpose of analysis. The respondents were classified into three categories based on the following criteria.

### Scope of the Study

The present study is based mainly on production and marketing of coconut in Coimbatore district. Based on the result of the study, the study would provide the required information for the policy makers to suggest suitable policy measures either to increase area or to increase the yield or to increase the production. The study would help to increase marketing facilities, created by Government, and to eliminate whole sellers and retailers.

### Limitations

The study is confined to a particular region (Coimbatore district) and hence the conclusions is drawn with due care, as it is an attempt made to

generalize the results. Further, survey method was adopted for collection the data for the study, which has its own limitations. This is because respondent farmers do not maintain any records.

They had to recall from their memory and furnish the information for the queries put forth. Hence, the data collected is subject to recall bias. However, the results are made reliable by drawing conclusions, through cross check, in case the accuracy and reliability of data given by respondents were doubtful.

### Result and Discussion

Sex plays a crucial role in agricultural activities. Even though both male and female are equally participating in agricultural activities, male dominates in most of the agriculture activities especially in coconut farming.

**Table Gender Wise Classification of House Hold Head**

Sl. No	Category of farmers	Male	Female	Total
1	Small farmers	149 (96.13)	6 (3.87)	155 (100.00)
2	Medium farmers	132 (94.29)	8 (5.71)	140 (100.00)
3	Large farmers	48 (96.00)	2 (4.00)	50 (100.00)
4	Over all	329 (95.36)	16 (4.64)	345 (100.00)

(Figures in parentheses indicate percentages to total)

Table 1 shows that in total a large number of male has engaged in coconut cultivation than that of female (95.36%). Among the farmers categories also the same contribution could be seen. The female participation in coconut cultivation is meager among all types of farmers.

**Table Type of Family**

Sl.No	Category of farmers	Joint family	Nuclear family	Extended family	Total
1	Small farmers	14 (9.03)	141 (90.97)	0	155 (100.00)
2	Medium farmers	20 (14.29)	120 (85.71)	0	140 (100.00)

3	Large farmers	13 (26.00)	37 (64.00)	0	50 (100.00)
4	Over all	47 (13.62)	298 (86.38)	0	345 (100.00)

(Figures in parentheses indicate percentages to total)

Type of family of the sample respondents is given in table .2. In all more than 86 per cent of the farmersfamilies belong to nuclear type and above and 13 per cent of the respondents belong to joint family system. The extended family could not be

seen in the study area among the farm size also the same trend could be seen. However in large farmer joint family system is somewhat higher. (26%) than that of other two farm size

**Table 3 Age Wise Distribution of Selected Household**

Sl.No	Category of farmers	Below 35	35 to 60	Above 60 years	Total
1	Small	9 (5.80)	138(89.03)	8 (5.16)	155(100.00)
2	Medium farmers	6 (4.20)	126 (90.00)	8 (5.71)	140 (100.00)
3	Large farmers	2 (4.00)	43 (86.00)	5(10.00)	50(100.00)
4	Over all	17(4.93)	307 (88.98)	21 (6.07)	345(100.00)

(Figures in parentheses indicate percentages to total)

Table .3 shows that majority (88.98%) of the farmers who undertook agricultural activities ranged between 35 to 60 years of age group and about 5 per cent of the head of the selected households were below 35 years and 6.07 per cent of them were above 60 years.

#### Community Wise Classification of the Farmers

A community is a collection of farmers normally associated with a specific occupation. Hence each community has a particular occupation and its own customs which determine even minute details of the daily life. Hence distribution of sample farmers, according to the community classification is given in the following table.

