



Government of Kerala



**REPORT ON COST OF CULTIVATION
OF IMPORTANT CROPS
IN KERALA 1994-95**

**Department of Economics and Statistics
Thiruvananthapuram
2001**



GOVERNMENT OF KERALA

**REPORT ON COST OF CULTIVATION
OF IMPORTANT CROPS
IN KERALA 1994-95**

**DEPARTMENT OF ECONOMICS & STATISTICS
THIRUVANANTHAPURAM**

2001

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Preface

The time series data in Cost of Cultivation of Important Crops in the State are required for administering agricultural development schemes, drawing up programmes for the diversification of cropping pattern with a view to meet the Socio-economic needs of the community and to maximize the income from farming. The newly formed Agricultural Prices Board also requires data on cost of cultivation of important crops on regular basis for market intervention by fixing support prices in the event of fall in prices.

This report is based on 15th round of the Survey on Cost of Cultivation of Important Crops conducted during the year 1994-95. The crops covered during this round are Paddy (3 seasons) Autumn, Winter and Summer, Coconut, Arecaanut, Tapioca, Pepper, Ginger and Turmeric.

The tabulation and consolidation of data were done in the 'Cost of Cultivation Section' and the report was prepared by Smt. T. Bhavana, Deputy Director under the guidance of the senior officers of the Department. Suggestions for improvement are solicited.

A. Meera Sahib
Director

Thiruvananthapuram
24th March 2001

Report on the Cost of Cultivation of important crops in Kerala 1994-95

Chapter I

General

1.1 Introduction

Agriculture is being the primary occupation of the community, maximization of output and profit in farming is essential to meet the increased food requirements of the growing population. High yield from the cultivators depends largely on the vagaries of nature and agro-climatic conditions. The gain or loss of the cultivation of a crop is also determined on the basis of the cost of various inputs used and the value of product and by products received from it. In order to chalkout various schemes in agricultural sector and for fixing the floor and support prices proper assessment of the cost of cultivation and value of product is necessary. With this end in view Government of Kerala in G.O (Rt) 466/79/plg dated 27-10-79 sanctioned a scheme for an annual survey on cost of cultivation of important crops in Kerala. The present report relates to the 15th round of survey conducted during 1994-95.

The crops covered during the period under study is given below:

- | | |
|----------------------|-------------|
| 1. Paddy (3 seasons) | 5. Pepper |
| 2. Coconut | 6. Ginger |
| 3. Aracanut | 7. Turmeric |
| 4. Tapioca | |

1.2 Objectives:

This survey was mainly intended for estimating the cost of cultivation per hectare of important crops and for comparing the cost under different concepts over a period

1.3 Staff:-

a) Head Quarters Staff.

1. Research Assistant
2. U.D. Compiler

b) Field Staff

- | | |
|----------------------|---------|
| 1. U.D. Investigator | 14 Nos. |
| 2. L.D. Investigator | 28 Nos. |

(4 posts were shifted to the Directorate for consolidation of the report)

1.4 Period of the Survey

The period of the survey was from 1/7/94 to 30/6/95.

1.5 Design of the Survey

The survey covered all the districts of Kerala by selecting 38 Taluks, which are important growing centers of the different selected crops. From each selected taluk two investigator zones were selected by way of simple random sampling method.

1.6 Selection of cultivators

In each selected Investigator zones a list of cultivators growing paddy in the previous autumn seasons will be prepared from the last years From I Diary of the EARAS. From this list of paddy cultivators of last Autumn seasons 10 cultivators will be selected at random for the current years Cost of Cultivation. Study on Autumn Paddy similar procedure is adopted for the selection of cultivators for winter and summer paddy respectively by preparing a list of paddy growing plots in winter and summer of the previous EARAS round in the zone.

In case, the cultivators selected for cost of cultivation study on Autumn paddy possess suitable number of plots with other specified crops in stipulated area they may be selected for the cost of cultivation study on other crops like coconut, arecanut, topioca etc.

If sufficient number of suitable plots are not available with the cultivators selected for Autumn paddy the required number of plots for crops other than paddy will be selected from the list of wet and dry land plots of the same investigator zone in last year. If the selected investigator zone in a taluk does not provide the required number of plots for these crops another investigator zone in the Taluk will be selected at random for selection of the remaining required number of plots/ cultivators for the study on other crops.

The number of holdings selected for each crop in a Taluk was as follows.

1	Paddy	Autumn	10 (5 holdings each from one Investigator zone)
		Winter	10 (5 holdings each from one Investigator zone)
		Summer	10 (5 holdings each from one Investigator zone)
2	Coconut		10 (5 holdings each from one Investigator zone)
3	Arecanut		10 (5 holdings each from one Investigator zone)
4	Topioca		5 (minimum 2 holdings in one investigator zone)
5	Pepper		5 (minimum 2 holdings in one investigator zone)
6	Ginger		5 holdings each from one Taluk
7	Turmaric		5 holdings each from one Taluk

A holdings was considered for the study ^{only} why if it contained, atleast 25 cents under the crop in the case of Paddy, Tapioca, Ginger and Turmeric. Perennial crops like Coconut, Aracanut and Pepper the holdings must have 25 trees/ plants with at least 50% bearing. If these criteria for selection are strictly followed, it is difficult to get sufficient number of plots. In such extra-ordinary situations, purposive selection is resorted to get adequate representation of such crops.

The holding size group of a crop was determined on the basis of the area of crops under study in the holding as shown below:

Size group	Holding size	
	Paddy	Other crops
1. Small	< 0.40 Ha	< 0.2 Ha
2. Medium	0.40 to < 2 Ha	0.20 to < 0.80Ha
Longer	>= -2Ha	>= -0.80 Ha

Note: < less than >= Greater than or equal to

1.7 Schedules-

Three schedules designed for the survey are given below:

- Schedule- I This schedule is used for listing the plots for selections of holdings and recording the details of the selected holdings
- Schedule- II This schedule is meant for recording details of the cultivators house holds, area of holding, inventory of agricultural implements, livestock etc.
- Schedule- III In this schedule the cultivation expenses incurred for a crop in each fort night is reported

1.8 Field work

Fieldwork was done by 38 investigators in 38 selected Taluks, are investigator in each taluk. The investigators visited the selected holding every fort night and recorded fortnightly operations in schedule – III.

The field work was supervised by Taluk Statistical Officer/ Statistical Inspector at the Taluk level and by Deputy Director/ District Officer at District level.

1.9 Processing and Analysis of Data-

The compilation and Tabulation were done at district level by the Investigators

Posted for the survey. The state levels consolidation of the data analysis and report writing are done at the Directorate.

1.10 Method of Estimation of Cost:-

a) Concept of cost

Different cost concepts, Cost 'A', Cost 'B1', Cost 'B' and Cost 'C' were followed in the Analysis as shown below:-

Cost 'A'

Cost 'A' consists of cash and kind expenses (paid out cost) actually incurred by the cultivators.

This includes:-

- I. Hired human labour
- II. Animal labour
- III. Machine labour
- IV. Seed/seedlings
- V. Farmyard manure
- VI. Chemical fertilizers
- VII. Plant protection
- VIII. Land tax
- IX. Irrigation cess
- X. Repair and maintenance charges of implements machinery and Buildings
- XI. Interest on working capital
- XII. Other expenses.

Cost BI: Cost 'A' + interest on fixed assets (excluding land)

Cost B : Cost 'B' + Interest on land value.

Cost 'C': Cost 'B'+ imputed value of family labour

Procedure for imputation of values of owned inputs.

