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GOVERNMENT OF KERALA

REPORT ON
COST OF CULTIVATION OF
IMPORTANT CROPS
IN KERALA

FOR
1983-84
1984-85

DEPARTMENT OF ECONOMICS & STATISTICS
TRIVANDRUM
1987

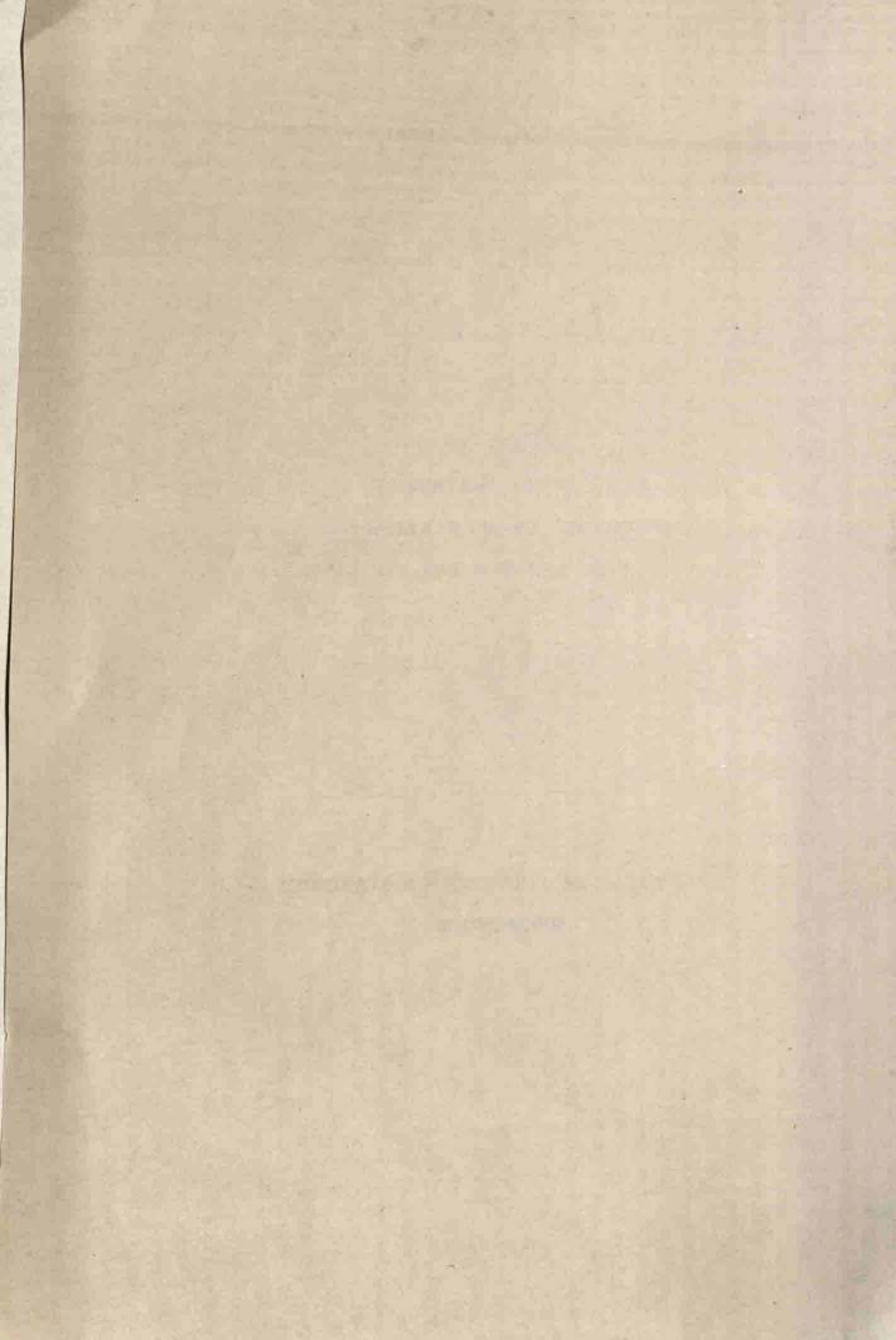
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P R E F A C E

This report relates to the fourth (1983-84) and fifth (1984-85) rounds of the Survey on Cost of Cultivation of important crops in Kerala. During these two rounds the study was conducted in 53 taluks for collection of data regarding the cost of cultivation of 8 crops viz. Paddy (3 seasons), Coconut, Ginger, Arecanut, Tapioca, Banana, Pepper and Cocoa.

The tabulation and consolidation of data were done in the 'Cost of Cultivation Section' and the report was prepared by the Surveys and Design Division of the Department of Economics and Statistics.

Trivandrum,
10--8--1987.

K. Balakrishnan Nair
Director of Economics & Statistics

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Chapter 1

INTRODUCTION

A realistic assessment of the cost of cultivation and value of products of important crops of the State is necessary for the formulation and implementation of schemes in agricultural sector, fixation of floor and support prices, provision of incentives to cultivators etc.

In spite of the fact that due emphasis was given on agricultural development since the commencement of planning in India, no concerted effort was made to collect data relating to cost of cultivation at the state level. The data gap in the cost aspect is seriously felt in formulating agricultural development schemes and to fix floor and support prices, in the case of important crops. With this end in view, Government of Kerala in G.O.No. (Rt) 466/79/Plg. dated, 27-10-1979 sanctioned a study on Cost of Cultivation of important crops in the state during the period 1979-80 to 1982-83. The study was intended to collect data on cost of cultivation of the following crops.

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

The scheme was implemented in 21 taluks selected on the basis of predominance of the crops grown. The report of the study conducted during 1980-83 was also published.

The study was extended to 53 taluks in 1983-84 and 1984-85 as per G.O.(Rt) No.284/83/Plg. dated, 7-6-1983 with the following additional staff:

1.2 Staff

<u>Field:</u>	<u>Category</u>	<u>Number</u>
	U.D. Investigators	14
	L.D. Investigators	28
<u>Office:</u>		
	Research Assistant	1
	U.D. Compiler	1

The services of the staff of the Marketable Surplus Survey were also utilised for the cost of cultivation survey. One Investigator was posted in each taluk for the collection of data relating to the cost of cultivation. The primary tabulation was done by investigators themselves posted for the survey.

1.3 Period of the survey:

The period of the fourth round of the survey was from 1-7-83 to 30-6-84 and the fifth round was from 1-7-84 to 30-6-85.

1.4 Design of the Survey

During 1983-84 and 1984-85 the survey was conducted in all the taluks (except Kanjirappally, Peermade, Devicolam, Vythiri and Manantody taluks) as against 21 taluks in the earlier three rounds, to yield better data on cost of cultivation. In each taluk 2 to 4 villages from the list of villages chosen for TRS 1982-83 (2 villages in Travancore-Cochin area and 4 villages in Malabar area) were selected for the fourth round of the survey. In each taluk a fixed number of plots as detailed below were selected from among the plots selected for the cropcutting survey of the crop under study for studying the cost also. This was done using linear systematic sampling method from the list of plots selected for the crop cutting survey of a crop. The selected plot together with all the other plots, both wet and dry possessed by the same cultivator within the taluk formed the sample holding.

The size group of a holding for a crop was determined on the basis of the area cultivated under the crop. The holdings selected were grouped into small, medium and large as given hereunder.

Size group	Paddy	Other crops
1	2	3
Small	\leq 0.40 hect.	\leq 0.20 hect.
Medium	0.40 to \leq 2 hect.	0.20 to \leq 0.80 hect.
Large	\geq 2 hect.	\geq 0.80 hect.

The number of holdings selected under the above procedure for each crop was as follows.

Crop	No. of sample holdings in each taluk
Paddy	10 (for each season)
Coconut	10
Tapioca	10
Banana	5
Arecanut	5
Pepper	5
Ginger	5
Cocoa	5

Wherever the holdings selected for paddy, coconut and tapioca contained area under other crops also, the same holdings were selected for the study of such crops. In cases where sufficient number of holdings for other crops were not available among the holdings selected for paddy, coconut, tapioca, the balance plots were selected for each crop by the method stated above.

The survey was continued during the year 1984-85 for the same crops in the same taluks selected for the year 1983-84. The holdings selected for the fourth round (1983-84) of the survey ^{were} ~~was~~ retained if the cultivators concerned continued to cultivate the same crop during the fifth round of the survey. In cases where this was not possible, new plots were selected using the method already described. But the target of 530 holdings could not

be achieved in all the 3 seasons of paddy, coconut, tapioca and 265 holdings for other crops due to non-availability of the particular crop during the period in some of the selected taluks.

1.5 Method of estimation of cost:

(a) Concept of cost

Different cost concepts such as cost A, Cost B and Cost C have been followed in the analysis as shown below.

Cost A

Cash and kind expenses (paid out costs) actually incurred by the cultivators. This consists of -

- i. Hired human labour
- ii. Animal labour
- iii. Machine labour
- iv. Seed/seedlings
- v. Farmyard manure
- vi. Chemical fertilizer
- vii. Plant protection
- viii. Land revenue
- ix. Irrigation cess
- x. Repair and maintenance charges of implements
- xi. Interest on working capital
- xii. Other expenses.

Cost B

Cost A + Interest on fixed capital (including land)

Cost C

Cost B + Imputed value of family labour (including value of exchange human labour)

As leasing-out land is not a common practice now in Kerala, leased-in land is not taken into account here. Also no allowance is made for managerial function in the estimation.

(b) Procedure for imputation of values of owned inputs

Some of the Inputs used in the production process come from home-stock. In computing the cost of cultivation, it is necessary to impute the value of these home stock. The procedure used for the imputation of values for such inputs is indicated below:

- i) Family labour - ^{Imputed} ~~Imputed~~ on the basis of average wage rate per work hour of hired labour.
- ii) Owned and exchange human labour - The rate of wages per hour for hired human labour is taken for imputing the value of owned and exchange human labour.

- 4
- iii) Owned and exchange animal labour - The rate of remuneration per hour for hired animal labour is taken for imputing the value of owned and exchange animal labour.
 - iv) Owned and exchange machine labour - The hire charges per hour for machine labour has been taken.
 - v) Implements - Repair and maintenance charges of implements.
 - vi) Owned seed - Farm produced (Home grown) seed has been evaluated at the prices prevalent in the village concerned at the time of sowing.
 - vii) Farm produced manure - Evaluated at the rates prevalent in the villages concerned.
 - viii) Interest on owned fixed capital - Interest on the present value of fixed assets, such as land, farm buildings, implements, machinery, irrigation structures, equipment and livestock (only draught animals) at the rate of 10% per annum has been calculated.
 - ix) Interest on working capital - Interest has been charged at the rate of 10% per annum for a period of 6 months on the working capital i.e. cash and kind expenses, (excluding items in respect of which payments are generally made after harvest, i.e. rent, land revenue etc.) incurred during the period of cultivation.
 - x) Payments in kind - The payments in kind have been evaluated at the prices prevalent in the villages at the time of payments. Perquisites have been included in the payments in kind evaluated at market prices.

(c) Allocation of joint costs to different crops

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

- i) Repair and maintenance charge of implements - In proportion to the area under the crop.
- ii) Interest on owned fixed capital - In proportion to the area under the crop.

(d) Procedure for evaluation of farm assets

- i) Own farm building (cattle sheds, storage sheds etc.) - Evaluated at prices prevailing in the villages.
- ii) Implements and other farm machinery - Evaluated at prevalent market prices.
- iii) Livestock (only draught animals) - Evaluated at prevalent market prices.

It may be noted that in Kerala, there are two paddy crops in an agricultural year in most of the lands under paddy cultivation (except in Kuttanad area and in places where the irrigation facilities are available throughout the year). 86% of the total production of paddy is obtained from the Autumn and Winter seasons. Therefore in calculating the cost of production of paddy crop in each season the interest on land value at the rate of 10% per annum (the maximum rate allowed by the Nationalised Banks for fixed deposit) for the period of 6 months is taken into account. The land value is estimated at the current market rate in the different areas.