**Table Community Wise Classification of the Farmers**

Sl.No	Category of farmers	BC	MBC	GC	Total
1	Small farmers	117 (75.48)	38 (24.52)	0 (0)	155 (100.00)
2	Medium farmers	116 (82.86)	24 (17.14)	0 (0)	140 (100.00)
3	Large farmers	46 (92.00)	2 (4.00)	2 (4.00)	50 (100.00)
4	Over all	279 (80.87)	64 (18.55)	2 (0.58)	345 (100.00)

(Figures in parentheses indicate percentages to total)

Table 4 reveals that more than 80 per cent of the sample farmers belong to the backward community, nearly one fifth of the sample farmers belong to Most Backward Community and only 0.58 per cent belongs to general category. Among the farmers category also more than three fourth of the respondents belong

to backward community.

The formal education acquired by a person will have impact on the success on any business. A good education combined with good experience would bring in good results.

**Table The Educational Status of the Head of the Selected Sample Farm Household**

S.No	Level of education	Small farmers	Medium farmers	Large farmers	Over all
1	Primary	5 (3.22)	2 (1.43)	3 (6.00)	10 (2.90)
2	Secondary	50 (32.26)	47 (33.57)	13 (26.00)	110 (31.88)
3	Higher secondary	27 (17.42)	30 (21.43)	7 (14.00)	64 (18.55)
4	Graduated	50 (32.26)	55 (39.29)	26 (52.00)	131 (37.97)
5	Uneducated	23 (14.84)	6 (4.28)	1 (2.00)	30 (8.70)
	<b>Total</b>	155 (100.00)	140 (100.00)	50 (100.00)	345 (100.00)

(Figures in parentheses indicate percentages to total)

It could be observed from table 5 that in all more than one third of the respondents have educated secondary graduation levels. Further nearly one fifth respondents were educated up to HSC level. It could be noted that 8.7 per cent of the respondent were illiterates. It implies that though most of farmers were educated, considerable propositions were educated up to graduation. Among the farmer category the higher percentage could be seen in the graduation level. In case of large farmers it was 52 per cent, and for another it was about 32 to 40 per cent. The illiterate are high in case of small farmer and it is lowest in case of large farmers.

### **Economics of Coconut Cultivation**

In order to work out the profitability in cultivation of coconut, costs and returns were worked out from the information gathered from the selected coconut cultivators of the Coimbatore district.

The cost includes both establishment and maintenance costs. The establishment cost means the cost incurred in coconut garden at pre-bearing stage. The maintenance cost means the cost incurred by the farmers from the bearing stage. Establishment cost in this study, excluding the establishment for banana, turmeric, maize and lady's finger which were cultivated as intercrops. The profits from these intercrops cover major portion of the costs incurred in establishment of garden.

### **Cost of Production**

#### **Cost and Returns Analysis**

Production cost plays an important role in the decision making process of the farmers. Generally, the farmer can increase the farm income by two ways. Viz., by increasing the crop production and reducing the cost of cultivation. The cost reduction can be achieved through economic use of various factors of inputs. Therefore the analysis of cost of production is of strategic importance to the farmers. Hence in this section an attempt has been made to study the various input cost and their relationship between various outputs.

#### **Hired Labour**

The evaluation has been made on the basis of prevailing market price.

#### **Family Labour**

This is evaluated on the basis of the prevailing wage rate of the hired labour.

#### **Owned Bullock Labour**

It is evaluated on the basis of the prevailing rate for the hired bullock labour in the study area.

#### **Hired Bullock Labour**

This is evaluated on the basis of the actual amount paid.

#### **Owned Tractor Hours**

The cost of owned tractor hours is computed on the basis of the prevailing hire charges in the market.

#### **Hired Tractor Hours**

The cost of hired tractor hours is calculated for the actual hours of work in the field at the current rate in the study area.

#### **Manures, Fertilizers and Pesticides**

Manure prepared on the own have been valued at the prevailing market price.

In the case of parched manners, fertilizers and pesticides actual cost of purchase has been taken in to account.

#### **Irrigation Charges**

In this study electricity charges are not taken into account since the state government provides free electricity and the labour cost is accounted exclusively for irrigation purposed.

#### **Land Tax**

Land taxes paid by every farmer are considered.