In the production process certain inputs from same stock are used in the production process. In order to estimate the cost of cultivation it is necessary to compare the value of these inputs. The procedure used for the imputation of value of such home stock inputs is indicated below:

1	Family labour	Imputed on the basis of average wage rate per work hour of hired labours.
II	Owned and exchange human labour	The rate of wages per hours for hired human labours is taken for inputting the value of own stock and exchange human labour.
III	Owned and exchange animal labour	The charge paid per hour for hired animal labours is taken for imputing the value of owned and exchanges animal labour.
IV	Owned and exchange machine labour	The hire charges per hours for machine labour has been taken.
V	Implements	Repair and maintenance charges of implements.
VI	Owned seed	Farm produced (have grown) seed has been imputed at the prices prevalent in the investigator zone concerned at the time of sowing

VII	Farm produced manure	Imputed at the rate prevalent in the zone concerned
VIII	Interest on fixed capital	Interest in the present value of fixed assets such as land, farm, building implements, machinery irrigation structure, equipment and livestock (only working animals) at the rate of 10% per annum has been calculated (for paddy is 5%)
IX	Interest on working capital	Interest has been charged at the rate of 100% per annum (5% for paddy) on the working capital, cash and kind expenses excluding items in respect of which payments are generally made after harvest (ie rent, land tax etc) incurred during the period of cultivation
X	Payments of Kinds	The payments in kind have been evaluated at the market prices prevalent in the locality at the time of payment. Perquisites have been included in the payment in kind calculated at the market price.

C. Allocation of Joint costs to different crops

Some of the inputs used for the cultivation of one crop are common for other crops also. For the purpose of computing the cost of share of individual crops, the cost of such inputs is apportioned in the following manner.

I	Repair and maintenance of charges of implements	In proportion to the area under crop.
II	Interest on fixed capital (excluding land)	In proportion to the area under the crop
III	Interest on land value	Interest on the value of land under crop

d. Procedure for valuation of Farm assets

I	Own farm building (cattle sheds, storage shed etc.)	Valuated at prices prevailing in the locality.
II	Implements and other machinery	Valuated at prevalent market prices
III	Live stock (only working animal)	Valuated at prevalent market prices.

In calculating the cost of production of paddy crop in each season the interest in land value at the rate of 10% per annum for the period of 6 months is taken in to account. The land value is estimated at the current market rate in the different areas. There is a controversy in assessing the land value. The land value is increasing considerably. If the actual value is taken for calculating the interest on land value no cultivation in the state will be profitable. However, there is always a tendency to under report the land value. It is therefore necessary to evolve a method or criteria in to estimate the land value reasonably while calculating the cost of cultivation of crop.

Chapter II

Results of the Survey

Paddy is cultivated in the state in three seasons. Viz Autumn (vinippu) Winter (Mundakan) and Summer (Punja)

The following table gives the total cropped area and the area under paddy crops for the 3 seasons during 94—95

Table 1 – Area under paddy during 1994-95

Total cropped area (in lakh Hectare)	Area under paddy (in lakh Ha)			
	Autumn	Winter	Summer	Total
30.48	1.99(6.53)	2.38(7.81)	0.67 (2.20)	5.04(16.54)

Source:- Agriculture statistics of Kerala 94-95

(Figures in bracket is give the percentage of paddy in each season to the total cropped area)

Out of the three season of paddy, Autumn (vinippu) and winter (Mundakan) are the predominant where yield of paddy produce is maximum

The following table shows the percentage of area under paddy crop in each season to the total gross area under paddy.

Table 2 – percentage of area under paddy in each season to be gross area under paddy 94-95

Percentage of Area under Paddy			
Autumn	Winter	Summer	Total
39.48	47.23	13.29	100

The above table reveals 87% of the paddy area is in Autumn and winter seasons.

The rice production of the state during the year under study stood at 9.75 lakh tones and its productivity for three seasons are given below:

Table – 3 production of Rice during 94-95

Season	Production of rice (lakh tones)	percentage
Autumn	3.27	33.54
Winter	5.00	51.28
Summer	1.48	15.18
Total	9.75	100.00

Table 4 - Average productivity of paddy during 94.95

Season	Average productivity (Kg/ha)
Autumn	1647
Winter	2102
Summer	2214

The productivity of summer paddy is higher than that of other seasons

Out of the total irrigated cropped Area 76% constitutes under paddy which is shown below:

Table 5 Percentage of Area irrigated under paddy (Area in Hactor)

Area irrigated	Total cropped area irrigated	Percentage
272772	357958	76.20

1 Autumn paddy

The total number of holdings selected for the cost of study of Autumn paddy cultivation were 370. They were scattered in all the 38 selected Taluks of the State.

The number of holdings selected and the area under crop in each holding size class viz small, medium and large are given below

Table 6 Area under Autumn paddy during 94-95

Holding size class	No. of selected holdings	Area under crop in the sample (Ha)	Percentage	Area per holding (Ha)
Small	230	52.90	29.25	0.23
Medium	127	86.80	47.98	0.68
Large	13	41.19	22.77	3.17
Total	370	180.89	100.00	0.49

The holdings under report had a total operational area of 180.89 Ha and the average size of holdings is 0.49

A. Cost of Cultivation

The estimated per hectare cost of autumn paddy cultivation is furnished below:

Table 7 Cost of cultivation Per Ha of paddy (Autumn) during 94-95

Sl. No	Component of different cost of concept	Cost (per Hc in Rs.)	% of distribution of cost
1	Hired human labour	6164	55.27
2	Animal labour	508	4.55
3	Mechanic labour	719	6.45
4	Seeds/seedlings	671	6.02
5	Farmyard, manure and chemical fertilizers	2172	19.48
6	Plant protection	153	1.37
7	Land tax and irrigation cess	51	0.46
8	Repair and maintenance charges	115	1.03
9	Interest on working capital	469	4.21
10	Other expenses	130	1.17
11	Total cost 'A' (1 to 10)	11152	100.00
12	Interest on fixed capital	513	
13	Cost B (11+12)	11665	
14	Interest on land value	11609	
15	Cost B (13+14)	23274	
16	Imputed value of H.H.Labour	468	
17	Cost 'C' 15+16	23742	

The estimated cost A for this year 1994-95 is Rs.11152/. The share of hired human labour during 1994-95 to the total cost 'A' in autumn paddy cultivation was 55%. Annual labour and mechanic labour constituted 4.5% and 6.45 % respectively. Human labour cost which is the major component of the paddy cultivation consists of hired labour, exchange labour and family labour. Among these irrespective of the size group of holdings hired human labour formed the major portions.

The following table illustrates the percentage of hired labour hours engaged in autumn paddy cultivation to the total labour hours.

Table 8 - Percentage of hired human labours hours to total human labour hours

Sex	Holding size class			
	Small	Medium	Large	All size
Male	30.88	24.43	35.30	28.21
Female	59.14	69.53	57.80	64.20
Total	90.02	93.96	93.10	92.41

As usual the proportion of hired labour to total human labour input steadily increases with the increase in the size of holdings. It is seen that cultivators belonging to large class are seen to depend for more than 93% of their requirements of hired labour. The cost of hired human labour per hectare works out to Rs6164/-.

Seed/seedlings is an important input of paddy cultivation per hectares as estimated from the survey is 6% of the total cost 'A'. For paddy cultivation home produced manure chemical fertilizers are used the cost of which was Rs.2172/- per hectare during this round. When compared to the previous year the continued cost of organic manure and chemical fertilizers per ha. is seen increased irrespective of the size of holdings. This may be to the hike in the cost and the increase in the application of three fertilizers.

It is noted that the per ha towards plant protection measures is an increasing trend. While the cost per ha. In 1993-94 was Rs.77/- per ha., it was Rs.153/- in 1994-95. The percentage share of the land tax and irrigation cess is nominal is below 1%. Expenditure on repair and maintenance of implements and machinery varies from year to year and from size class to size class. It is worked out to be Ra.115/- during 1994-95. It seems to be decreasing as size class increasing. Interest on working capital was Rs.469/- per hectare and other expenses was Rs.130/- during 1994-95.

Cost B1

Cost 'B1' is estimated by adding the interest on fixed capital (excluding land) to cost 'A'. The estimated interest as fixed capital for 1994-95 is Rs.153/- and cost 'B' is Rs 11665/-

When compared to the previous year it is noticed that interest on land value was decreasing. In 1993-94 it was Rs.18595- and in 1994-95 it was Rs.11609/- respectively

Cost 'B' and Cost 'C'

Cost 'B' is estimated by adding the interest on land value to cost B1 and cost C is estimated by adding the imputed value of household human labour to cost 'B'. The estimated interest of land value Rs.11609 and imputed value of household labour was Rs.4681 during 1994-95. Cost 'B' estimate to be Rs 23274/- and cost 'C' is Rs. 23742/- per ha. The following illustrates a comparison with the previous year's costs and the year under study.