Chapter 2

RESULTS OF THE SURVEY

The results of the cost studies in respect of all the crops taken up for the same are discussed hereunder. The gross area under paddy in the state during the year 1983-84 and 1984-85 comes to 25.86%, 25.41% respectively of the total cropped area.

The following table gives the total cropped area and the area under the paddy crops during the 3 seasons.

Table 2.1 - Total cropped area and the area under paddy

Period	Total cropped area (in hect.)	Area under paddy (in lakh hect)			Total (gross area)
		Autumn	Winter	Summer	
1	2	3	4	5	6
1983-84	28.62	3.28 (11.45)	3.24 (11.34)	0.88 (3.07)	7.40 (25.86)
1984-85	28.75	3.18 (11.08)	3.27 (11.37)	0.85 (2.96)	7.30 (25.41)

Source : TRS Estimate
(Figures in brackets give the percentage of paddy area in each season to the total cropped area)

Area under autumn paddy and winter paddy are more or less the same. The percentage distribution is given below.

Table 2.2 - Percentage of area under paddy in each season

Period	Percentage of area under paddy			Total
	Autumn	Winter	Summer	
1	2	3	4	5
1983-84	44.29	43.85	11.86	100
1984-85	43.62	44.75	11.63	100

From the above table it is evident that more than about 88% of the paddy area is in autumn and winter seasons. Summer paddy constitutes only about one-eighth of the gross paddy area.

The production is always expressed in terms of rice. The rice production during the two years under study stood at 12 lakh tonnes as can be seen from the following table.

Table 2.3 - Production of rice (in lakh tonnes)

Period	Autumn	Winter	Summer	Total
1	2	3	4	5
1983-84	5.20 (43.09)	5.21 (43.10)	1.67 (13.81)	12.08
1984-85	5.49 (43.72)	5.40 (42.98)	1.67 (13.30)	12.56

Source: TRS Estimate. (Figures in brackets give the percentage of production of paddy in each season to the total production of paddy)
rice

It is seen that 86% of the total production of rice is obtained from the autumn and winter crops. The average yield rate per hectare in terms of paddy in each season is given in the following table.

Table 2.4 - Average yield rate of paddy in tonne/hectare

Period	Autumn	Winter	Summer
1	2	3	4
1983-84	2.4	2.4	2.9
1984-85	2.6	2.5	3.0

Source : TRS Estimate

The average yield rate of summer paddy is normally the highest.

Table 2.5 - Percentage of area irrigated under paddy
(Area lakh hect.)

Period	Area irrigated	Total cropped area irrigated	Percentage
1	2	3	4
1983-84	2.87	3.96	72.54
1984-85	3.13	4.23	73.94

It is seen that the area irrigated under paddy is about 74% of the irrigated cropped area.

2.1 Autumn (Virippu) Paddy

2.1.1. Selected holdings:

For the cost study of autumn paddy, 10 holdings from each taluk were selected. The details of these holdings in each size class (viz. small, medium, large) of holdings are given below:

Table 2.1.1 - Area under autumn paddy in each size class of sample for the year 1983-84 and 1984-85 (hect.)

Period	Size class	Area under the crop in sample (hect)	% to total area	No. of selected holdings	Area per holding
1	2	3	4	5	6
1983-84	Small	48.88	19.04	270	0.18
	Medium	153.39	59.76	209	0.73
	Large	54.42	21.20	14	3.88
	Total	256.69	100.00	493	0.52
1984-85	Small	71.15	27.85	329	0.22
	Medium	130.48	51.08	175	0.74
	Large	53.82	21.07	16	3.36
	Total	255.45	100.00	520	0.49

The total operated area of autumn paddy in the sample were 256.69 hect., 255.45 hect. respectively during the years 1983-84 and 1984-85. The average size of holding was 0.52 hect. in 1983-84 and 0.49 hect. in 1984-85.

2.1.2 Cost of cultivation

As stated earlier the cost of cultivation is estimated under the three different concepts of cost. (viz. cost A, cost B and cost C).

Cost A

The estimates of cost of different items under 'A' per hectare is given in Appendix 1 and the percentage distribution of these items to the total cost 'A' is given in Appendix 2.

2.1.3 Hired human labour

The percentage of hired labour hours to the total labour hours is given below separately for males and females.

Table 2.1.2 - Percentage of hired human labour to the total human labour hours

Period	Sex	Holding size class			All
		Small	Medium	Large	
1	2	3	4	5	6
1983-84	Male	30.15	26.06	25.65	26.92
	Female	58.68	66.91	71.74	65.94
	Total	88.83	92.97	97.39	92.86
1984-85	Male	29.44	26.15	21.07	25.97
	Female	58.46	66.54	74.84	66.04
	Total	87.90	92.69	95.91	92.01

The proportion of hired labour to total human labour input steadily increases with the increase in the size of holding. Cultivators belonging to large size class are seen to depend for more than 97% and 96% of their requirements on hired labour. The cost of hired labour per hectare works out to Rs.2300/- per hectare approximately.

Table 2.1.3 - Cost of hired human labour per hectare (in Rs.)

Period	Holding size class			
	Small	Medium	Large	All
1	2	3	4	5
1983-84	2472 (50.58)	2014 (50.06)	2948 (64.63)	2299 (53.53)
1984-85	2265 (50.03)	2022 (50.83)	2649 (51.01)	2221 (50.74)

(Figures in brackets give the percentage to total cost 'A')

From the above table it is seen that the cost of hired human labour for the years 1983-84 and 1984-85 are Rs.2299/- and Rs.2221/- respectively accounting for about slightly over half the cost 'A'.

2.1.4 Animal labour

The total cost of animal labour (including hired exchange and household) is found to be Rs.325/- in 1983-84 and Rs.323/- in 1984-85.

Table 2.1.4 - Cost of animal labour per hectare

Period	Holding size class			
	Small	Medium	Large	All
1	2	3	4	5
1983-84	535 (10.95)	363 (9.02)	29 (0.64)	325 (7.57)
1984-85	439 (9.70)	355 (8.92)	92 (1.77)	323 (7.38)

The above table reveals that the cost of animal labour steadily decreases with the increase in size class. In the case of cultivators having an area of more than 2.00 hect., the cost of animal labour is very small. It is seen that animal labour accounts for about 8 percent of the cost 'A'.

2.1.5 Machine labour

The cost of machine labour per hectare and its share in the total cost 'A' is given in the following table.

Table 2.1.5 - Cost of machine labour per hectare (Rs.)

Period	Holding size class			
	Small	Medium	Large	All
1	2	3	4	5
1983-84	88 (1.80)	137 (3.41)	242 (5.31)	150 (3.49)
1984-85	132 (2.92)	164 (4.13)	562 (10.82)	239 (5.46)

Compared to the previous years, the cost of machine labour has increased during the period 1983-85 whereas the cost of animal labour has decreased in the same period. The cost of machine labour is seen increasing with the size of holding. In the case of cultivators having area of more than 2hectares, cost of machine labour is more than double during the year 1984-85 compared to 1983-84.

2.1.6 Seed/seedlings

The cost of seed/seedlings is higher in the case of small holdings than that of the other holdings as seen from the table below. It is seen that the expenditure on seed/seedlings is about 8% of the cost 'A'.

Table 2.1.6 - Percentage distribution of cost of seed/seedlings (in Rs.)

Period	Holding size class			
	Small	Medium	Large	All
1	2	3	4	5
1983-84	421 (8.62)	357 (8.87)	210 (4.60)	338 (7.87)
1984-85	395 (8.73)	341 (8.57)	288 (5.54)	345 (7.88)

2.1.7 Manure

17 to 18% of the cost 'A' is accounted by manures during the period under report. It can be seen from the table that small cultivators spent more for manure than medium and large size cultivators.

Table 2.1.7 - Cost of manure per hectare (in Rs.)

Period	Holding size class			
	Small	Medium	Large	All
1	2	3	4	5
1983-84	947 (19.38)	714 (17.74)	504 (11.05)	714 (16.63)
1984-85	902 (19.93)	757 (19.02)	735 (14.15)	793 (18.12)

2.1.8 Pesticides and insecticides

Only a small percentage of the total cost (cost 'A') is shared by pesticides and insecticides. The cost of pesticides is Rs.40/- per hect. in 1983-84 and Rs.54/- in 1984-85.

Table 2.1.8 - Cost of pesticides and insecticides (Rs.)

Period	Holding size class			
	Small	Medium	Large	All
1	2	3	4	5
1983-84	32 (0.66)	31 (0.77)	71 (1.56)	40 (0.93)
1984-85	49 (1.08)	31 (0.77)	117 (2.25)	54 (1.23)

2.1.9 - Land Revenue and Irrigation Cess

The expenditure on land revenue and irrigation per hectare is given in the following table.

Table 2.1.9 - Expenditure on land revenue and irrigation cess

Period	Holding size class			
	Small	Medium	Large	All
1	2	3	4	5
1983-84	16 (0.32)	31 (0.78)	22 (0.48)	26 (0.61)
1984-85	8 (0.18)	18 (0.46)	11 (0.21)	14 (0.32)

The expenditure on land revenue and irrigation cess is estimated at Rs.26/- in 1983-84 and Rs.14/- in 1984-85.

2.1.10 Repair & maintenance charges of implements & machinery

The expenditure incurred towards repair and maintenance of implements and machinery is estimated at Rs.153/- in 1983-84 and Rs.107/- in 1984-85, as detailed below.

Table 2.1.10 - Cost of repair and maintenance of implements

Period	Holding size class			
	Small	Medium	Large	All
1	2	3	4	5
1983-84	122 (2.50)	145 (3.61)	236 (5.18)	153 (3.56)
1984-85	95 (2.09)	99 (2.49)	190 (3.66)	107 (2.44)

2.1.11 Interest on working capital

The average expenditure on interest payment on working capital is found to be Rs.196/- and Rs.203/- during the years 1983-84 and 1984-85. Interest constitutes about 5 percent of the cost.

Table 2.1.11 - Interest on working capital (in Rs.)

Period	Holding size class			
	Small	Medium	Large	All
1	2	3	4	5
1983-84	226 (4.62)	183 (4.55)	205 (4.49)	196 (4.56)
1984-85	211 (4.66)	184 (4.63)	238 (4.58)	203 (4.64)

(Interest on working capital is estimated at the rate of 10% for a period of 6 months)

2.1.12 Other expenses

The other expenses which accounts for 1% to 2% of the total cost 'A' for the years 1983-84 and 1984-85 are as shown below.

Table 2.1.12 - Other expenses

Period	Holding size class			
	Small	Medium	Large	All
1	2	3	4	5
1983-84	28 (0.57)	48 (1.19)	94 (2.06)	54 (1.25)
1984-85	31 (0.68)	7 (0.18)	312 (6.01)	78 (1.79)

The cost 'A' for autumn paddy cultivation is estimated at Rs.4295/- in 1983-84 and Rs.4377/- in 1984-85 as detailed below:

Table 2.1.13 - Break-up of cost 'A' per hectare of autumn paddy (in Rs.)

Sl.No.	Components of cost	1983-84	1984-85
1	2	3	4
1.	Hired human labour	2299	2221
2.	Animal labour	325	323
3.	Machine labour	150	239
4.	Seed/seedling	338	345
5.	Manure	714	793
6.	Plant protection	40	54
7.	Land Revenue & Irrigation Cess	26	14
8.	Interest on working capital	196	203
9.	Other expenses (including repair and maintenance charges of implements & machinery)	207	185
	Total cost 'A'	4295	4377

2.1.14 Cost 'B'

Cost 'B' is estimated by adding the interest on fixed capital to cost 'A'. The following table gives the estimated interest on fixed capital per hectare of autumn paddy cultivation. The estimated interest on fixed capital for the years 1983-84 and 1984-85 are Rs.4092/- and Rs.5718/- respectively.

Table 2.1.14 - Interest on fixed capital (in Rs.)