#### **Interest on Working Capital**

This is computed at the rate of 12 per cent per annum for owned as well as borrowed capital for the growing period of coconut

#### **Interest on Fixed Capital**

The actual amount of current interest per annum is taken into account in the case of fixed capital.

#### **Rental Value on Land**

The normal rent paid in terms of monetary value has been taken into account.

Total cost of production includes both fixed and variable costs. Expenditure on individual items of fixed and variable cost is presented in table

### Establishment Cost

Establishment cost for a coconut plantation includes all those costs incurred during the first six years of a plantation. But it is not possible for a grower to remember all the costs incurred during the establishment period. It becomes more difficult for a grower when costs get mixed up because of having more than one holding of different ages of trees. Therefore information from the grower was gathered only for current year expenditure under different

heads. To estimate the establishment cost the last year's cost under different heads of sample growers in 2nd, 3rd, 4th, 5th, 6th and 7th years of starting the plantation have been recorded. For instance if a grower has two holdings two and four year's old then the grower's current year's expenditure under different heads in the two holding were collected separately. Cost per hectare of these six years of grower's was taken as the estimated cost per hectare in the first six years of planting form these establishment cost of one acre coconut holding was calculated.

**Table Year wise Establishment Costs of Coconut Garden (Per acre)**

S.No	Items	I Year	II Year	III Year	IV Year	V Year	VI Year	Overall
1	Land Clearance Cost	3832.45 (5.15)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	3832.45 (2.22)
2	Ploughing Cost	2437.23 (3.27)	1125.35 (6.89)	1463.75 (7.82)	1432.11 (7.51)	1732.10 (8.09)	1810.30 (7.89)	10000.84 (5.78)
3	Digging & Sand Application cost	8518.75 (11.44)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	8518.75 (4.93)
4	Supporting and fencing	1196.30 (1.61)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	1196.30 (0.69)
5	Cost of seedling	2880.00 (3.87)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	2880.00 (1.66)
6	Drip irrigation cost	32000.00 (42.98)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	32000.00 (18.50)
7	Drip maintains cost	1500 (2.01)	1600 (9.80)	1800 (9.61)	1900 (9.97)	2000 (9.35)	2000 (8.71)	10800.00 (6.25)
8	Irrigation labour charge	5000.00 (6.71)	5000.00 (30.60)	5000.00 (26.70)	5000.00 (26.22)	5000.00 (23.37)	5000.00 (21.79)	30000.00 (17.35)
9	Cleaning the pits	693.63 (0.93)	760.40 (4.65)	863.35 (4.61)	1037.43 (5.44)	1125.00 (5.26)	1600.00 (6.97)	6079.81 (3.51)
10	Weeding cost	970.45 (1.30)	1185.27 (7.25)	1234.23 (6.59)	1310.23 (6.87)	1543.26 (7.21)	1738.45 (7.57)	7981.89 (4.62)
11	Digging around plants	0 (0.00)	711.32 (4.35)	732.14 (3.91)	832.17 (4.36)	1318.10 (6.16)	1432.75 (6.24)	5026.48 (2.91)
12	Gap filling cost	800 (1.07)	600 (3.67)	300 (1.60)	200 (1.05)	80 (0.37)	80 (0.35)	2060.00 (1.19)