Table 9 - Cost of cultivation of (Autumn) paddy in Rs. Per hectare for 1993-94 and 1994-95

		Holding size			
Concept of cost	Year	Small	Medium	Large	All size
Cost A	1993-94	10509	9954	9786	10059
	1994-95	12253	10048	12040	11152
Cost B	1993-94	20936	18008	17029	18595
	94-95	24460	24590	18091	23274
Cost C	1993-94	21625	18364	17100	18091
	94-95	25249	24978	18313	23742

Compared to the previous year the cost 'A' has increased by 10.86% during 1994-95; but the percentage increase of cost 'B' and 'C' being 25.2% and 31.2% respectively

B Output

The value of product and by product of Autumn paddy cultivation for the year 1994-95 is given in the following table.

Table 10 - Value of product and by product per Ha (in Rs) during 1994-95

Holding size class				
Product and by product	Small	Medium	Large	All size
Paddy	10066	9052	7627	9024
Straw	2275	1677	734	1637
Total	12341	10729	8361	10661

During the year 1994-95, the per hector value of output is estimated at Rs. 10661/- which was Rs.11044/- for the year 1993-94 showing a decrease of 3.6% it is to be noted that the paid out cost of cultivation showed a change of increase. The value of product from 1990-91 is given in the following table.

In 1994-95 value of product has been decreased due to unfavorable climatic condition.

Value of product/ hector (in Rs.)	
Year	Value of product
90-91	7259
91-92	8139
92-93	10090
93-94	9417
94-95	9024

C. Cost of production of paddy per quantity

Cost of production of paddy per quintal is estimated by dividing the cost of cultivation per hectare (after decreasing the value of by product per hectare the cost of cultivation per hectare) by the quantity of paddy produced per hectare

Table 12- Cost of production of paddy per quintal during autumn season (in Rs.)

Concept of cost	Holding size class			
	Small	Medium	Large	All size
Cost 'A'	514	431	582	490
Cost 'B'	1142	1180	894	1114
Cost 'C'	1183	1200	905	1138

Cost 'A' Rs. 490/- is considered the cost of production of paddy per quintal during the period under report. The following table illustrates the comparison of cost of production of Autumn paddy with refer to the previous year.

Table 13- Cost of production per quintal of autumn paddy during 1993-94 and 1994-95 (in Rs.)

Concept of Cost	1993-94	1994-95	Percentage
Cost A	351	490	39
Cost B	707	1114	57
Cost C	724	1138	57

(ii) Winter paddy

The study on cost of cultivation of winter paddy was conducted in 380 holdings. The sample area under winter paddy is small, medium and large size Class holding are given below:

Table 14 - Area under winter paddy during 1994-95

Holding size class	No. of selected holdings	Area under the crop in the sample	Percentage	Area per holdings (Ha.)
Small	257	57.59	33.28	0.22
Medium	115	89.15	51.53	0.78
Large	8	2628	15.19	3.29
Total	380	173.02	100.00	0.46

The total operated area of the selected holdings is 173.02 hectare. The average size of a simple holding is 0.46 hectare

A. Cost of Cultivation

The cost of different items per hectare of Cost A' (percentage distribution) is given below and details are given in appendix

Table 15- Cost of cultivation per hectore of paddy (winter) during the year 1994-95

Sl. No.	Component of different cost concept	Cost per hectore (Rs.)	% of distribution of cost 'A'
1	Hired human labour	5950	53.82
2	Animal labour	664	6.01
3	Machine labour	756	6.84
4	Seed/seedlings	723	6.54
5	Farmyard manure and chemical fertilizers	1954	17.68
6	Plant protection	167	1.51
7	Land tax and irrigation cess	37	0.33
8	Repair and maintenance charge of implements, machinery and buildings	120	1.09
9	Interest on working capital	519	4.70
10	Other expenses	164	1.48
11	Total cost 'A' (1 to 10)	11054	100.00
12	Interest on fixed capital	520	
13	Cost 'B' (11+12)	11574	
14	Interest on land value	11058	
15	Cost 'B' (13+14)	22632	
16	Imparted value of H.H labour	538	
17	Cost C (15+16)	23170	

The per hectore cost towards the hired human labour in winter paddy cultivation come to Rs. 5950/- in 1994-95. It accounts to 54% of the total cost 'A'

The percentage of hired human labour hours to total human labour hours is given below :

Table 16- Percentage of hired human labour hours to total human labour hours

Sex	Holding size class			
	Small	Medium	Large	All size
Male	30	24	28	27
Female	58	71	70	66
Total	88	95	98	93

Out of total human labour hours employed in winter paddy cultivation 93% is accounted by hired labours. Female hired labour is more than that of the male labour hours. The ploughing and machine operated part of the work are attended by men and almost all other type of activities are being attended by women labours and move over this will also reduce the cost by way of wages.

The cost of animal labours is higher in the case of small cultivations where as the machine labour cost is higher in the case of large cultivators. The cost of

seed/seedlings is Rs.723/- per hecter which is 7% of the total cost 'A'. Farmyard, manure and chemical Fertilizers which is an important item of paddy cultivation account to 18%. The cost of pesticides and insecticides is estimated at Rs.167/- per hecter. The percentage share towards land tax and irrigation cess is negligible. The expenditure on repair and maintenance of implements account to 1%. Interest on working capital is computed at Rs.519/-

Cost 'B1 and Cost 'B'

Cost B is estimated by adding the interest as fixed capital (excluding land) to Cost 'A'. It is found to Rs.11574/-

Cost B is estimated to Rs. 22632/- when compared to the precious land value has decreased during the round.

Cost C

Cost is estimated by adding the computed value of house hold labour to cost 'B'. It is seen as Rs.23170-

The estimated cost for winter paddy per hecter under three major concepts of cost are given below:-

Table 17- Cost of cultivation of winter paddy (Rs/Ha)

Concept of cost	Holding size class			
	Small	Medium	Large	All size
Cost 'A'	13061	10192	9451	11054
Cost B	27901	20634	17500	22632
Cost C	28907	20999	17600	23170

Cost of cultivation of winter paddy for the year 1993-94 and 1994-95 are given below:

Table 18 Cost of cultivation of winter paddy (Rs/Ha) for 1993-94 and 94-95

Concept of cost	Year	Holding size class			
		Small	Medium	Large	All size
Cost A	1993-94	11575	9976	12131	10706
	1994-95	13061	10192	9451	11054
Cost B	1993-94	21736	18121	17118	18973
	1994-95	13759	10678	9759	11619
Cost C	1993-94	22496	18652	17468	19542
	1994-95	14765	11043	9859	12157

The estimates of value of paddy and straw obtained from winter paddy cultivation is given below:

Table- 19 value of output (Rs/Ha.)

Product and by product	Holding size class			
	Small	Medium	Large	All sizes
Paddy	12821	12184	14491	12746
Straw	3893	3490	2026	3402
Total	16714	15674	16517	16148

C. Cost of production of paddy per quintal

Cost of producing one quintal of paddy is worked out by dividing the cost of cultivation per hecter (after deducting the value of by product per hecter from the cost of cultivation per hecter) by the yield per hecter

Table 20 Cost of production of winter paddy (Rs./Ha)

Concept of cost	Holding size class			
	Small	Medium	Large	All size
Cost A	356	301	234	308
Cost B	933	770	487	774
Cost C	973	786	490	795

The cost of production of winter paddy per quintal for 1993-94 and 1994-95 are presented below for comparison

Table 21 Cost of production of winter paddy per quintal (Rs) for 1993-94 and 1994-95

Concept of cost	Year 19893-94	1994-95	% of increases
Cost A	302	308	2%
Cost B	608	774	27%
Cost C	629	795	26%

When compared to the previous year cost of production of winter paddy per quintal relating to Cost A 'B' and "C" showed an increasing trend.