Period	Holding size class			
	Small	Medium	Large	All
1	2	3	4	5
1983-84	4682 (48.93)	4142 (50.73)	3753 (45.14)	4092 (48.79)
1984-85	6601 (59.32)	5690 (58.85)	4622 (47.09)	5718 (56.64)

(Figures in brackets represent the percentage of interest on fixed capital to total cost 'B')

Increase in land value during the period under report is the main reason for the rise in the interest on fixed capital. It can also be seen that the increase in interest on fixed capital is reflected more in the case of small cultivators. It is evident that the interest on fixed capital is decreasing as size class increases.

2.1.15 Cost 'C'

Cost 'C' is estimated by adding the imputed value of household labour to cost 'B'. The imputed value of household labour is estimated at the rate of hired human labour.

Table 2.1.15 - Estimated value of household human labour (in Rs.)

Period	Holding size class			
	Small	Medium	Large	All
1	2	3	4	5
1983-84	304 (3.08)	176 (2.11)	58 (0.69)	175 (2.04)
1984-85	357 (3.11)	180 (1.83)	95 (0.96)	211 (2.05)

(Figures in brackets give the percentage to total cost 'C')

About 2% of the cost 'C' accounts for the value of household human labour for the period under report.

2.1.16 The estimates of cost of autumn paddy under various cost concepts are given below.

Table 2.1.16 - Estimated cost of autumn paddy per hectare

Concept of cost	Period	Holding size class			
		Small	Medium	Large	All
1	2	3	4	5	6
Cost 'A'	1983-84	4887	4023	4561	4295
	1984-85	4527	3978	5194	4377
Cost 'B'	1983-84	9569	8165	8314	8387
	1984-85	11128	9668	9816	10095
Cost 'C'	1983-84	9873	8341	8372	8562
	1984-85	11485	9848	9911	10306

2.1.17 Output

The value of the product and by product of paddy cultivation viz. paddy and straw for the two years under study is given in the following table.

Table 2.1.17 - Value of product and by-product per hectare (in Rs.)

Period	Product/ by-product	Holding size class			All
		Small	Medium	Large	
1	2	3	4	5	6
1983-84	Paddy	4841	4636	6223	5012
	Straw	1356	849	375	845
	Total	6197	5485	6598	5857
1984-85	Paddy	3721	3853	6474	4368
	Straw	1313	981	829	1041
	Total	5034	4834	7303	5409

The total value of output per hectare is estimated at Rs.5857/-, and Rs.5409/- during the years 1983-84 and 1984-85 respectively. From the above table it is seen that the production of paddy increases as size class increases. This may be due to the fact that high yielding variety paddy is more in use among big cultivators than among small cultivators.

2.1.18 Cost of production of paddy per quintal

Cost of producing one quintal of paddy is arrived at by dividing the cost of cultivation per hectare (after deducting the value of by-product from the cost of cultivation per hectare) by the quantity of paddy produced per hectare. The table below gives the cost of production of paddy per quintal in autumn season during the years 1983-84 and 1984-85. It can be seen that the cost of production of paddy is less in the case of large scale cultivators.

Table 2.1.18 - Cost of production of paddy per quintal during autumn season

Period	Concept of cost	Holding size class			All
		Small	Medium	Large	
1	2	3	4	5	6
1983-84	A	178	157	151	159
	B	414	362	287	347
	C	429	370	289	355
1984-85	A	163	146	116	140
	B	498	422	239	379
	C	516	431	242	388

2.2 Winter (Mundakan) Paddy

2.2.1 Selected holdings

The number of holdings selected for studying cost of cultivation on winter paddy crop were 486 and 520 respectively during the years 1983-84 and 1984-85.

The sample area under winter paddy in small, medium and large size class of holdings are given below:

Table 2.2.1 - Area under sample winter paddy (hect)

Period	Holding size class	Area under the crop	Percentage to total area of holdings	No. of selected holdings	Area per holding
1	2	3	4	5	6
1983-84	Small	48.36	19.08	292	0.17
	Medium	174.09	68.70	179	0.97
	Large	30.96	12.22	15	2.06
	Total	253.41	100.00	486	0.52
1984-85	Small	59.74	24.70	309	0.19
	Medium	145.12	60.02	202	0.72
	Large	36.96	15.28	9	4.11
	Total	241.82	100.00	520	0.47

The holdings selected for the study had a total operated areas of 253.41 hectares and 241.82 hectares respectively in 1983-84 and 1984-85 respectively. The average size of sample holdings in the two years was 0.52 and 0.47 hectares respectively.

2.2.2 Cost of cultivation of winter paddy

The cost of different items per hectare of cost 'A' is given in Appendix-3 and the percentage of these items to the total cost 'A' is given in Appendix-4.

2.2.3 Hired human labour

The percentage of 'hired human labour hours' to the total 'human labour hours' employed is given below.

Table 2.2.2 - Percentage of hired human labour to total human labour

Period	Sex	Holding size class			
		Small	Medium	Large	All
1	2	3	4	5	6
1983-84	M	29.05	30.76	23.39	29.73
	F	57.37	60.52	69.05	60.44
	T	86.42	91.38	92.44	90.17
1984-85	M	29.81	27.41	27.11	27.92
	F	56.52	64.13	70.92	63.21
	T	86.33	91.54	98.03	91.13

It is seen that the hired human labour hours accounted for about 90% of the total human labour hours in winter paddy cultivation. Hired labour is more in the case of females.

The cost of hired human labour per hectare is given below.

Table 2.2.3 - Cost of hired human labour per hectare (in Rs.)

Period	Holding size class			
	Small	Medium	Large	All
1	2	3	4	5
1983-84	2681	1876	1196	1946
	(50.01)	(46.63)	(24.61)	(44.42)
1984-85	2780	2207	2603	2409
	(49.81)	(49.34)	(54.65)	(50.40)

(Figures in brackets give the percentage to total cost 'A')

The expenditure on hired human labour per hectare of winter paddy crop is seen to be Rs.1946/- and Rs.2409/- respectively in 1983-84 and 1984-85. About half cost 'A' is accounted by hired human labour.

2.2.4 Animal labour

The cost of animal labour utilized in winter paddy cultivation is found to be Rs.388/- and Rs.394/- per hectare for the periods under report.

Table 2.2.4 - Cost of animal labour per hectare (in Rs.)

Period	Holding size class			
	Small	Medium	Large	All
1983-84	529	405	70	388
	(9.87)	(10.07)	(1.44)	(8.86)
1984-85	495	416	142	394
	(8.87)	(9.30)	(2.98)	(8.24)

The cost of animal labour decreases as holding size increases 8% to 9% of the cost 'A' is accounted by animal labour.

2.2.5 Machine labour

The cost of machine labour in winter paddy crop is given below. It is seen that the cost of machine labour is Rs.218/- & Rs.183/- per hectare during the years 1983-84 and 1984-85.

Table 2.2.5 - Cost of machine labour per hectare (Rs.)

Period	Holding size class			
	Small	Medium	Large	All
1	2	3	4	5
1983-84	128 (2.39)	177 (4.39)	593 (12.20)	218 (4.98)
1984-85	111 (1.99)	199 (4.45)	239 (5.02)	183 (3.83)

About 5% of the cost 'A' is shared by machine labour. As in the case of autumn paddy, the cost of machine labour for winter paddy is more in large size class than in small and medium size classes.

2.2.6 Seed/Seedlings

The cost of seed/seedlings used by the winter paddy cultivators is given below. For the year 1983-84 the cost is Rs.375/- per hectare and for 1984-85 it is Rs.358/-.

Table 2.2.6 - Cost of seed/seedlings (in Rs.)

Period	Holding size class			
	Small	Medium	Large	All
1	2	3	4	5
1983-84	446 (8.32)	328 (8.15)	534 (10.99)	375 (8.56)
1984-85	452 (8.09)	345 (7.71)	254 (5.33)	358 (7.49)

The percentage to total cost 'A' of seed/seedlings 9% and 7% during the years 1983-84 and 1984-85 respectively.

2.2.7 Manure

The expenditure incurred towards manure is given in the following table.

Table 2.2.7 - Cost of manure per hectare (in Rs.)

Period	Holding size class			
	Small	Medium	Large	All
1	2	3	4	5
1983-84	1026 (19.14)	779 (19.38)	1027 (21.13)	856 (19.54)
1984-85	1258 (22.54)	907 (20.27)	730 (15.32)	966 (20.21)

The cost of manure per hectare of winter paddy is seen to be Rs.856/- and Rs.966/- respectively during the years under study. Cost of manure accounts for about 20% of the total cost 'A'.

2.2.8 Cost of pesticides and insecticides

The cost of pesticides and insecticides is estimated at Rs.131/- per hectare in 1983-84 and Rs.66/- in 1984-85. From the table below it is seen that the cost towards plant protection is more during 1983-84 than 1984-85. Its share in total cost 'A' is negligible.

Table 2.2.8 - Cost of pesticides and insecticides (in Rs.)

Period	Holding size class			
	Small	Medium	Large	All
1	2	3	4	5
1983-84	67 (1.25)	56 (1.39)	654 (13.46)	131 (2.99)
1984-85	64 (1.15)	51 (1.14)	125 (2.63)	66 (1.38)

2.2.9 Land Revenue and Irrigation Cess

The cost towards land revenue and irrigation cess is found to be Rs.20/- and Rs.18/- per hectare during the period under report.

Table 2.2.9 - Expenditure on land revenue and irrigation (Rs.)

Period	Holding size class			
	Small	Medium	Large	All
1	2	3	4	5
1983-84	15 (0.28)	18 (0.45)	40 (0.84)	20 (0.45)
1984-85	13 (0.24)	23 (0.51)	10 (0.21)	18 (0.37)

Only a very small percentage of the cost 'A' is accounted for by this item.

2.2.10 Repair and maintenance charge of implements, machinery and building

The cost towards repair and maintenance charge of implements, machinery and building is found to be Rs.150/- and Rs.117/- respectively during the reference years as can be seen from the table below.

Table 2.2.10 - Cost of repair and maintenance charge of implements and machinery

Period	Holding size class			
	Small 2	Medium 3	Large 4	All 5
1983-84	159 (2.97)	138 (3.43)	185 (3.80)	150 (3.42)
1984-85	122 (2.19)	94 (2.10)	272 (5.71)	117 (2.45)

The expenditure on repair and maintenance of implements accounts for only 2 to 3% of the cost 'A'.

2.2.11 Interest on working capital

Interest on working capital is computed at Rs.201/- for the year 1983-84 and Rs.221/- for the year 1984-85.

Table 2.2.11 - Interest on working capital (Rs.)

Period	Holding size class			
	Small 2	Medium 3	Large 4	All 5
1983-84	247 (4.61)	184 (4.57)	221 (4.55)	201 (4.59)
1984-85	259 (4.64)	207 (4.63)	213 (4.47)	221 (4.62)

2.2.12 Other expenses

The other expenses which accounts for Rs.96/- and Rs.48/- for the periods under report forms only 1 to 2% of the total cost 'A' as detailed below.

Table 2.2.12 - Other expenses

Period	holding size class			
	Small	Medium	Large	All
1	2	3	4	5
1983-84	62 (1.16)	62 (1.54)	339 (6.98)	96 (2.19)
1984-85	27 (0.48)	24 (0.54)	175 (3.68)	48 (1.01)

2.2.13 The table below gives the major components of the cost 'A' per hectare for the years 1983-84 and 1984-85.

Table 2.2.13 - Break-up of cost 'A' per hectare of winter paddy (Rs.)

Sl.No.	Components of cost	1983-84	1984-85
1.	2	3	4
1.	Hired labour	1946	2409
2.	Other labour (Animal labour and Machine labour)	606	577
3.	Seed/seedlings	375	358
4.	Manure	856	966
5.	Plant protection	131	66
6.	Land revenue & irrigation cess	20	18
7.	Interest on working capital	201	221
8.	Other expenses (including repair & maintenance charge of implements)	246	165
	Total cost 'A'	4381	4780

2.2.14 Cost 'B'

Cost 'B' is estimated by adding the imputed value of interest on fixed capital to Cost 'A'. The interest is estimated at Rs.4198/- per hectare during 1983-84 and Rs.5147/- in 1984-85.