13	FYM/ compost cost	6000.00 (8.06)	2342.72 (14.34)	2564.67 (13.70)	1895.00 (9.94)	2340.20 (10.94)	2650.25 (11.55)	17792.84 (10.29)
14	Fertilizers cost	0 (0.00)	520.00 (3.18)	1905.00 (10.17)	2457.50 (12.89)	2828.35 (13.22)	2936.21 (12.79)	10647.06 (6.16)
15	Insecticide and pesticide cost	650.00 (0.87)	737.62 (4.51)	850.32 (4.54)	952.30 (4.99)	1130.60 (5.28)	1237.20 (5.39)	5558.04 (3.21)
16	Tax	5.00 (0.01)	5.00 (0.03)	5.00 (0.03)	5.00 (0.03)	5.00 (0.02)	5.00 (0.02)	30 (0.02)
17	Interest on working capital	7978.06 (10.71)	1750.52 (10.71)	2006.22 (10.71)	2042.60 (10.71)	2292.31 (10.71)	2458.82 (10.71)	18528.53 (10.71)
	<b>Total cost</b>	<b>74461.87 (43.06)</b>	<b>16338.2 (09.45)</b>	<b>18724.68 (10.83)</b>	<b>19064.34 (11.02)</b>	<b>21394.92 (12.37)</b>	<b>22948.98 (13.27)</b>	<b>172932.99 (100.00)</b>

(Figures in parentheses indicate percentages to total)

Table 6 shows the operation wise and year wise establishment cost of one acre coconut plantation by an individual grower operation wise, there are 17 functions have been carried out in the establishment of coconut plantation. They are land clearance, ploughing, digging, sand application, supporting and fencing, cost of seeding, drip irrigation, drip maintenance, irrigation labour charge cleaning the pits, weeding, digging around plants, gap filling, FYM compost, fertilizer, insecticides, tax and interest on working capital. It is seen that the total establishment cost of one acre coconut plantation was worked out for Rs. 1,72,932.99. In all, in the initial year itself total amount spend on the above said items accounts for 43.06 per cent

In the subsequent years the cost has shared fluctuations between 9-13 per cent. This shows the high capital requirement during 1st year of plantation

while 18.50 per cent of total cost is incurred for drip irrigation cost, 17.35 per cent of the total cost is incurred for irrigation labour charge. Interest on working capital comes third in terms of importance in establishment cost of a coconut plantation with 10.71 per cent of the cost incurred in this operation. FYM/Compost is another major head with 10.29 of the total establishment cost incurred in this operation. Though the total establishment cost between the growers did not suffer much there are variations year wise and operation wise.

As coconut yields only after six years all cost met by the farmers with inter crops such as turmeric, lady fingers, banana, and corriander. These inter crops cover major portion of the cost incurred on establishment in coconut plantation.

**Table Cost and Returns of Coconut Cultivation (Per acre)**

S.No	Particulars	Small farmers	Medium farmers	Large farmers	Over all
1	Ploughing cost	1352.42 (3.35)	1469.40 (4.11)	1109.20 (3.31)	1310.34 (3.58)
2	Harrowing cost	664.87 (1.65)	693.82 (1.94)	657.43 (1.96)	672.04 (1.84)
3	Farm-Yard Manure cost	4020.33 (9.96)	3767.37 (10.53)	4013.93 (11.97)	3933.88 (10.76)
4	Fertilizer cost	2666.52 (6.61)	2725.55 (7.62)	2789.88 (8.32)	2727.32 (7.46)