(iii) Summer Paddy (Punja)

The number of holdings selected for the study of cost of cultivation of summer paddy was 329 during 1994-95. The details of holding is given below

Table 22 - Area under summer paddy during 1994-95

Holding size class	No. of selected holdings	Area under the crop in the sample (Ha)	Percentage	Area per holding (Ha)
Small	223	49.71	38.27	0.15
Medium	103	72.49	55.80	0.70
Large	3	7.70	5.93	2.57
Total	329	129.90	100.00	0.39

The holding selected during the period under report have a total operational area of 129.90 he. The average size of holding was 0.39 he.

A. Cost of cultivation

The cost of cultivation per hectore of summer paddy is given in the following table

Cost of cultivation per he of summer paddy for the year 1994-95

Sl. No	Component of different cost concept	Cost per he.(Rs)	% distribution of cost A
1	Hired human labour	7213	55.35
2	Animal labour	592	4.54
3	Mechanic labour	809	6.21
4	Seed/seedlings	796	6.11
5	Farmyard manure and chemical fertilizers	2016	15.47
6	Plant protection	473	3.63
7	Land tax and irrigation cess	118	0.90
8	Repair & maintenance charge	147	1.13
9	Interest on working capital	608	4.67
10	Other expenses	260	1.99
11	Cost 'A' (1 to 10)	130332	100.00
12	Interest on fixed capital	474	
13	Cost 'B1' (11+12)	13506	
14	Interest on land value	11475	
15	Cost 'B' (13+14)	24981	
16	Imputed value of H.H. labours	742	
17	Cost 'C' (15+16)	25723	

From the above table it is seen that about 66% of the total cost 'A' constitute to labour cost. When compared to the previous year hired human labour cost in large size class showed a increasing trend. The percentage of hired human labour hours engaged in the cultivation of summer paddy during 1994-95 is given below:

Percentage of hired human labour hours engaged in summer paddy cultivation

Holding size class	Male	Female	Total
Small	26.40	57.69	84.09
Medium	22.40	72.26	94.66
Large	23.34	76.19	99.53
All size	23.99	66.87	90.86

During this round 91% of the total human labour hours is hired human labour. The cost of seed/seedling per ha. is found to be Rs.796/- during this year. It is seen that 15% of the total cost 'A' account to farmyard manure and chemical fertilizers. The expenditure towards plant protection measures is estimated 4% of the total cost A. The percentage share towards land tax and irrigation cess is nearly 1%. The estimated expenditure per he on repair and maintenance charges of implements and machinery is found to be Rs.147/- during the period under report. About 5% of the cost 'A' accounts for interest on working capital.

Cost 'B1' and 'B'

Cost B1 is obtained by adding the interest on fixed capital (excluding land) to cost 'A'. The interest on fixed capital is estimated to Rs.474/- and cost B1 is found to be Rs.13506/- for summer paddy cultivation. As usual the imputed value of household labour is maximum in the case of small size class and minimum in the case of, large size class. The interest on land value is found to be Rs.11475/- during this year and cost B is estimated to Rs.24981 – cost 'C' showed an increasing trend from Rs. 17123- to Rs.25723/- during the year.

The comparison of the various concepts of cost with previous year is given in the following table

Cost of cultivation of summer paddy Rs/he. For 1993-94 to 1994-95

Concept of cost	Holding size class				
	Year	Small	Medium	Large	All size
Cost A	1993-94	10199	8988	9436	9517
	1994-95	13503	13282	14648	13032
Cost B	1993-94	20198	14846	11925	16497
	1994-95	28058	23919	21630	24981
Cost C	1993-94	21280	15272	12002	17123
	1994-95	29321	24378	21675	25723

When compared to the previous year the cost 'A' has increased to 37% . Cost 'B' by 51% and cost 'C' by 50%.

B. Output

The estimated value of paddy and straw obtained from summer paddy cultivation given below:

Value of product and by product per Hectare for 1994-95

Product/by product	Holding size class			
	Small	Medium	Large	All size
Paddy	12822	15114	17513	14379
Straw	2878	2332	761	2448
Total	15700	17446	18274	16827

C. Cost of production of paddy per quintal

Cost of producing one quantity of paddy is got by dividing the cost of cultivation per Ha (after deducting the value of by product per hector from the cost of cultivation per ha) by the yield per hectare.

Cost of production of summer paddy per quintal

Concept of cost	Holding size class			
	Small	Medium	Large	All size
Cost 'A'	138	353	386	353
Cost 'B'	327	696	580	751
Cost 'C'	343	711	581	776

Consumption between the cost of production during 1993-94 and 1994-95 is given in the following table

Cost of production of paddy per quintal during 1993-94 and 1994-95

Concept of cost	1993-94	1994-95	% of increase
Cost 'A'	230	353	53
Cost B	244	751	208
Cost C	512	776	52

Compared to the previous year cost of production at summer paddy per quintal relating to cost 'A' is 53% Cost 'B'- 208 and Cost'C-52%. This increase seems to the relatively higher because the cost of production during 93-94 computed to 92-93 had decreased by 16% in cost A 50% in cost B and 0.004% increase in cost C .Besides the interest on land value and fixed capital during this period had increased by 74% and 26% respectively resulting the very high increase of cost B and cost C.

2.2 Coconut

Coconut is an important tree crops of the state which is cultivated in 9,10,963 hectares during 1994-95.The total area under coconut and the average yield per hector during the period under report is given below.

Area and Average yield of coconut 1994-95

Area under coconut hectors	% of total cropped area	Average yield per hectors (No. of units)
910963	29.88	5336

From the above table it is seen that the percentage of area under coconut cultivation to total cropped area is 29.88% and average yield per hector is 5336

For the survey in cost of cultivation 380 Nod. of coconut holdings were selected for the year 1994-95. The details of these holding according to size class viz. small medium and large are given below

Number of holdings and Area under coconut

Holding size class	No. of holdings	Area under coconut in simple (ha)	Percentage	Area per holdings
Small	91	12.50	6.79	0.14
Medium	235	96.21	52.31	0.41
Large	54	75.23	40.90	1.39
All size	380	183.94	100.00	0.48

The selected holding had a total 183.94 hector of operational area during the year 1994-95. The average size of holding was 0.48 hector

No. of bearing trees in the selected plots

Out of the total coconut trees in the selected plots 0.71% was found to be bearing and the remaining non-bearing trees per hector for the year 1994-95 is given below:

Number of bearing and non-bearing trees per hector

Type of trees	No. of trees per hectare	percentage
Bearing	80	70.80
Non- bearing	33	29.20
Total	113	100.00

Cost of cultivation

The cost of cultivation of coconut is estimated under the four different concepts of cost viz cost 'A' , 'B1' , 'B' and 'C'.

Cost A consists of cash and other kind expenses can it worked out in Rs.8999/- per hector during 1994-95. The estimated cost under different items of expenditure per hector and the percentage distribution of these items to total cost 'A' are given in the following table

Cost of cultivation per hector of coconut during the year 1994-95

Sl. no	Component of different cost concepts	Cost per hector	% of distribution of cost A
1	Hired human labour	4346	48.29
2	Animal labour	37	0.41
3	Mechanic labour	194	2.16
4	Seed/seedlings	42	0.47
5	Farm yard manure and chemical fertilizers	3015	33.50
6	Plant protection	27	0.30
7	Land tax and irrigation cess	33	0.37
8	Repair and maintenance charge	143	1.59
9	Interest on working capital	802	8.91
10	Other expenses	360	4.00
11	Cost 'A' (1 to 10)	8999	100.00
12	Interest on fixed capital	1051	
13	Cost B1 (11+12)	10050	
14	Interest on land value	87417	
15	Cost 'B' (13+14)	97467	
16	Imputed value of H.H	614	
17	Cost 'c'	98081	

Labour cost is the major component of cost 'A' which includes hired human labour animal labour and mechanic labour. It work our to Rs.4577/- the percentage distribution hired human labour participation in coconut cultivation to the total labour hours is given below for males and females sperately

Percentage distribution of hired human labour hours to the total human hours

Sex	Holding size class			
	Small	Medium	Large	All size
Male	67	70	83	75
Female	7	8	9	8
Total	74	78	92	83