Table 2.2.14 - Interest on fixed capital (Rs.)

Period	holding size class			
	Small	Medium	Large	All
1	2	3	4	5
1983-84	4513 (45.71)	4172 (50.91)	4208 (46.41)	4198 (48.93)
1984-85	4588 (45.11)	5363 (54.52)	5320 (52.76)	5147 (51.84)

(Figures in brackets give the percentage to total cost 'C')

2.2.15 Cost 'C'

Cost 'C' is estimated by adding the imputed value of household human labour to cost 'B'. The cost of household labour is imputed at Rs.193/- per hectare in 1983-84 and Rs.236/- in the next year.

Table 2.2.15 - Imputed value of household human labour per hectare of winter paddy (in Rs.)

Period	Holding size class			
	Small	Medium	Large	All
1	2	3	4	5
1983-84	362 (3.54)	161 (1.93)	105 (1.14)	193 (2.20)
1984-85	425 (4.01)	207 (2.06)	41 (0.40)	236 (2.32)

(Figures in brackets give the percentage to total cost 'C')

2.2.16 The estimates of cost for winter paddy under various cost concepts are given below.

Table 2.2.16 - Estimated cost (Rs.) of winter paddy per hectare under various cost concepts

Concept of cost	Period	Holding size class			
		Small	Medium	Large	All
1	2	3	4	5	6
Cost 'A'	1983-84	5360	4023	4859	4381
	1984-85	5581	4473	4763	4780
Cost 'B'	1983-84	9873	8195	9067	8579
	1984-85	10169	9836	10083	9927
Cost 'C'	1983-84	10235	8356	9172	8772
	1984-85	10594	10043	10124	10163

It is seen that the expenditure on cultivation varies according to size class of holdings.

2.2.17 Output

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

Table 2.2.17 - Value of product and by-product per hectare (Rs.)

Period	Product/ by-product	Holding size class			
		Small	Medium	Large	All
1	2	3	4	5	6
1983-84	Paddy	5285	4495	5326	4748
	Straw	1599	1214	2078	1393
	Total	6884	5709	7404	6141
1984-85	Paddy	5352	4621	4592	4797
	Straw	1816	1425	1166	1482
	Total	7168	6046	5758	6279

The total value of output is arrived at Rs.6141/- in 1983-84 & Rs.6279/- in 1984-85.

2.2.18 Cost of production of paddy per quintal

Cost of producing one quintal of paddy is obtained by dividing the cost of cultivation per hectare (after deducting the value of by-product per hectare from total cost) by the value of yield per hectare. The cost of production of winter paddy per quintal is given in the following table.

Table 2.2.18 - Cost of production of winter paddy per quintal (in Rs.)

Period	Concept of cost	Holding size class			
		Small	Medium	Large	All
1983-84	A	165	145	109	144
	B	363	360	274	346
	C	378	368	278	355
1984-85	A	159	131	134	138
	B	352	362	333	353
	C	369	371	335	363

Thinking into account the concept of cost 'A', it is seen that the cost of production of winter paddy per quintal was Rs.144/- during 1983-84 and Rs.138/- during 1984-85.

2.3 Summer (Punja) Paddy

2.3.1 Selected holdings

In the case of summer paddy, the number of holdings in the sample were 412 and 407 respectively in 1983-84 and 1984-85.

Table 2.3.1 - Area of summer paddy in the sample in 1983-84 and 1984-85 (hect.)

Period	Size class	Area under the crop in the sample	Percentage to total area selected	No. of holdings selected	Area per holding
1	2	3	4	5	6
1983-84	Small	47.98	25.66	271	0.18
	Medium	90.21	48.25	125	0.72
	Large	48.78	26.09	16	3.05
	Total	186.97	100.00	412	0.45
1984-85	Small	47.18	29.60	269	0.18
	Medium	95.83	60.12	132	0.73
	Large	16.40	10.28	6	2.73
	Total	159.41	100.00	407	0.39

The holdings studied during the periods under report have a total operational areas of 186.97, 159.41 hectares respectively. The average size of holdings in each year was 0.45 hect. and 0.39 hect. respectively.

2.3.2 Cost of cultivation of summer paddy

The estimated cost of different items per hectare of cost 'A' are given in Appendix-5 and percentage distribution is given in Appendix-6.

2.3.3 Hired human labour

Hired human labour accounts for the major portion of the cost of paddy cultivation. The percentage of hired human labour hours engaged in summer paddy cultivation to the total human labour hours is given below.

Table 2.3.2 - Percentage distribution of hired human labour to the total human labour

Period	Sex	Holding size class			
		Small	Medium	Large	All
1	2	3	4	5	6
1983-84	Male	29.37	27.27	27.83	27.99
	Female	54.74	63.27	68.77	62.29
	Total	84.11	90.54	96.60	90.28
1984-85	Male	27.51	28.58	25.73	27.93
	Female	54.62	61.83	69.19	60.68
	Total	82.13	90.41	94.92	88.61

It can be seen that 90% of the total human labour hours came from hired labour in 1983-84 and 89% in 1984-85. Female hired labour is more than that of the male labour. The cost of hired labour per hectare in 1983-84 and 1984-85 are given below.

Table 2.3.3 - Cost per hectare of hired human labour (Rs.)

Period	Holding size class			
	Small	Medium	Large	All
1	2	3	4	5
1983-84	2270 (44.65)	2511 (50.05)	3008 (51.48)	2579 (48.92)
1984-85	3046 (51.89)	2631 (50.14)	2885 (56.78)	2794 (51.53)

(Figures in brackets give the percentage to total cost 'A')

It is seen that the cost of hired human labour per hectare comes to Rs.2579/- and Rs.2794/- respectively during the years 1983-84 and 1984-85. 49% to 52% of the total cost 'A' is accounted by the cost of hired labour.

2.3.4 Animal labour

The cost of animal labour per hectare is Rs.339 and Rs.413 for the years 1983-84 and 1984-85 respectively.

Table 2.3.4 - Cost per hectare of animal labour (Rs.)

Period	Holding size class			
	Small	Medium	Large	All
1	2	3	4	5
1983-84	529 (10.41)	327 (6.52)	175 (2.99)	339 (6.43)
1984-85	560 (9.54)	390 (7.43)	191 (3.76)	413 (7.62)

(Figures in brackets give the percentage to total cost 'A')

As in the case of autumn paddy, cost per hectare of animal labour increases as holding size increases. About 8% of the total cost 'A' is shared by animal labour cost.

2.3.5 Machine labour

Cost of machine labour per hectare is 5% and 6% of the total cost 'A' during the year 1983-84 and 1984-85 respectively.

Table 2.3.5 - Cost per hectare of machine labour

Period	Holding size class			
	Small	Medium	Large	All
1	2	3	4	5
1983-84	172 (3.38)	332 (6.62)	259 (4.43)	272 (5.15)
1984-85	213 (3.63)	410 (7.81)	184 (3.62)	318 (5.87)

The cost was estimated at Rs.272/- per hectare in 1983-84 & Rs.318/- in the next year.

2.3.6 Seed/seedlings

The cost of seed/seedlings per hectare is found to be Rs.407/-, Rs.334/- respectively during the years 1983-84 and 1984-85 accounting for about 8% of the cost of cultivation (Cost 'A')

Table 2.3.6 - Cost of seed/seedlings per hectare

Period	Holding size class			
	Small	Medium	Large	All
1	2	3	4	5
1983-84	381 (7.50)	407 (8.11)	435 (7.45)	407 (7.72)
1984-85	377 (6.42)	325 (6.20)	287 (5.65)	334 (6.16)

(Figures in brackets give the percentage to total cost 'A')

2.3.7 Manure

It is seen that chemical fertilizers are applied largely in the fields than farmyard manure.

Table 2.3.7 - Cost of manure per hectare

Period	Holding size class			
	Small	Medium	Large	All
1	2	3	4	5
1983-84	1085 (21.34)	893 (17.80)	912 (15.61)	947 (17.96)
1984-85	1045 (17.81)	894 (17.04)	697 (13.72)	913 (16.84)

17% to 18% of the cost 'A' accounts for the cost of manure. The expenditure on the cost of manure is found to be Rs.947/- per hectare in 1983-84 and Rs.913/- in 1984-85.

2.3.8 Pesticides and insecticides

The expenditure incurred towards the cost of pesticides and insecticides is estimated at Rs.196/- and Rs.165/- respectively during the years 1983-84 and 1984-85.

Table 2.3.8 - Cost of pesticides and insecticides

Period	Holding size class			
	Small	Medium	Large	All
1	2	3	4	5
1983-84	126 (2.48)	154 (3.07)	342 (5.85)	196 (3.72)
1984-85	108 (1.84)	136 (2.59)	403 (7.93)	165 (3.04)

3% to 4% of the cost 'A' is shared by the cost of pesticides and insecticides.

2.3.9 Expenditure on land revenue and irrigation per hectare

The expenditure on land revenue and irrigation per hectare is found to be Rs.21/- and Rs.42/- during the periods under report.

Table 2.3.9 - Land revenue and irrigation per hectare (Rs.)

Period	Holding size class			
	Small	Medium	Large	All
1	2	3	4	5
1983-84	23 (0.45)	17 (0.34)	27 (0.46)	21 (0.40)
1984-85	70 (1.19)	38 (0.73)	4 (0.08)	42 (0.78)

Only a small percentage of the total cost 'A' accounts for land revenue and irrigation cess.

2.3.10 Expenditure on repair & maintenance charges of implements & machinery

The estimated expenditure per hectare on repair and maintenance charges of implements and machinery is found to be Rs.121/- and Rs.130/- during the period under report.

Table 2.3.10 - Estimated expenditure on repair and maintenance of implements

Period	Holding size class			
	Small	Medium	Large	All
1	2	3	4	5
1983-84	189 (3.71)	85 (1.69)	33 (0.57)	121 (2.30)
1984-85	149 (2.54)	128 (2.44)	10 (0.20)	130 (2.39)

2.3.11 Interest on working capital

Interest on working capital per hectare is estimated to be Rs.244/- and Rs.250/- for 1983-84 and 1984-85 respectively. About 5% of the cost 'A' accounts for this item.

Table 2.3.11 - Interest on working capital per hectare (Rs.)

Period	Holding size class			
	Small	Medium	Large	All
1	2	3	4	5
1983-84	232 (4.56)	234 (4.66)	275 (4.71)	244 (4.63)
1984-85	269 (4.58)	242 (4.61)	241 (4.74)	250 (4.61)

2.3.12 Other expenses

'Other expenses' comes to Rs.146/- and Rs.63/- per hectare during the year 1983-84 and 1984-85. 1 to 3% of the cost 'A' accounts for other expenses. It is more in the case of large holdings.

Table 2.3.12 - Other expenses

Period	Holding size class			
	Small	Medium	Large	All
1	2	3	4	5
1983-84	77 (1.52)	57 (1.14)	377 (6.45)	146 (2.77)
1984-85	33 (0.56)	53 (1.01)	179 (3.52)	63 (1.16)

2.3.13 The major components of cost 'A' per hectare of summer paddy is given in the following table.

Table 2.3.13 - Components of cost 'A' per hectare of summer paddy (Rs.)

Sl.No.	Components of different cost concepts	1983-84	1984-85
1	2	3	4
1.	Hired human labour	2579	2794
2.	Other labour (including animal labour and machine labour)	611	731
3.	Seed/seedling	407	334
4.	Manure (farm yard & chemical fertilizers)	947	913
5.	Plant protection	196	165
6.	Land revenue and irrigation cess	21	42
7.	Interest on working capital	244	250
8.	Other expenses including repair and maintenance	267	193
9.	Total cost 'A'	5272	5422

2.3.14 Cost 'B'

Cost 'B' is estimated by adding the imputed value of interest on fixed capital to cost 'A'. The interest estimated on fixed capital per hectare of summer paddy cultivation is given in the following table.

Table 2.3.14 - Interest on fixed capital (Rs.)