5	Neemcake cost	383.25 (0.95)	282.84 (0.79)	336.68 (1.00)	334.26 (0.91)
6	Manual weeding cost	1039.52 (2.57)	1094.19 (3.06)	960.80 (2.87)	1031.50 (2.82)
7	Weedicides & pesticides cost	299.89 (0.74)	240.02 (0.67)	170.39 (0.51)	236.77 (0.65)
8	Irrigation cost	8726.81 (21.62)	5090.33 (14.23)	4432.22 (13.22)	6083.12 (16.64)
9	Gap filling cost	159 (0.39)	62.41 (0.17)	130.00 (0.39)	117.13 (0.32)
10	Repair & maintenance of implements cost	1188.36 (2.94)	1147.91 (3.21)	755.71 (2.25)	1030.66 (2.82)
11	Tax charges	5 (0.01)	5 (0.01)	5 (0.01)	5 (0.01)
12	Harvesting cost	7539.30 (18.68)	7362 (20.58)	6534.40 (19.49)	7145.23 (19.55)
13	Interest on working capital	3365.32 (8.34)	2869.20 (8.02)	2674.40 (7.98)	2964.64 (8.11)
	<b>Variable cost</b>	<b>31410.59</b>	<b>26810.04</b>	<b>24570.04</b>	<b>27591.89</b>
1	Rental value on land	8000 (19.82)	8000 (22.37)	8000 (23.86)	8000 (21.89)
2	Interest on fixed investment	960 (2.38)	960 (2.68)	960 (2.86)	960 (2.63)
	<b>Total fixed cost</b>	<b>8960</b>	<b>8960</b>	<b>8960</b>	<b>8960</b>
	<b>Total operating cost</b>	<b>40370.59 (100.00)</b>	<b>35770.04 (100.00)</b>	<b>33530.04 (100.00)</b>	<b>36551.89 (100.00)</b>
1	Yield (nuts/per acre)	8377	8180	7256	7938
2	Price of per nut	9.12	8.97	8.89	9.00
3	Income of coconuts	76398.24	73374.6	64505.84	71426.22
4	By products of coconut	5509.70	3419.80	2889.88	3939.80
5	Gross income	81907.94	76794.40	67395.72	75366.02
	<b>Net income</b>	<b>41537.35</b>	<b>41024.36</b>	<b>38865.68</b>	<b>38809.13</b>
	<b>Input/output ratio</b>	<b>2.03</b>	<b>2.15</b>	<b>2.01</b>	<b>2.06</b>

(Figures in parentheses indicate percentages to total)

### Fixed Cost

Fixed cost includes the items such as rent paid for leased in land or rental value of land, depreciation farm assets and interest on fixed investment. Rental value of own land was work out based on the rates paid for leased in lands of similar type in the same localities which was estimated as Rs.8000 per annum

Interest on average fixed investment was estimated at Rs.960 for small, medium and large farmers. The estimated average interest for all farms pooled together was estimated Rs. 8960.

### Variable Cost

Variable cost includes the ploughing, harrowing, FYM cost, fertilizer cost, chemical, manual weeding

and irrigation, harvesting etc., The estimated variable cost per acre was Rs. 31410.59 for small farmers, Rs. 26810.04 for medium farmers and Rs.24570.04 for large farmers the variable cost together accounted all the farmers Rs. 27591.89.

### Total Cost

The total cost of cultivation of coconut was for small, medium and large size group farmers was estimated at Rs.40370.59, Rs. 35770.04 and Rs. 33530.04 respectively. Hence there is a difference in the cost of cultivation of small, medium and large size group of farmers. The cost of cultivation Large farmers Rs. 33530.04 was less than the small and medium farmers.

### Returns

The returns include income earned by selling main and by products. To estimate the returns from coconut products, the quantity used for personal consumption also valued so as to get actual rate of returns, gross returns estimated for one acre of coconut cultivation was Rs. 81907.94 for small farmer, Rs. 76794.40 for medium farmers and Rs. 67395.72 for large farmers and the estimated gross for over all farms was estimated as Rs. 75366.02 in considering the variable costs alone.

The net return earned by three category of farms after covering fixed and variable cost Rs. 41537.35, for small farmers Rs. 41024.36 for medium farmers and Rs. 38865.68 for large farmers respectively. Multistage sampling technique was used to select the respondents by selecting district in first stage, blocks in second stage, villages in third stage and farmer respondents in fourth stage.

This will indicate the profitability of coconut is

meant for medium farmers to a greater extent than the small and large farmers. This can be achieved by gap filling, and modern farming technology.

### Conclusion

It is concluded that the total establishment cost of per acre coconut plantation was worked out for Rs. 1,72,932.99. The net return earned by three category of farms after covering fixed and variable cost Rs. 41537.35, for small farmers Rs. 41024.36 for medium farmers and Rs. 38865.68 for large farmers respectively. Coconut cultivation is benefit for the cultivators however profit received by them is not enough so, government should provide technical and financial assistance to these farmers

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