When compared to the paddy cultivation female participation is lowest in coconut cultivation. About 74% of the total human labour hours has been shared by hired human labour hours has been shared by hired human labour. For planting new seed/seedlings. Rs.42/- percent. Application of Farmyard manure and chemical fertilizers constitutes a major share ie 34% of the total cost 'A' cost towards plant protection land tax and irrigation cess accounts only a nominal percentage. Repair and maintenance charges. Is nearly 2% the total 'A'. Interest on working capital is estimated to Rs.802/-

Cost 'B1' and B

Cost 'B1' is estimated by adding the interest on fixed capital (excluding land) to cost 'A' it is formed to be Rs.10050/-

Interest on land value is increased from Rs.61868 /-to Rs.87417/- during this round

Cost 'C'

Cost C is estimated by adding the imputed value of household labour to Cost B . It is estimated to Rs.98081/-

Cost of cultivation of coconut per hectore during 1993-94 and 1994-95

Concept of cost	Cost per hectore in (Rs)		
	1993-94	1994-95	Percentage increase
Cost A	8002	8999	12.46
Cost B	70804	97467	37.66
Cost C	71356	98081	37.45

B. Value of product

The total value of output per hectare is seen as Rs.21339/- during 1994-95

Value of output / hactor

Out put	Value(Rs.)
Product	20369
By product	970
Total	21339

2.3 Arecanut

In Kerala arecanut ,palm grows under different climate and soil conditions. The total area under arecanut cultivation during 1994-95 was 71676 hectares. The details of arecanut cultivation is given in the following table.

Area and average yield of Arecanut

Total cropped area(ha)	Area under Arecanut (ha)	Average yield per ha (Nos) (nuts)	% of area under arecanut to total cropped area
3048310	71676	17466	2.35

From the above table it is seen that 2.35% of the total cropped area is under arecanut cultivation.

Selected holdings

For the cost of cultivation of arecanut 380holdings were selected during the year 1994-95. The detail of these holdings in each size class is as follows.

Area under Arecanut during 1994-95

Holding size class	No. of selected holdings	Area under the crop in the sample(Ha)	Percentage	Area per holding (Ha)
Small	335	14.47	44.08	0.04
Medium	43	15.42	46.97	0.36
Large	2	2.94	8.95	1.47
Total	380	32.83	100.00	0.09

The total operational area of the selected holding studied for the period under report was 32.83 ha. The average size of holding was 0.09 hector

A. Cost of cultivation

The estimated cost of cultivation of Arecanut under different cost concepts are given below:

Cost of Cultivation pattern of Arecnut during the year 1994-95

Sl. No.	Components of different cost concepts	Cost per Ha. (Rs)	% distribution of cost 'A'
1	Hired human labour	6210	44.92
2	Animal labour	-	-
3	Machine labour	364	2.63
4	Seed/seedlings	27	0.20
5	Farmyard, manure and Chemical Fertilizers	4496	32.53
6	Plant protection	550	3.98
7	Land tax and irrigation cost	311	2.25
8	Repair and maintenance charges	115	0.83
9	Interest on working capital	1205	8.72
10	Other expenses	545	3.94
11	Cost 'A' (1 to 10)	13823	100.00
12	Interest on fixed capital	511	
13	Cost 'B1' (11+12)	14334	
14	Interest on land value	80528	
15	Cost 'B' (13+14)	94862	
16	Imputed value of H.H labour	1782	
17	Cost 'C' (15+16)	96644	

Labour cost accounts to a major component of cost 'A' in arecanut cultivation as in other crops. The per Ha. Cost estimated under this item is Rs.6210/- during 1994-95. The percentage of hired human labour hour engaged in arecanut cultivation to total labour hours is given below for males and females respectively.

Percentage distribution of hired human labour hours

Sex	Holding Size class			
	Small	Medium	Large	All size
Male	59.10	53.57	64.29	57.04
Female	7.19	13.17	31.45	13.12
Total	66.29	66.74	95.74	70.16

The proportion of hired human labour hours to total human labour hours is highest in large size class and lowest in small size class, cultivators belonging to large size of holdings depend 96% of their requirements of labour on hired human labour.

The per hectore expenditure incurred towards the cost of seed/seedlings for the new plantation is Rs.27/-. The cost towards farm yard, manure and chemical fertilizers accounts to 33% of the total cost 'A'. The item of plant protection measures is Rs.550/- per Ha. 2% of total cost 'A' is accounted towards irrigation cell and land tax.

The estimated expenditure on repair and maintenance charges of implements and machinery and building work out to Rs.115/-. Interest on working capital and other expenses constitutes to 9% and 4% respectively.

Cost 'B1' and 'B'

Cost B1 is estimated by adding the interest on fixed capital to cost 'A'. It works out to Rs.14334/- during 1994-95. Interest on land value accounts to Rs.80528/- per Ha.

Cost B is estimates by adding the interest on land value to Cost 'B1' and it is worked out to Rs.94862/-.

When compared to other crops the per Ha. Cost of inputted value of H.H. labour is higher in arecanut cultivation.

Cost 'C'

Cost 'C' is estimated by adding the inputted value of H.H. labour to cost 'B'. It is estimated as Rs.96644/- during 1994-95.

B. Value of Output

The value of output per Ha. From arecanut cultivation is found to be Rs.41334/- during 1994-95.

2.4 Tapioca

Tapioca is another food item of Keralaits extensively cultivated in the State. The total area under tapioca cultivation and average yield per Ha. for the year 1994-95 are given below.

Area and average yield of Tapioca during 1994-95

Total Cropped area (Ha)	Area under Tapioca	Average yield per Ha. (tonnes)	% of area under Tapioca to total cropped area
3048310	114289	20.51	3.75

About 3.75% of the total cropped area was under Tapioca cultivation during the year 1994-95. The yield per hectore of tapioca was 20.51 tones

Selected holdings

During the 1994-95 for the estimation of the cost of cultivation of tapioca holdings were selected. The details of these holdings in each size class us given in the following table

Area and number of holdings selected

size class	Area under the crop in the sample (Ha.)	Percentage to total area of selected holdings	No. of selected holdings	Area per holdings
Small	14.60	38.95	127	0.11
Medium	14.95	39.89	50	0.30
Large	7.93	21.16	3	2.64
All size	37.48	100.00	180	0.21

The selected holdings had a total operational area of 37Ha. The average size of holdings is 0.21Ha

A. Cost of cultivation of Tapioca

As in other crops the cost of cultivation of tapioca is also estimated under three different concept of cost (Viz Cost 'A' Cost 'B' and cost 'C'). The estimated cost of different items per hectore and their percentage distribution to the total cost 'A' is given in the following table

Cost of cultivation per hectore of Tapioca during the year 1994-95

Sl. no	Compound of different cost concepts	Cost per hectore(Rs)	% of distribution of cost 'A'
1	Hired human labours	6808	62.42
2	Animal labour	9	0.05
3	Mechanic labour	31	0.28
4	Seed/seedlings	327	3.00
5	Farmyard manure and chemical fertilizers	2452	22.48
6	Plant protection	14	0.13
7	Land tax and irrigation cess	21	0.19
8	Repair and maintance charges	100	0.92
9	Interest on working capital	980	8.99
10	Other expenses	164	1.50
11	Cost 'A'(1 to 10)	10906	100.00
12	Interest on fixed capital	949	
13	Cost 'B'(11+12)	11855	
14	Interest on land value	78113	
15	Cost 'B'(13+14)	89968	
16	Imputed value of H.H.labour	1327	
17	Cost C(15+16)	91295	

From the above table it is seen that an important component of cost 'A' is labour cost which accounts to 63% when compared to paddy cultivation the proportion of labour cost to total cost 'A' is lower in the case of Tapioca cultivation. The percentage of hired human labour hours engaged in tapioca cultivation to the total labour hours is given below for males and females separately for each size group of holdings.

Percentage distribution of hired human labour hours

Sex	Holding size class			
	Small	Medium	Large	All size
Male	62	55	88	64
Female	13	24	12	17
Total	75	79	100	81

The above table reveals that the proportion of hired human labour to total human labour inputs steadily increases with the increase in the size of holdings.