Period	Holding size class			
	Small	Medium	Large	All
1	2	3	4	5
1983-84	4173 (45.08)	3814 (43.19)	1905 (24.59)	3519 (40.03)
1984-85	5685 (49.20)	4605 (46.74)	1894 (27.15)	4634 (46.08)

The percentage of interest on fixed capital to cost 'B' is 40% and 46% respectively during the years 1983-84 and 1984-85.

2.3.15 Cost 'C'

Cost 'C' is estimated by adding the imputed value of household labour to cost 'B'.

Table 2.3.15 - Imputed value of household human labour per hectare (Rs.)

Period	Holding size class			
	Small	Medium	Large	All
1983-84	436 (4.49)	231 (2.55)	81 (1.03)	245 (2.71)
1984-85	527 (4.36)	239 (2.37)	60 (0.85)	301 (2.91)

The imputed value of household labour is Rs.245/- in 1983-84 and Rs.301/- in 1984-85. It is about 3% of the total cost 'C'.

Table 2.3.16 - Estimated cost per hectare for the summer paddy under various cost concepts

Concept of cost	Period	Holding size class			
		Small	Medium	Large	All
1	2	3	4	5	6
Cost 'A'	1983-84	5084	5017	5843	5272
	1984-85	5870	5247	5081	5422
Cost 'B'	1983-84	9257	8831	7748	8791
	1984-85	11555	9852	6975	10056
Cost 'C'	1983-84	9693	9062	7829	9036
	1984-85	12082	10091	7035	10357

2.3.16 Output

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

Table 2.3.17 - Value of product and by-product per hectare (Rs.)

Period	Product/ by-product	Holding size class			
		Small	Medium	Large	All
1	2	3	4	5	6
1983-84	Paddy	3439	4807	6742	4960
	Straw	1012	939	779	916
	Total	4451	5746	7521	5876
1984-85	Paddy	4782	5159	6216	5196
	Straw	1534	1286	1133	1339
	Total	6316	6445	7349	6535

It is seen that the total cost of output of summer paddy 1983-84 is Rs.5876/- and that of 1984-85 is Rs.6535/- per hectare. As in the case of autumn paddy, the quantity of straw is less in large size class than that of the small and medium size class. This may be due to the large scale cultivation of high yielding varieties by cultivators belonging to higher holding size class.

2.3.17 Cost of production of paddy per quintal

Cost of producing one quintal of paddy is got by dividing the cost of cultivation per hectare (after deducting the value of by-product per hectare from the cost of cultivation per hectare) by the ~~value of~~ yield per hectare.

Table 2.3.18 - Cost of production of summer paddy/quintal (in Rs.)

Period	Concept of cost	Holding size class			
		Small	Medium	Large	All
1	2	3	4	5	6
1983-84	A	240	157	241	198
	B	485	304	332	358
	C	511	312	336	369
1984-85	A	181	132	120	141
	B	418	286	177	301
	C	440	294	179	311

2.4 COCONUT

Coconut is one of the most important crops of this state. It is grown mainly in the coastal region and midland region of the State. About 60% of the coconut in India is from Kerala. The area under coconut and the average yield per hectare during the years 1983-84 and 1984-85 are given in the following table.

Table 2.4 - Area and average yield of coconut

Period	Total cropped area(hect)	Area under coconut (hect)	Percentage to total cropped area	Average yield per hectare (Nos.)
1	2	3	4	5
1983-84	2861702	682281	23.84	3814
1984-85	2874643	687483	23.92	5022

source : TRS estimates

From the above table, it is seen that the percentage of area under coconut cultivation to total cropped area is more or less the same during 1983-84 and 1984-85.

2.4.1 Selected holdings

505 holdings were selected for cost study in 1983-84. The details of the selected holdings of the crop coconut are given below.

Table 2.4.1 - Area under coconut in the sample

Period	Size class	Area under the crop in the sample(hect)	Percentage total area	No. of selected holdings	Area per holding (hect)
1	2	3	4	5	6
1983-84	Small	26.29	12.13	234	0.11
	Medium	90.65	41.82	203	0.45
	Large	99.81	46.05	68	1.47
	Total	216.75	100.00	505	0.43
1984-85	Small	26.77	11.80	208	0.13
	Medium	90.46	39.88	235	0.38
	Large	109.62	48.32	77	1.42
	Total	226.85	100.00	520	0.44

The average size of the coconut holdings selected for the study were 0.43 hect. and 0.44 hect. respectively during the years 1983-84 and 1984-85.

2.4.2 Number of bearing trees in the selected plots

The average number of bearing and non bearing trees per hect. in the selected plots were 134 and 68 respectively in 1983-84 as can be seen from the table below. 66% of the total coconut trees in the selected plots was found to be bearing and the remaining non-bearing.

Table 2.4.2 - Number of bearing and non-bearing trees per hectare

Type of trees	No. of trees	
	1983-84	1984-85
Bearing	134	142
Non-bearing	68	72
Total	202	214

2.4.3 Cost of cultivation

The cost of cultivation of coconut is estimated under the three different concepts of cost (viz. cost A, cost B and cost C) as in the case of paddy and is given in the table below.

Cost A

(i) Labour cost

Labour cost is the major component of cost 'A'. The labour cost estimated for the crop coconut is Rs.1370/- per hect. in 1983-84 and Rs.1479/- per hect. in 1984-85. It is seen that 47% to 51% of the total cost 'A' accounts for the labour cost.

The percentage of hired human labour hours engaged in coconut cultivation to the total labour hours is given below for males and females separately for each size group of holdings during the two rounds of the survey.

Table 2.4.3(a) - Percentage distribution of hired human labour hours

Period	Sex	Holding size class			Total
		Small	Medium	Large	
1	2	3	4	5	6
1983-84	Male	55.64	72.24	79.80	72.69
	Female	4.17	7.23	12.03	8.65
	Total	59.81	79.47	91.83	81.34
1984-85	Male	60.59	73.82	75.69	72.77
	Female	4.03	6.27	14.04	9.49
	Total	64.62	80.09	89.73	82.26

The cost of hired human labour is less in the case of small cultivators than that of medium and large cultivators. From the above table, it is seen that the hired labour hours engaged in coconut cultivation ranges from 81% to 82% of the total labour hours during the period under study.

(ii) Seed/seedlings

The cost towards seed/seedlings per hectare of coconut cultivation is seen to be Rs.3/- and Rs.11/- respectively during the two years. This is mainly for infilling or under planting.

(iii) Organic manure

The expenditure towards organic manure works out to Rs.742/- and Rs.675/- in 1983-84 and 1984-85 respectively.

(iv) Chemical fertilizers

The expenditure towards chemical fertilizers ranges from Rs.206/- to Rs.233/- during the period.

(v) Plant protection

The cost on plant protection of coconut is estimated at Rs.8 per hect.

(vi) Irrigation cess and land revenue

During the period under report, the cost towards land revenue and irrigation cess is only 0.45% and 0.24% of the Cost 'A'.

(vii) Repair & maintenance charges of implements & machinery

The expenditure on this item per hectare is Rs.159/- and Rs.117/- for the year 1983-84 and 1984-85.

(viii) Other expenses

Only 5% of the total cost 'A' comes under this item for the period under report. The estimated cost 'A' during 1983-84 was Rs.2897/- and that during 1984-85 was Rs.2921/- as given in table below.

Table 2.4.3 - Components of cost 'A' per hectare of coconut cultivation

Sl. No.	Item	cost per hectare (Rs.)			
		1983-84	%	1984-85	%
1	2	3	4	5	6
1.	Labour cost (including hired human labour, animal labour and machine labour)	1370	47.30	1479	50.63
2.	Seed/seedlings	3	0.10	11	0.37
3.	Farmyard manure	742	25.61	675	23.11
4.	Chemical fertilizers	206	7.11	233	7.98
5.	Plant protection	8	0.28	8	0.27
6.	Land revenue and irrigation cess	13	0.45	7	0.24
7.	Repair & maintenance charge of implements and machinery	159	5.49	117	4.01
8.	Interest on working capital	248	8.56	254	8.70
9.	Other expenses	148	5.10	137	4.69
10.	Total cost A	2897	100.00	2921	100.00

Table 2.4.4 - Estimated value of cost 'B' per hectare (in Rs.)

Sl.No.	Items	cost per hectare	
		1983-84	1984-85
1	2	3	4
1	Cost 'A'	2897	2921
2	Interest on fixed capital	23290	33766
3	Cost 'B'	26187	36687

2.4.5 Cost 'C'

The table below gives the cost 'C' per hectare of coconut cultivation.

Table 2.4.5 - Estimated value of cost 'C' per hectare

Sl. No.	Item	Cost per hectare (in Rs.)	
		1983-84	1984-85
1	2	3	4
1.	Cost 'B'	26187	36687
2.	Household labour	185	184
3.	Cost 'C'	26372	36871

The expenditure on household labour is imputed at Rs.185/- and Rs.184/- for the years 1983-84 and 1984-85 respectively.

2.4.6 Comparison of cost under various cost concepts

The estimated cost of cultivation of coconut under various cost concepts are given below.

Table 2.4.6 - Cost per hectare coconut cultivation (maintenances) under various cost concepts

Concept of cost	cost per hectare (Rs.)	
	1983-84	1984-85
Cost 'A'	2897	2921
Cost 'B'	26187	36687
Cost 'C'	26372	36871

It can be seen that the cost 'B' per hectare of coconut cultivation has increased considerably during 1984-85 compared to 1983-84, mainly due to the increase in land value of coconut growing areas.

2.4.7 - Value of output per hectare

Output	Value of output per hectare (Rs.)	
	1983-84	1984-85
Product	7254	8688
By product	349	487
Total	7603	9175

It is seen that the value of product and by-products has increased from Rs.7603 in 1983-84 to Rs.9175 in 1984-85.

2.5 ARECANUT

The area under arecanut and production in the state are given below.

Table 2.5 - Area and average yield of arecanut

Period	Total cropped area (in lakh hect)	Area under arecanut (in lakh hect)	Average yield per ('000nos)	Percentage of area under arecanut to total cropped area
1	2	3	4	5
1983-84	2.86	0.60	140	2.08
1984-85	2.87	0.57	163	1.98

Source : TRS estimate.

It can be seen that only 2% of the total cropped area is under arecanut.

2.5.1 Selected holdings

223 holdings were selected for studying cost of cultivation of arecanut crop in 1983-84. The details were given in the following table.

Table 2.5.1 - Total area selected under arecanut in each size class

Period	Holding size class	Area under crop in sample(hect)	Percentage to total area under the crop	No. of selected holdings	Area per holding (hect)
1	2	3	4	5	6
1983-84	Small	9.17	39.44	192	0.05
	Medium	10.32	44.39	29	0.36
	Large	3.76	16.17	2	1.88
	Total	23.25	100.00	223	0.10
1984-85	Small	10.54	37.32	210	0.05
	Medium	10.99	38.92	28	0.39
	Large	6.71	23.76	7	0.96
	Total	28.24	100.00	245	0.12

The holdings studied under report has an operational area of 23.25 hect. in 1983-84 and 28.24 hect. in 1984-85. The average size of holdings being 0.10 hect. and 0.12 hect. respectively.

2.5.2 Cost of cultivation

Cost of cultivation of arecanut under the three different concepts of cost are as follows.

Cost 'A'2.5.3 Labour cost

Hired human labour cost formed the major portion for the labour cost. It is seen that Rs.1643/- and Rs.1892/- accounted for the total cost of labour for the year 1983-84 and 1984-85. 56% to 57% of the total cost 'A' accounted for this cost. The percentage of hired human labour hours engaged in arecanut cultivation to the total labour hours is given below.

Table 2.5.2(a)1 - Percentage distribution of hired human labour hours

Period	Sex	holding size class			
		Small	Medium	Large	All
1	2	3	4	5	6
1983-84	Male	59.58	56.82	64.37	60.24
	Female	10.95	7.23	9.89	9.57
	Total	70.53	64.05	74.26	69.81
1984-85	Male	58.48	47.79	61.33	55.73
	Female	11.65	19.19	3.51	12.52
	Total	70.13	66.98	64.84	68.25

2.5.3 Seed/seedlings

Only Rs.2/- per hectare is spent for the cost of seed/seedling of arecanut during 1983-84. During 1984-85 the cost towards this item is not reported.