The cost towards seed/seedlings account to 3% and 22% is spent for farm yard manure and chemical fertilizers. In tapioca cultivation the cost towards plant protection measures and land tax and irrigation cess accounts to below 1% each. The expenditure incurred for repair and maintenance charges comes to nearly 1% of the total cost 'A'. The interest on working capital is estimated at Rs. 980/- per hectare. Other expenses come to Rs. 164/- per hectare.

An interest is calculated for fixed capital and it comes to Rs. 949/- during the period under review. Cost 'B1' and cost B showed an increasing trend while imputed value of H.H. labour showed an increasing trend during this year. Cost 'C' is estimated to Rs. 91295.

The per ha cost of cultivation estimated under different cost concepts is as follows.

Estimated cost of cultivation

Concept of cost	Cost per He.(Rs)
Cost A	10906
Cost B	89968
Cost C	91295

The following tables illustrated a comparison between the cost of cultivation of tapioca during the period 1993-94 and 1994-95

Cost of tapioca cultivation per hectare during the year 1993-94 and 1994-95

Concept of cost	Cost per hectare (Rs)		% of increase in cost of cultivation
	1993-94	1994-95	
Cost A	8928	10906	22.15
Cost B	54221	89968	65.93
Cost C	55439	91295	64.68

The calculation of cost 'B' for tapioca is in scientific, while the paid cost (CostA) is only Rs.10906/- the interest on land (cost B) was Rs. 89968/- eight times more than the cost 'A'.

B Output

The per hector value of out put of Tapioca during the year 1994-95 is to be Rs.21425/-

2.5 Pepper

Pepper is an important foreign exchange earner is largely produced from Kerala. The total area under pepper and the average yield per hector during the year 1994-95 are given in the following table.

Area and average yield of pepper

Area under peppers (Ha)	Average yields of pepper in Kg. Per ha	Percentage of area under pepper to the total cropped area
186720	317	6.03

It is seen that 6.03% of the gross area under crops in the state is under pepper cultivation.

Selected holdings

During this round 190 holdings were selected for studying the cost of cultivation of pepper during the year 1994-95. The details are given below:

Area under pepper in the sample

Holding size class	No of selected holdings	Total area under the crop (Ha)	% to total area of selected holdings	Area per holding
Small	179	8.77	74.51	0.05
Medium	11	3.00	25.49	0.27
Large	-	-	-	-
All size	180	11.77	100.00	0.07

The operational area under the crop in the selected holdings is 11.77 ha.

A. Cost of cultivation of Pepper

The per hector cost increased under different components are given in the following table

Cost of cultivation per hectore of pepper during the year 1994-95

Sl.No	Components of different cost	Cost per He (Rs)	% of distribution of cost 'A'
1	Hired human labours	4149	57.10
2	Animal labour		
3	Mechanic labour	11	0.15
4	Seed/seedlings	46	0.63
5	Farmyard, manure and chemical fertilizers	2107	29.00
6	Plant protection	77	1.06
7	Land tax and irrigation cess	22	0.30
8	Repair and maintenance charges	58	0.80
9	Interest on working capital	653	8.99
10	Other expenses	143	1.97
11	Cost 'A'(1 to 10)	7266	100.00
12	Interest on fixed capital	1020	
13	Cost 'B1' (11+12)	8286	
14	Interest on land value	89131	
15	Cost 'B'(13+14)	97417	
16	Imputed value of household labour	2266	
17	Cost C(15+16)	99683	

Hired human labour cost, a major component of cost under pepper cultivation accounts to 57% of the total cost 'A' during this round. The percentage of hired human labour hours engaged in pepper cultivation to the total labours hours is given below

Percentage distribution of hired human labour hours to total human hours

Sex	Holding size class			
	Small	Medium	Large	All size
Male	54.90	63.64	-	56.90
Female	5.46	9.81	-	6.45
Total	60.36	73.45	-	63.35

The percentage of hired human labour hours to total human hours increased to size class increased. About 63% of the total human labour hours constituted for hired human labours and the remaining towards H.H and exchange human labours hours. Female hired human labours is low in the case of pepper cultivation.

For planting new plants Rs.46/- is spent. About 29% of the total cost 'A' is accounted from farmyard, manure and chemical fertilizers. Plant protection yet another important item of cost shows to only 1%. Land tax and irrigation cess, repair and maintenance charges etc constitutes to 0.30% and 0.80% respectively. The per ha. Cost towards interest on working capital is Rs.653/- other expenses is Rs.143/-

Cost 'B1'

Cost 'B1' is estimated by adding interest on fixed capital (Excluding land) to cost 'A'. It is Rs.8286/- during 1994-95. Interest on land value is worked out to Rs.89131

Cost 'B' and Cost 'C'

Cost 'B' is estimated by adding the interest on land value to cost 'B1' and cost 'C' is estimated by adding the imputed value of H.H. labour to cost 'B', during this round Cost B is Rs. 97417/- and cost 'C' is Rs. 99683/- per ha.

B. Value of output

The value of pepper is found to be Rs.27251/- he. During the year 1994-95

2.6 Ginger

Ginger cultivation occupies an important place in the cropping pattern of the state. The area under this crop and its average yield per ha is given below in the following table

Area and average yield of Ginger

Total cropped area in (ha)	Area under ginger (ha)	Average yields Qtl./Ha.	% of area Ginger area under the total cropped area
3048310	13866	359	0.45

The total area under ginger cultivation during the year 1994-95 was 13866 ha. The average yields per ha Was 359 quintal. The percentage of area under ginger cultivation to the total cropped area comes to nearly 0.45%

Selected holdings

The number of holdings selected for cost of cultivation. Study is given below:

No. of holdings under ginger cultivation

Holding size class	No. of selected holdings	Area under ginger	Percentage to total area	Area per holdings (ha)
Small	139	12.41.	49.11	0.09
Medium	41	11.85	46.89	0.29
Large	1	1.01	4.00	1.01
All size	181	25.27	100.00	0.14

The total number of holdings selected for ginger cultivation during the year 1994-95 was 181. These holding cover an area of 25.27. The average are per holding was 0.14 hector

From the above table it is seen that about 72% of the total human labour hours is hired human labour. The female hired human labour is low in ginger cultivation.

Cost 'B1' and cost B

Cost B1 is obtained by adding the interest infixed capital (excluding land) to cost 'A' and it is seen as Rs.37098/- Interest on land value is maximum in the case of large size class and minimum in the case of medium size class. Cost 'B' is estimated to Rs.88631/- during the year 1994-95. The participation of household labour is maximum in small size class and minimum in the case of medium size

The estimated per hectore cost of cultivation of ginger during the year 1994-95 is given below:

Cost of cultivation of ginger Rs/ha for 1994-95

Concept of cost	Holding size class			
	Small	Medium	Large	All size
Cost A	32651	39250	47306	36332
Cost B	91595	80523	146876	88631
Cost C	96195	82784	14876	91951

B. Output

The value of output is seen as Rs.60549/- per hectore for ginger cultivation. The details for the different holding size class are given as follows

Value of product and by product per hectore for 1994-95

Product/by product	Holding size class			
	Small	Medium	Large	All size
Product	58756	59756	61881	59350
By product	870	1646	-	1199
Total	59626	61402	61881	60549

2.7 Turmeric

Turmeric is another important minor crops in the State. The total area under turmeric cultivation and the average yield per hectore for the year 1994-95 is given in the following Table

Area and average yield of Turmeric during 1994-95

Total cropped Area (ha)	Area under Turmeric	Average yield per he (qty.)	% of area under Turmeric to total cropped area
3048310	3938	236	0.13

About 0.13% of the total cropped area was under turmeric cultivation during the period 1994-95. The yield per he of turmeric was 236 quintal.

Selected holdings

During the year 1994-95 for the estimation of the cost of cultivation of turmeric 151 holdings were selected. The details of these holdings in each size class is given in the following table.