2.5.4 Farm yard manure

The cost towards farm yard manure is Rs.740/- and Rs.805/- during 1983-84 and 1984-85. 24% to 25% of the total cost 'A' comes under this item.

2.5.5 Chemical fertilizers

The cost towards chemical fertilizers per hect. is seen to be Rs.12/- and Rs.32/- during the period under report.

2.5.6 Plant protection

From the table it is seen that Rs.96/- is spent for plant protection during 1983-84 and Rs.11/- during 1984-85, 3% of the total cost comes under this item during 1983-84.

2.5.7 Other expenses

Other expenses for arecanut cultivation is seen to be Rs.4/- and Rs.34/- during 1983-84 and 1984-85.

2.5.8 Interest on working capital

Interest on working capital is Rs.250/- and Rs.277/- for the year 1983-84 and 1984-85.

2.5.9 Repair & maintenance charge of implements & machinery

The estimated expenditure on this item is Rs.146/- and Rs.323/- for the year 1983-84 and 1984-85.

2.5.10 Land revenue and irrigation cess

The expenditure on land revenue and irrigation cess is found to be Rs.10/- and Rs.13/- per hect. during the years reported.

2.5.11 Cost 'B'

Cost 'B' is got by adding the estimated value of interest on fixed capital to cost 'A'. The following table gives the value of cost 'B'.

Table 2.5.2(b) - Estimated value of cost 'B' per hectare (in Rs.)

Sl. No.	Items	cost per hectare	
		1983-84	1984-85
1.	Cost 'A'	2903	3387
2.	Interest on fixed capital	24096	25811
3.	Cost 'B'	26999	29198

It is seen that the interest on fixed capital per hectare for the years 1983-84 and 1984-85 is Rs.24096 and Rs.25811 respectively and cost 'B' is Rs.26999/- and Rs.29198/-.

2.5.12 Cost 'C'

Cost 'C' is estimated by adding the imputed value of household labour to cost 'B'. The imputed value of household labour per hectare is Rs.460/- and Rs.503/- for the years 1983-84 and 1984-85.

Table 2.5.2(c) - Estimated value of cost 'C' per hectare (in Rs.)

Sl.No.	Items	cost per hectare	
		1983-84	1984-85
1.	Cost 'B'	26999	29198
2.	Imputed value of household labour	460	503
3.	Cost 'C'	27459	29701

~~the imputed value of household human labour per hect. is Rs.460/- and Rs.503/- for 1983-84 and 1984-85 respectively.~~

2.5.13 Comparison of cost under different cost concepts

The estimated cost of arecanut cultivation under various cost concepts is given below.

Table 2.5.3 - Estimated cost per hectare for arecanut under various cost concepts

Concept of cost	cost per hectare (Rs.)	
	1983-84	1984-85
Cost 'A'	2903	3387
Cost 'B'	26999	29198
Cost 'C'	27459	29701

The cost of cultivation under different cost concepts shows an increasing trend during the period.

2.5.14 Value of product

The value of product of arecanut per hectare is seen to be Rs.7079/- and Rs.10410/- respectively for the period under report.

2.6 TAPIOCA

Kerala is the only state where tapioca is extensively cultivated. Tapioca planting in Kerala is done almost throughout the year. The crop is usually harvested after 8 to 10 months from planting. The total area under tapioca cultivation and the average yield per hectare for the years 1983-84 and 1984-85 are given below.

Table 2.6 - Area and average yield of tapioca

Period	Total cropped area (in lakh hect)	Area under tapioca (lakh hect)	Average yield per hect. (tonne)	Percentage of area under tapioca to total cropped area
1	2	3	4	5
1983-84	2.86	2.33	16.75	8.14
1984-85	2.87	2.17	17.05	7.54

Source : TRS estimate.

From the above table it is seen that 8% of the total cropped area is under tapioca cultivation.

2.6.1 Selected holdings

410 holdings were selected for estimation of the cost of cultivation of tapioca during 1983-84 and 474 holdings in 1984-85.

Table 2.6.1 - Area and number of holdings selected

Period	holding size class	Area under the crop in the sample	Percentage to total sample area	No. of selected holdings	Area per holding
1	2	3	4	5	6
1983-84	Small	27.61	43.08	331	0.08
	Medium	24.12	37.63	69	0.35
	Large	12.36	19.29	10	1.24
	Total	64.09	100.00	410	0.16
1984-85	Small	27.68	44.89	338	0.07
	Medium	26.31	42.67	81	0.32
	Large	7.67	12.44	5	1.53
	Total	61.66	100.00	474	0.13

A total operational area of 64.09 hect. and 61.66 hect. were studied during the year 1983-84 and 1984-85 respectively. The average size of tapioca holdings studied in each round was 0.16 and 0.13 hectare respectively.

2.6.2 Cost of cultivation of tapioca

The cost of cultivation of tapioca is estimated under three different concepts of cost (viz. cost 'A', cost 'B' and cost 'C') as stated in the method of estimation.

Cost 'A'

The components of cost 'A' ~~mentioned in the above table~~ are discussed below.

2.6.3 Labour cost

Labour cost is the major component of cost 'A'. It may be noted that 42% of the total cost 'A' comes under this item. Compared to other crops it is seen that the proportion of labour cost to total cost 'A' is highest in the case of tapioca cultivation. Hired human labour cost formed the major portion of the labour cost.

Table 2.6.2 - Percentage distribution of hired human labour to total human labour

Period	Sex	holding size class			
		Small	Medium	Large	All
1	2	3	4	5	6
1983-84	Male	44.28	63.04	60.59	53.16
	Female	11.07	10.38	33.56	14.43
	Total	55.35	73.42	94.15	67.59
1984-85	Male	43.79	58.63	75.46	52.71
	Female	8.78	14.08	14.70	11.36
	Total	52.57	72.71	90.16	64.07

As in the case of paddy cultivation the above table reveals that the proportion of hired human labour to total human labour input steadily increases with the increase in the size of holdings. Cultivators having 0.80 hectares and above are seen to depend for 90 to 94% of the requirements on hired labour.

2.6.4 Seed/seedlings

The cuttings used for the cultivation are both home-grown and purchased. The average cost of cuttings per hect. of tapioca is Rs.152/- and 224/- in 1983-84 and 1984-85 respectively. The cost of cuttings estimated from the survey is 4 to 6% of the cost 'A'.

2.6.5 Farm yard manure

During the period under report, 16 to 17% of cost 'A' comes under this item.

2.6.6 Chemical fertilizers

The expenditure per hectare under this item is estimated at Rs.215/- in 1983-84 and 1984-85.

2.6.7 Plant protection

There ^{is} practically no expenditure under this ~~item~~ ^{item}.

2.6.8 Irrigation cess and land revenue

Only Rs.12 to 25 per hectare is reported under this item for the period under study.

2.6.9 Repair & maintenance charges of implements, machinery etc.

In 1983-84 - 20% and 1984-85 - 14.5% of total cost 'A' comes under this item. In 1983-84 it accounts to Rs.689/- and 1984-85 Rs.492/- per hectare.

2.6.10 Other expenses

1 to 3% of cost 'A' is accounted under this item as shown in table ~~2.6.3~~ ^{2.6.3}.

Table 2.6.3 - Components of cost 'A' per hectare of tapioca for the years 1983-84 and 1984-85

Sl.No.	Items	cost per hectare (Rs.)	
		1983-84	1984-85
1	2	3	4
1.	Labour cost (excluding household labour)	1449 (4.2%)	1430 (4.23%)
2.	Seed/seedlings	153 (4.42%)	224 (6.62%)
3.	Farm yard manure	578 (16.71%)	581 (17.16%)
4.	Chemical fertilizers	215 (6.21%)	215 (6.35%)
5.	Plant protection	1 (N)	2 (N)
6.	Irrigation cess and land revenue	25 (0.72%)	12 (0.35%)
7.	Repairs & maintenance charges of implements and machinery	689 (20%)	492 (14.53%)
8.	Interest on working capital	250 (7.23%)	262 (7.74%)
9.	Other expenses	49 (1.42%)	90 (2.66%)
10.	Animal labour	24 (0.69%)	29 (0.86%)
11.	Machine labour	27 (0.78%)	49 (1.45%)
Total cost A		3460 (100.00)	3386 (100.00)

Figures in brackets give the percentage to total cost A

N - Negligible.

2.6.11 Cost 'B'

Cost 'B' is estimated by adding the estimated value of interest on fixed capital to cost 'A'. The details are given in the following table.

Table 2.6.3(a) - Estimated value of cost 'B' per hectare (in Rs.)

Sl.No.	Items	cost per hectare	
		1983-84	1984-85
1	2	3	4
1	Cost 'A'	3460	3386
2	Interest on fixed capital	23307	24567
3	Cost 'B' (1+2)	26767	27953

It is seen that the estimated value of cost 'B' for the years 1983-84 and 1984-85 is Rs.26767 and 27953 respectively in 1982-83 it was Rs.13537. This increase from 1982-83 to 1983-84 was due to the sharp increase of land value in Kerala during that period.

Cost 'C'

Cost 'C' is estimated by adding the imputed value of household labour to cost 'B'. The table below shows the cost of household labour for different years estimated at the rate of hired human labour.

Table 2.6.4 - Estimated value of cost 'C' per hectare

Sl.No.	Items	cost 'C' per hectare	
		1983-84	1984-85
1.	Cost 'B'	26767	27953
2.	Household labour	657	793
3.	Cost 'C' (1 + 2)	27424	28746

The above table shows that imputed expenditure on household labour works out to Rs.657 during the year 1983-84 and Rs.793 in 1984-85.

Table 2.6.5 - Estimated cost of tapioca cultivation under various cost concepts

Concept of cost	cost per hectare	
	1983-84	1984-85
Cost 'A'	3460	3386
Cost 'B'	26767	27953
Cost 'C'	27424	28746

The cost of cultivation under different cost concepts shows an increasing trend except cost 'A' during the period under report.

2.7 PEPPER

More than 90% of country's pepper production is from Kerala.

The total area under pepper and the average yield per hectare during the years 1983-84 and 1984-85 are given in the following table.

Table 2.7 Area and average yield of pepper

Period	Total cropped area (in lakh ha)	Area under pepper (in hect.)	Average yield of pepper (in Kg.) per hect.	Percentage of area under pepper to the total cropped area
1	2	3	4	5
1983-84	2.86	1.06	231	3.71
1984-85	2.87	1.06	164	3.68

Nearly 4% of the gross area under crops in the state is under pepper cultivation. It is seen from the above table that productivity per hect. of pepper showed a decreasing trend during 1984-85.

2.7.1 Selected holdings

About 200 pepper holdings were studied for estimating cost of cultivation. The details of the holdings in each size class is given in the following table.

Table 2.7.1 - Area under pepper in the sample

Period	Holding size class	Total area under the crop (hect)	Percentage to total area of selected holdings	No. of selected holdings	Area per holdings
1	2	3	4	5	6
1983-84	Small	8.11	29	160	0.05
	Medium	9.00	32	19	0.47
	Large	10.82	39	6	1.80
	Total	27.93	100	185	0.15
1984-85	Small	9.61	55	177	0.05
	Medium	7.72	45	21	0.37
	Large	--	--	--	--
	Total	17.33	100	198	0.09

The number of holdings studied for the periods under report has a total operational areas of 27.93 hectares in 1983-84 and 17.33 hectares in 1984-85.

2.7.2 Cost of cultivation of pepper

The cost of cultivation of pepper is estimated under three different concepts of cost i.e. cost 'A', cost 'B' and cost 'C'.

Cost 'A'

2.7.3 Labour cost

Major component of cost 'A' is labour cost. The cost estimated under this item is Rs.719/- in 1983-84 and Rs.1017/- in the year 1984-85. About half of the total cost 'A' comes under this item. Hired human labour cost formed the major portion of the labour cost. The percentage of hired human labour hours engaged in pepper cultivation to the total labour hours is given below for males and females separately for each size group of holdings.

Table 2.7.2 - Percentage distribution of hired human labour to total human labour

Period	Sex	holding size class			
		Small	Medium	Large	All
1	2	3	4	5	6
1983-84	Male	59.30	74.14	72.63	65.55
	Female	5.92	8.24	--	6.22
	Total	65.22	82.38	72.63	71.77
1984-85	Male	62.64	71.08	--	64.75
	Female	1.06	7.15	--	2.59
	Total	63.70	78.23	--	67.34

It can be seen from the table that the hired human labour accounted for ~~65%~~ ^{67%} of the total human labour in pepper cultivation. Unlike in paddy, female hired human labour is very small in pepper cultivation.

2.7.4 Seed/seedlings (cuttings)

Since the survey was conducted in pepper bearing plots, the cuttings are seen rarely used there. For new plantations, only 0.5% to 0.6% of the total cost 'A' comes under this item.

2.7.5 Farm yard manure

It is seen that pepper cultivators prefer farm yard manure to chemical fertilizers for the cultivation. 17 to 22% of cost 'A' is accounted by farm yard manure. Expenditure per hectare on this item is estimated at Rs.231/- in 1983-84 and Rs.491/- in 1984-85.

2.7.6 Chemical fertilizers

Chemical fertilizers are seen rarely used for pepper cultivation. The expenditure per hectare on this item is estimated at Rs.34/- in 1983-84 and Rs.148/- in 1984-85. Its share in cost 'A' comes to 2 - 7 percent.

2.7.7 Plant protection

Only less than 1% of the cost 'A' comes under this item. The expenditure on this item is estimated at Rs.9/- in 1983-84 and Rs.17/- in 1984-85.

2.7.8 Land revenue and irrigation cess

Only a very small percentage of the total cost 'A' comes in this item. Expenditure per hectare on this item is Rs.4 in 1983-84 and Rs.5 in 1984-85.

2.7.9 Repair and maintenance charges of implements

The survey reveals that 13 to 18% of the total cost 'A' comes under this item. The estimated expenditure per hectare under the item for pepper cultivation is Rs.249/- during the year 1983-84 and Rs.294/- in 1984-85.

2.7.10 Interest on working capital

Interest on working capital is estimated at the rate of 10% per annum. The interest on working capital per hectare is estimated at Rs.103/- for the year 1983-84 and Rs.180/- for the year 1984-85.

2.7.11 Other expenses

The other expenses accounts 1% of the total cost 'A'. The expenditure in this item per hectare of pepper cultivation is Rs.12/- in 1983-84 and Rs.29/- in 1984-85.

The estimated cost 'A' of different items of expenditure per hectare and the percentage of distribution of these items to the total cost 'A' are given in the following table.

Table 2.7.3 - Components of cost 'A' per hectare of pepper

Sl.No.	Items	cost per hectare (Rs.)	
		1983-84	1984-85
1	2	3	4
1.	Labour cost	719 (52.48)	1017 (44.68)
2.	Seed/seedlings	9 (0.66)	13 (0.57)
3.	Organic manure	231 (16.86)	491 (21.57)
4.	Chemical fertilizers	34 (2.48)	148 (6.50)
5.	Plant protection	9 (0.66)	17 (0.75)
6.	Irrigation cess & land revenue	4 (0.29)	5 (0.22)
7.	Repair and maintenance charges of implements and machinery	249 (18.18)	294 (12.92)
8.	Interest on working capital	103 (7.52)	180 (7.91)
9.	Machine labour	--	82 (3.60)
10.	Other expenses	12 (0.88)	29 (1.27)
Total (Cost 'A')		1370 (100.00)	2276 (100.00)

(figures in brackets give the percentage to total cost 'A')

2.7.12 Cost 'B'

Cost 'B' estimated by adding the imputed value of interest on fixed capital to cost 'A'. The following table gives the interest estimated on fixed capital per hectare of pepper cultivation.

Table 2.7.4 - Estimated value of cost 'B' per hectare (Rs.)

Items	1983-84	1984-85
1	2	3
Cost 'A'	1370	2276
Interest on fixed capital	20281	31169
Cost 'B'	21651	33445

The estimated interest on fixed capital is Rs.20281 in the year 1983-84 and Rs.31169 in 1984-85. Like other crops, estimate cost 'B' increased steadily during the survey period mainly on account of high land value.

2.7.13 Cost 'C'

Cost 'C' is estimated by adding the imputed value of household labour to cost 'B'. The table below gives the imputed value of household labour for different years estimated at the rate of hired human labour cost.

Table 2.7.5 - Estimated value of cost 'C' per hectare (in Rs.)

Items	household	labour	per	hect.
	1983-84	1984-85		
1	2	3		
Cost 'B'	21651	33445		
Household labour	278	396		
Cost 'C'	21929	33841		

It is seen from the above table that the estimated cost on household labour is Rs.278 in the year 1983-84 and Rs.396 in 1984-85.

Table 2.7.6 - Estimated cost of pepper cultivation per hectare (Rs.)

Concept of cost	1983-84	1984-85
Cost 'A'	1370	2276
Cost 'B'	21651	33445
Cost 'C'	21929	33841

Cost of cultivation under different cost concepts shows an increasing trend.

2.8 GINGER

Sowing season of Ginger in Kerala begins by the end of May, before the commencement of Monsoon rains. The crop takes nine to ten months to attain maturity. The area and the average yield of ginger for the year 1983-84 and 1984-85 are given below.

Table 2.8 - Area and production of Ginger

Period	Total cropped area (in hect)	Area under ginger	Average yield of dry ginger(inKg) per hect.	% to total cropped area
1	2	3	4	5
1983-84	2861702	14883	2466	0.52
1984-85	2874643	14537	2837	0.51

Source : TRS estimate

2.8.1 Selected holdings

The number of holdings selected for the study on ginger crop for the year 1983-84 and 1984-85 are 118 and 148 respectively. The area studied under the crop was 9.34 hect. and 15.47 hect. for the years 1983-84 and 1984-85.

Table 2.8.1 - Total area under ginger (in hect)

Period	Holding size class	Area under the crop in sample	% to total area of selected holdings	No. of selected holdings	Area per holding
1	2	3	4	5	6
1983-84	Small	6.55	70.13	111	0.06
	Medium	2.79	29.87	7	0.40
	Large	--	--	--	--
	Total	9.34	100.00	118	0.08
1984-85	Small	9.01	58.24	131	0.07
	Medium	5.37	34.71	16	0.34
	Large	1.09	7.05	1	1.09
	Total	15.47	100.00	148	0.10

2.8.2 Cost of cultivation of ginger

The estimated value under different components of cost 'A' per hect. is given in the paragraphs.

2.8.3 Labour cost

The cost per hectare of ginger towards hired labour, works out to Rs.5085 and Rs.5488 during the years 1983-84 and 1984-85. Around 28% of the total cost 'A' accounts for labour cost.

The percentage of hired human labour hours engaged in ginger cultivation to the total labour hours is given below for the periods under report.

Table 2.8.2- Percentage distribution of hired human labour hours

Period	Sex	holding size class			
		Small	Medium	Large	All
1	2	3	4	5	6
1983-84	Male	43.09	42.27	--	42.85
	Female	24.22	48.59	--	31.24
	Total	67.31	90.86	--	74.09
1984-85	Male	46.43	47.13	29.26	46.11
	Female	29.46	44.66	40.67	35.43
	Total	75.89	91.79	69.93	81.54

74% of the total labour hours engaged in ginger cultivation, comes under hired human labour ~~for the period 1984-85.~~ *during 1983-84 and 82% for the period 84-85*

2.8.4 Seed

The cost towards seed used by the cultivators is seen to be Rs.5963 and Rs.6572 respectively during the two years. It is seen that about one-third of the cost 'A' accounts for the cost.

2.8.5 Farm yard manure

The expenditure towards farm yard manure is seen to be Rs.3518 and Rs.4168 respectively during the periods under study. About one-fifth of the cost 'A' accounts for farm yard manure.

2.8.6 Chemical fertilizers

For 1983-84 the cost under this item is Rs.1257 and for 1984-85 the cost is Rs.1375. About 7% of the cost 'A' accounts for the cost.

2.8.7 Plant protection

The expenditure on pesticides and insecticides is Rs.124 and Rs.111 respectively for the years 1983-84 and 1984-85.

2.8.8 Land revenue and irrigation cess

The expenditure incurred is only a small percentage of the total cost 'A'.

2.8.9 Repair and maintenance charges of implements and machinery

The expenditure incurred towards the charge of repair and maintenance of implements and machinery is Rs.79 and Rs.56 in 1983-84 and 1984-85.

2.8.10 Interest on working capital

The estimated expenditure on interest on working capital is Rs.1602 and Rs.1780 for the year 1983-84 and 1984-85. 9% of the total cost 'A' accounts for interest on working capital.

2.8.11 Other expenses

Other expenses is found to be Rs.72 and Rs.81 for the year 1983-84 and 1984-85.

Table 2.8.3 - Components of cost of cultivation cost 'A' per hectare of ginger

Sl.No.	Items	cost per hect.(Rs.)	
		1983-84	1984-85
1	2	3	4
1.	Labour cost	5085 (28.71)	5488 (27.94)
2.	Seed/seedlings	5963 (33.67)	6572 (33.45)
3.	Farm yard manure	3518 (19.86)	4168 (21.27)
4.	Chemical fertilizers	1257 (7.09)	1375 (6.99)
5.	Plant protection	124 (0.70)	111 (0.57)
6.	Land revenue & irrigation cess	11 (0.06)	14 (0.07)
7.	Repair & maintenance charge of implements & machinery	79 (0.45)	56 (0.29)
8.	Interest on working capital	1602 (9.05)	1780 (9.06)
9.	Other expenses	72 (0.41)	81 (0.41)
	Total cost 'A'	17711	19645

(Figures in brackets give the percentage to the total cost 'A')

2.8.12 Cost 'B'

The estimated value of cost 'B' is given in the following table.

Table 2.8.4 - Estimated value of cost 'B' per hectare (in Rs.)

Sl.No.	Items	cost per hectare	
		1983-84	1984-85
1.	Cost 'A'	17711	19645
2.	Interest on fixed capital	17129	23168
3.	Cost 'B' (1 + 2)	34840	42813

The cost of cultivation of ginger has increased remarkably during the period under report.

2.8.13 Cost 'C'

Cost 'C' is estimated by adding the imputed value of household labour to cost 'B'. Household labour is estimated at the rate of hired human labour.

Table 2.8.5 - Estimated value of cost 'C' per hect.(in Rs.)

Sl.No.	Items	cost per hectare	
		1983-84	1984-85
1.	Cost 'B'	34840	42813
2;	Imputed value of household labour	1681	1254
3.	Cost 'C' (1 + 2)	36521	44067

The imputed value of household labour is seen to be Rs.1681 and Rs.1254 respectively for the years 1983-84 and 1984-85.

Estimated cost of ginger cultivation under various cost concepts is given in the following table.

Table 2.8.6 - Estimated cost of ginger cultivation per hect. (in Rs.)

Concept of cost	cost per hectare	
	1983-84	1984-85
Cost 'A'	17711	19645
Cost 'B'	34840	42813
Cost 'C'	36521	44067

2.8.14 Value of product

The value of product per hectare is found to be Rs.33608 for the year 1983-84 and Rs.25568 for the year 1984-85.

2.9 BANANA

The area and average yield of banana during the period under study is given in the following table.

Table 2.9 - Area and average yield of Banana

Period	Total cropped area in hect.	Area under the crop	Average yield per hect.	Percentage of area under crop to total cropped area
1	2	3	4	5
1983-84	2861702	15185	11910	0.53
1984-85	2874643	16123	NA	0.56

Source: TRS estimate

Nearly 1% of the total area in the state is under banana cultivation.

2.9.1 Selected holdings

A sample of 167 holdings were selected for the survey on cost of cultivation of banana during 1983-84 and 201 holdings during 1984-85. The following table gives the details of these holdings.