Area and number of holdings selected

Size class	Area under the crop in the sample (he)	%to total area of selected holding	No of selected holding	Area per holding
Small	10.15	68.95	135	0.07
Medium	4.57	31.05	16	0.28
Large	-	-	-	-
All size	14.72	100.00	151	0.10

The selected holding has a total of 14.72 hectares. The average size of holdings is 0.10 ha.

A cost of cultivation of Turmeric

Turmeric is another important minor crops. The cost of cultivation of Turmeric is also estimated under different cost concepts of cost (wise cost A cost B and cost C). The estimated cost of different items per ha. and their percentage of distribution to the total cost 'A' is given in the following table.

Cost of cultivation per hectare of Turmeric during the year 1994-95

Sl. No	Components of different cost of concept	Cost per ha.	% of distribution of Cost A
1	Hired human labour	6832	40.32
2	Animal labour	-	-
3	Mechanic labour	143	0.84
4	Seed/seedlings	3787	22.35
5	Farm yard manure and chemical fertilizers	4161	24.56
6	Plant protection	120	0.71
7	Land tax and irrigation cess	19	0.11
8	Repair and maintenance charges	36	0.21
9	Interest on working capital	1535	9.06
10	Other expenses	312	1.84
11	Cost 'A'(1 to 10)	16945	100.00
12	Interest on fixed capital	739	
13	Cost 'B'(11+12)	17684	
14	Interest on land value	51376	
15	Cost 'B'(13+14)	69060	
16	Imputed value of H.H.labour	3160	
17	Cost C(15+16)	72220	

From the above table it is seen that labour cost is the major component of cost 'A' which accounts to 41%. Seed/seedlings is another important output of Turmeric cultivation that came to 22%, farmyard and manure accounts to 25%. The cost towards plant protection land tax irrigation repair and maintenance charges etc accounts to only below 1%. The expenditure towards interest on working capital shares to 9% of the total cost 'A'.

The percentage of hired human labour hours engaged in the Turmeric cultivation during the year 1994-95 is given below:

Percentage of hired human labour hours engaged in turmeric cultivation

Holdings size class	Male	Female	Total
Small	43	21	64
Medium	46	36	82
Large	-	-	-
All size	43	24	67

From the above table it is seen that about 67% of the total human labour hours is hired human labour. The composition of work participation rate is also different from that of paddy cultivation etc

Cost 'B1' and cost 'B'

Cost 'B1' is obtained by adding the interest on fixed capital (excluding land) to cost 'A' and it is seen that Rs. 17684/- .Interest on land value is maximum in the case of small holdings size class and minimum in the case of medium size class. Considering the cost 'B' is estimated as Rs.69060/- during 1994-95. The participation of household labour is maximum in the case of small size class and minimum in the case of medium size class.

The estimated per He cost of cultivation of Turmeric the year 1994-95 is given below:

Cost of cultivation of Turmeric Rs/Ha for 1994-95

Concept of cost	Holding size class			
	Small	Medium	Large	All size
Cost A	18194	14150	-	16945
Cost B	71633	63191	-	69060
Cost C	75799	64116	-	72220

Output

The value of output is seen as Rs.35737/- per ha for Turmeric cultivation. The details for the different holding size class are given as follows.

Value of product and by product per Hecter for 1994-95

Product/by product	Holding size class			
	Small	Medium	Large	All size
Product	32895	42051	-	35737

Chapter III

Summary of findings

The data furnished in this report are collected through the cost of cultivation survey 1994-95. The crops covered in this report are paddy, (Autumn, winter and summer), Coconut, Arecanut, Tapioca, pepper, ginger and Turmeric.

The summary of findings is shown below;

1 Autumn paddy

The per hectare cost of cultivation when considered as cost 'A' during the year 1994-95 is Rs.11152/- compared to the previous year the cost 'A' has increased by 10.86%. The percentage increase of Cost 'B' and cost 'C' is 25.2% and 31.2% respectively.

2. Winter paddy

The estimated per hectare cost of cultivation of winter paddy is Rs. 11054/- during the period under review when cost 'A' is considered. Hired human labour constitutes 54% of the total cost 'A'. Cost 'B' and cost 'C' during 1994-95 is estimated to be Rs. 22632 and 23170/- respectively.

3. Summer paddy

The component of cost 'A' relating to the summer paddy cultivation is Rs.13032/- when compared to the previous year the cost 'A' has increased by 37%. Cost 'B' and cost 'C' by 51 and 50% respectively.

4. Coconut

The per hectare cost of cultivation of coconut is Rs.8999/- towards cost 'A'. Cost 'B' is Rs.97467/- and cost 'C' is Rs.98081/- respectively. Hired human labour constitutes 48% of the total cost 'A'.

5. Arecanut

The component of cost 'A' relating to the Arecanut cultivation is Rs.13823/-. The value of output per hectare from arecanut cultivation is found to be Rs.41334/- during 1994-95.

6. Tapioca

The cash and other kind expenses increased for tapioca cultivation to Rs.10906/- (cost 'A'). Out of this hired human labour cost shares 62%. The per hectare value of output of Tapioca during the year 1994-95 is to be Rs.21425.

7. Pepper.

During this round 180 holdings were selected for studying the cost of cultivation of pepper during the year 1994-95. The cost 'A' per hectare comes to Rs.7266/-. The percentage share of hired human labour cost is 57%. The value of pepper is found to be Rs.27251/- per ha during the year under review.

8 Ginger

The total number of holdings selected for ginger cultivation were 181. The per hectare cost of ginger cultivation is Rs. 36332/- (Cost 'A'). The value of output is seen to be as Rs.60549/- per ha of ginger cultivation.

9. Turmeric

For the study of turmeric cultivation 151 holdings were selected during 1994-95. The per hectare cost of cultivation of turmeric is Rs. 16945/- (Cost'A). The value of output per ha is found to be Rs.35737/-

Appendix -1
Cost of cultivation per hectare of Autumn Paddy 1994-95 (in Rs.)

Sl. No	Components of different cost concepts	Holding size class			
		Small	Medium	Large	All size
1	2	3	4	5	6
1	Hired human labour	6955	5207	7165	6164
2	Animal labour	790	542	81	508
3	Machine labour	539	800	781	719
4	Seed/seedlings	722	660	630	671
5	Farmyard, manure and chemical fertilizers	2242	2009	2476	2172
6	Plant protection	139	154	166	153
7	Land tax and irrigation cess	18	27	143	51
8	Repair and maintenance charges	180	69	41	115
9	Interest on working capital	574	474	328	469
10	Other expenses	94	106	229	130
11	Cost 'A'(1 to 10)	12253	10048	12040	11152
12	Interest on fixed capital	598	463	370	513
13	Cost 'B1' (11+12)	12851	10511	12410	11665
14	Interest on land value	11609	14079	5681	11609
15	Cost 'B'(13+14)	24460	24590	18091	23274
16	Imputed value of H.H.labour	789	388	222	468
17	Cost 'C'(15+16)	25249	24978	18313	23742

Appendix - 2

Cost of cultivation per hectare of winter paddy 1994-95 (in Rs.)

Sl. No	Components of different cost concepts	Holding size class			
		Small	Medium	Large	All size
1	2	3	4	5	6
1	Hired human labour	7395	5375	4734	5950
2	Animal labour	895	560	510	664
3	Machine labour	589	746	1156	756
4	Seed/seedlings	808	708	579	723
5	Farmyard, manure and chemical fertilizers	2235	1847	1702	1954
6	Plant protection	155	183	142	167
7	Land tax and irrigation cess	28	27	90	37
8	Repair and maintenance charges	85	72	14	120
9	Interest on working capital	612	481	445	519
10	Other expenses	159	193	79	164
11	Cost 'A'(1 to 10)	13061	10192	9451	11054
12	Interest on fixed capital	640	446	277	520
13	Cost 'B1' (11+12)	13701	10638	9728	11574
14	Interest on land value	14200	9996	7772	11058
15	Cost 'B'(13+14)	27901	20634	17500	22632
16	Imputed value of H.H.labour	1006	2365	100	538
17	Cost 'C'(15+16)	28907	20999	17600	23170

Appendix -3

Cost of cultivation per hectare of Summer paddy 1994-95 (in Rs.)

Sl. No	Components of different cost concepts	Holding size class			
		Small	Medium	Large	All size
1	2	3	4	5	6
1	Hired human labour	7026	7262	7950	7213
2	Animal labour	702	561	172	592
3	Machine labour	881	765	755	809
4	Seed/seedlings	794	782	948	796
5	Farmyard, manure and chemical fertilizers	2628	2230	2682	2016
6	Plant protection	417	504	541	473
7	Land tax and irrigation cess	0.56	1.06	1.27	0.90
		75	141	186	118
8	Repair and maintenance charges	1007	1.02	2.21	1.13
		144	136	323	147
9	Interest on working capital	633	619	673	608
10	Other expenses	203	282	418	260
11	Cost 'A'(1 to 10)	13503	13282	14648	13032
12	Interest on fixed capital	566	400	96	474
13	Cost 'B1' (11+12)	14069	13682	14744	13506
14	Interest on land value	13989	10237	6886	11475
15	Cost 'B'(13+14)	28058	23919	21630	24981
16	Imputed value of H.H.labour	1263	459	45	742
17	Cost 'C'(15+16)	29321	24378	21675	25723

Appendix -4

Cost of cultivation per hectare of Coconut 1994-95 (in Rs.)

Sl. No	Components of different cost Concepts	Size class			
		Small	Medium	Large	All size
1	2	3	4	5	6
1	Hired human labour	4595	4578	4008	4346
2	Animal labour	-	25	59	37
3	Machine labour	157	152	253	194
4	Seed/seedlings	-	55	22	42
	Farmyard, manure and chemical fertilizers	2857	3350	2489	3015
6	Plant protection	6	29	29	27
7	Land tax and irrigation cess	36	33	32	33
8	Repair and maintenance charges	280	162	38	143
9	Interest on working capital	7977	849	730	802
10	Other expenses	354	297	441	360
11	Cost 'A'(1 to 10)	9082	9530	8101	8999
12	Interest on fixed capital	1225	1002	1075	1051
13	Cost 'B1' (11+12)	10307	10532	9176	10050
14	Interest on land value	79667	93941	80363	87417
15	Cost 'B'(13+14)	89974	104473	89539	97467
16	Imputed value of H.H.labour	1226	794	283	614
17	Cost 'C' (15+16)	91200	105267	89822	98081

Appendix- 5

Cost of cultivation per hectare Arecanut – 1994-95 (in Rs.)

Sl No	Components of different cost Concepts	Holding size class			
		Small	Medium	Large	All size
1	2	3	4	5	6
1	Hired human labour	5732	6467	7194	6210
2	Animal labour	-	-	-	-
3	Machine labour	385	413	-	364
4	Seed/seedlings	62	-	-	27
5	Farmyard, manure and chemical fertilizers	3830	5112	4530	4496
6	Plant protection	278	910	-	550
7	Land tax and irrigation cess	92	377	1045	311
8	Repair and maintenance charges	112	126	10	115
9	Interest on working capital	1085	1336	1264	1205
10	Other expenses	561	459	918	545
11	Cost 'A' (1 to 10)	12137	15200	14961	13823
12	Interest on fixed capital	894	1518	675	511
13	Cost 'B1' (11+12)	13031	16718	15636	14334
14	Interest on land value	88168	75619	66250	80528
15	Cost 'B' (13+14)	101199	92337	81886	94862
16	Imputed value of H.H.labour	2371	1509	313	1782
17	Cost 'C' (15+16)	103570	93846	82199	96644

Appendix - 6

Cost of cultivation per Hectare of Tapioca 1994-95 (in Rs.)

Sl. No	Components of different cost Concepts	Holding size class			
		Small	Medium	Large	All size
1	2	3	4	5	6
1	Hired human labour	7306	6663	6169	6808
2	Animal labour	23	-	-	9
3	Machine labour	23	54	-	31
4	Seed/seedlings	398	338	158	327
5	Farmyard, manure and chemical fertilizers	2929	2396	1678	2452
6	Plant protection	16	12	15	14
7	Land tax and irrigation cess	21	33	-	21
8	Repair and maintenance charges	109	99	21	100
9	Interest on working capital	1077	959	840	980
10	Other expenses	84	127	378	164
11	Cost 'A' (1 to 10)	11986	10681	9259	10906
12	Interest on fixed capital	1064	837	466	949
13	Cost 'B1' (11+12)	13050	11518	9725	11855
14	Interest on land value	83530	67731	87710	78113
15	Cost 'B' (13+14)	96580	79249	97435	89968
16	Imputed value of household labour	2187	1191	-	1327
17	Cost 'C' (15+16)	98767	80440	97435	91295

Appendix-7

Cost of Cultivation per hectare of Pepper 1994-95 (in Rs.)

Sl. No	2	Holding size class			
		Small	Medium	Large	All size
1	2	3	4	5	6
1	Hired human labour	4193	4020	-	4149
2	Animal labour	-	-	-	-
3	Machine labour	15	2	-	11
4	Seed/seedlings	39	67	-	46
5	Farmyard, manure and chemical fertilizers	2219	1781	-	2107
6	Plant protection	94	26	-	77
7	Land tax and irrigation cess	21	24	-	22
8	Repair and maintenance charges	120	77	-	58
9	Interest on working capital	668	611	-	653
10	Other expenses	118	214	-	143
11	Cost 'A' (1 to 10)	7487	6822	-	7622
12	Interest on fixed capital	962	1657	-	1020
13	Cost 'B1' (11+12)	8449	8479	-	8286
14	Interest on land value	92798	78130	-	89131
15	Cost 'B' (13+14)	101247	86609	-	97417
16	Imputed value of H.H.labour	2511	1551	-	2260
17	Cost 'C' (15+16)	103758	88160	-	99677

Appendix -8

Cost of cultivation per hector of Ginger – 1994-95

Sl. No	Components of different cost concepts	Holding size class			
		Small	Medium	Large	All size
1	2	3	4	5	6
1	Hired human labour	10586	13187	-	11382
2	Animal labour	12	27	-	18
3	Machine labour	45	174	-	104
4	Seed/seedlings	9493	11050	990	9883
5	Farmyard, manure & chemical fertilizers	8345	9474	35478	9959
6	Plant protection	371	627	2317	569
7	Land tax and irrigation cess	17	16	61	18
8	Repair and maintenance charges	44	36	8	41
9	Interest on working capital	2963	3563	4294	3297
10	Other expenses	775	1096	4158	1061
11	Cost 'A'(1 to 10)	32651	39250	47306	36332
12	Interest on fixed capital	788	721	560	766
13	Cost 'B1' (11+12)	33439	39971	47866	37098
14	Interest on land value	58156	40552	99010	51533
15	Cost 'B'(13+14)	91595	80523	146876	88631
16	Imputed value of H.H.labour	4600	2261	-	3320
17	Cost 'C'(15+16)	96195	82784	146876	91951

Appendix-9

Cost of cultivation per hectare of Turmeric – 1994-95 (in Rs.)

Sl. No	Components of different cost concepts	Holding size class			
		Small	Medium	Large	All size
1	2	3	4	5	6
1	Hired human labour	7068	6307	-	6832
2	Animal labour	-	-	-	-
3	Machine labour	103	230	-	143
4	Seed/seedlings	4317	2609	-	3787
5	Farmyard, manure and chemical fertilizers	4645	3076	-	4161
6	Plant protection	118	123	-	120
7	Land tax and irrigation cess	21	15	-	19
8	Repair and maintenance charges	40	20	-	36
9	Interest on working capital	1648	1283	-	1535
10	Other expenses	234	487	-	312
11	Cost 'A' (1 to 10)	18194	14150	-	16945
12	Interest on fixed capital	828	382	-	739
13	Cost 'B' (11+12)	19022	14532	-	17684
14	Interest on land value	52611	48659	-	51376
15	Cost 'B' (13+14)	71633	63191	-	69060
16	Imputed value of household labour	4166	925	-	3160
17	Cost 'C' (15+16)	75799	64116	-	72220



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