Table 2.9.1 - Area and number of holdings selected

Period	Holding size class	Total area under the crop (hect)	Percentage to total area of selected holdings	No. of selected holdings	Area per holdings
1	2	3	4	5	6
1983-84	Small	8.59	71.41	156	0.06
	Medium	3.44	28.59	11	0.31
	Large	--	--	--	--
	Total	12.03	100.00	167	0.07
1984-85	Small	9.62	68.57	184	0.05
	Medium	4.41	31.43	17	0.26
	Large	--	--	--	--
	Total	14.03	100.00	201	0.07

The operational areas studied under the crop are 12.03 hect. and 14.03 hect. for the years 1983-84 and 1984-85 respectively. The average size of holdings in each round is seen to be 0.07 hect. for the period under report.

2.9.2 Cost of cultivation of banana

The cost of cultivation of banana is estimated under three different concepts of cost, cost 'A', cost 'B' and cost 'C' are detailed below.

Cost 'A'2.9.3 Labour cost

This constitutes a major component of cost 'A'. The cost estimated under this head is Rs.4092 and Rs.4030 for the year 1983-84 and 1984-85. About 30% of the cost 'A' accounts for this. Hired human labour cost formed the major portion of the labour cost. The percentage of hired human labour hours engaged in banana cultivation to the total labour hours is given below, separately for males and females.

Table 2.9.2 - Percentage distribution of hired human labour to total human labour

Period	Sex	holding size class			All
		Small	Medium	Large	
1	2	3	4	5	6
1983-84	Male	59.31	78.99	--	62.38
	Female	5.53	3.46	--	5.19
	Total	64.84	82.45	--	67.57
1984-85	Male	46.71	65.48	--	51.93
	Female	8.27	8.49	--	8.33
	Total	54.98	73.97	--	60.26

The proportion of hired human labour hours to total human labour hours increases as holding size class increases.

2.9.4 Seed/seedlings

The expenditure per hectare incurred towards this item is Rs.1529 and Rs.1893 during the years 1983-84 and 1984-85 respectively.

2.9.5 Farm yard manure

The cost per hectare towards farm yard manure works out to Rs.3395 in 1983-84 and Rs.3192 for the year 1984-85. It is about one-fourth of the cost 'A' during the years under study.

2.9.6 Chemical fertilizers

The cost per hectare on chemical fertilizers is seen to be Rs.2935 and Rs.2499 in 1983-84 and 1984-85. This works out to about one-fifth of the cost 'A'.

2.9.7 Plant protection

The cost of plant protection is negligible.

2.9.8 Land revenue and irrigation cess

Only Rs.50 and Rs.59 accounts for this item i.e., only a small percentage of the total cost 'A' comes under this item.

2.9.9 Repair & maintenance charges of implements and machinery

Rs.98 is spent for the cost on repair and maintenance charges of implements and machinery during 1983-84 and Rs.84 during 1984-85. This is also negligible when total cost is considered.

2.9.10 Interest on working capital

The interest on working capital is estimated to be Rs.1320 and Rs.849 respectively for the years 1983-84 and 1984-85. About 9% of the total cost 'A' comes under this item during 1983-84 and 6% in 1984-85.

2.9.11 Other expenses

Other expenses incurred for the cultivation of banana during 1983-84 and 1984-85 is seen to be Rs.1173 and Rs.789 respectively. 8% of the total cost 'A' accounts for this during 1983-84 and 6% during 1984-85.

The estimated cost of different items per hect. and their percentage distribution to the total cost 'A' is given in the following table.

Table 2.9.3 - Components of cost 'A' per hect. of banana cultivation for the years 1983-84 and 1984-85

Sl.No.	Items	cost per hectare	
		1983-84	1984-85
1	2	3	4
1.	Labour cost (excluding household labour)	4092 (27.88)	4030 (29.85)
2.	Seed/seedlings	1529 (10.42)	1893 (14.02)
3.	Farm yard manure	3395 (23.14)	3192 (23.64)
4.	Chemical fertilizers	2935 (20.00)	2499 (18.51)
5.	Plant protection	74 (0.51)	117 (0.87)
6.	Irrigation cess and land revenue	59 (0.40)	50 (0.37)
7.	Repair & maintenance charges of implements & machinery	98 (0.67)	84 (0.62)
8.	Interest on working capital	1320 (8.99)	849 (6.28)
9.	Other expenses	1173 (7.99)	789 (5.84)
10.	Total cost 'A'	14675	13503

(figures in brackets give the percentage to the total cost 'A')

2.9.12 Cost 'B'

Cost 'B' is estimated by adding the imputed value of interest on fixed capital to cost 'A'

Table 2.9.4 - Estimated value of cost 'B' per hectare (Rs.)

Sl.No.	Items	cost per hectare	
		1983-84	1984-85
1.	Cost 'A'	14675	13503
2.	Interest on fixed capital	37332	32046
3.	Cost 'B' (1 + 2)	52007	45549

2.9.13 Cost 'C'

Cost 'C' is estimated by adding the imputed value of household human labour to cost 'B'. The cost towards household labour is estimated at the rate of hired human labour.

Table 2.9.5 - Estimated value of cost 'C' per hectare (in Rs.)

Sl.No.	Items	cost per hectare	
		1983-84	1984-85
1.	Cost 'B'	52007	45549
2.	Household labour	1705	2149
3.	Cost 'C'	53712	47698

It may be seen that the estimated expenditure on household labour works out to Rs.1705 and Rs.2149 for the years 1983-84 and 1984-85 respectively.

2.9.14 Estimated cost of banana cultivation under various cost concepts

The estimated cost of banana cultivation under various cost concepts are given below.

Table 2.9.6 - Estimated cost of banana cultivation under various cost concepts

Concept of cost	cost per hectare	
	1983-84	1984-85
Cost 'A'	14675	13503
Cost 'B'	52007	45549
Cost 'C'	53712	47698

The cost of cultivation under different cost concepts shows a decreasing trend during the period under report.

2.9.15 Value of product

The value of product per hectare is found to be Rs.24991 in 1983-84 and Rs.24031 in 1984-85.

2.10 COCOA

Cocoa is grown intermixed with coconut trees and other crops. Recent fall in prices of this crop had caused a severe set back in cocoa cultivation.

The area and average yield of cocoa during the year 1983-84 and 1984-85 are given in the following table.

Table 2.10 - Area and average yield of cocoa

Period	Total cropped area in lakh hect.	Area under the crop (in lakh hect.)	Average yield per hect(Kg.)	Percentage of area under the crop to total cropped area
1	2	3	4	5
1983-84	2.86	0.18	218	0.63
1984-85	2.87	0.18	254	0.62

Source : TRS estimate

Only less than one percent of the gross cropped area is under cocoa.

2.10.1 Selected holdings

A sample of 152 holdings were studied for the cost of cultivation of cocoa during 1983-84 and 143 holdings during 1984-85.

The following table gives the details of these holdings.

Table 2.10.1 - Area and number of holdings

Period	Holding size class	Total area under the crop(hect.)	Percentage to total area of selected holdings	No. of selected holdings	Area per holding
1	2	3	4	5	6
1983-84	Small	8.67	38.74	124	0.06
	Medium	10.49	46.87	26	0.40
	Large	3.22	14.39	2	1.61
	Total	22.38	100.00	152	0.15
1984-85	Small	7.04	48.69	125	0.06
	Medium	5.62	38.87	17	0.33
	Large	1.80	12.44	1	1.80
	Total	14.46	100.00	143	0.10

The operational areas studied under the crop are 22.38 hect. and 14.46 hect. respectively for the years 1983-84 and 1984-85. The average size of holdings being 0.15 hect. and 0.10 hect. for the period under report.

2.10.2 Cost of cultivation of cocoa

2.10.2 Cost of cultivation of cocoa

The cost of cultivation of cocoa is estimated under three different concepts of cost, cost 'A', cost 'B', and cost 'C' as detailed below.

Cost 'A'

2.10.3 Labour cost

Labour cost constitutes a major portion of the cost 'A'. The cost estimated under this item is Rs.482 and Rs.590 for the year 1983-84 and 1984-85 respectively. Around one-third of the cost 'A' accounts for the item. The percentage of hired human labour engaged in cocoa cultivation to the total labour hours is given below for males and females separately for each size group of holdings.

Table 2.10.2 - Percentage distribution of hired human labour hours to total human labour

Period	Sex	holding size class			
		Small	Medium	Large	All
1	2	3	4	5	6
1983-84	Male	27.25	45.59	67.91	41.72
	Female	14.92	16.07	32.09	18.96
	Total	42.17	61.66	100.00	60.68
1984-85	Male	30.15	61.55	43.50	44.02
	Female	4.49	2.87	56.50	14.83
	Total	34.64	64.42	100.00	58.85

It can be seen from the above table that the hired human labour accounted for about 60% of the total human labour during the period under report.

2.10.4 Seed/seedlings

Nothing is seen spent towards the cost of Seed/seedlings during the period under report.

2.10.5 Farm yard manure

The expenditure per hectare on farm yard manure is Rs.389 and Rs.337 respectively for the period under report. Almost one-fourth of the cost 'A' comes under this item during the years.

2.10.6 Chemical fertilizers

The expenditure per hectare on this item is seen to be Rs.239 and Rs.296 respectively for the period under study which is about one-sixth of the cost 'A'.

2.10.7 Plant protection

Only 1% to 2% of the total cost 'A' accounts for this item during the period.

2.10.8 Irrigation cess and land revenue

Rs.32 is spent for the expenditure per hectare on this item during 1983-84 and Rs.4 is spent during 1984-85.

2.10.9 Repair & maintenance charges of implements & machinery

The expenditure per hect. on this item is seen to be Rs.78 for 1983-84 and 118 for 1984-85. About 5% to 7% of the total cost 'A' accounts for this during the period.

2.10.10 Interest on working capital

The interest on working capital per hectare is estimated to be Rs.125 and Rs.132 for the years 1983-84 and 1984-85 respectively. 8% of the total cost 'A' accounts for this during the period.

2.10.11 Other expenses

5% to 8% of the cost 'A' accounts for this item during 1983-84 and 1984-85 respectively.

Table 2.10.3 - Components of cost 'A' per hectare of cocoa cultivation for the year 1983-84 and 1984-85

Sl.No.	Items	cost per hectare	
		1983-84	1984-85
1	2	3	4
1.	Labour cost (excluding household labour)	482 (32.37)	590 (37.46)
2.	Seed/seedlings	--	--
3.	Farm yard manure	389 (26.12)	337 (21.40)
4.	Chemical fertilizers	239 (16.05)	296 (18.79)
5.	Plant protection	25 (1.68)	19 (1.21)
6.	Irrigation cess & land revenue	32 (2.15)	4 (0.25)
7.	Repair & maintenance charges of implements and machinery	78 (5.24)	118 (7.49)
8.	Interest on working capital	125 (8.40)	132 (8.38)
9.	Other expenses	119 (7.99)	79 (5.02)
10.	Total cost 'A'	1489 (100.00)	1575 (100.00)

(figures in brackets give the percentage to total cost 'A')

2.10.12 Cost B

Cost 'B' is estimated by adding the imputed value of interest on fixed capital to cost 'A'. The following table gives the interest on fixed capital per hectare of cocoa cultivation.

Table 2.10.4 - Estimated value of cost 'B' per hectare

Items	Interest on fixed capital	
	1983-84	1984-85
Cost 'A'	14 89	1575
Interest on fixed capital	30052	46207
Cost 'B'	31541	47782

2.10.13 Cost 'C'

Cost 'C' is estimated by adding the imputed value of household human labour to cost 'B'.

Table 2.10.5 - Estimated value of cost 'C' per hectare (in Rs.)

Sl.No.	Items	cost per hectare	
		1983-84	1984-85
1	2	3	4
1.	Cost 'B'	31541	47782
2.	Household labour	316	372
3.	Cost 'C'	31857	48154

The imputed value of household labour is Rs.316 for the year 1983-84 and Rs.372 for the year 1984-85.

2.10.14 Estimated cost of cocoa cultivation under various cost concepts

The estimated cost of cocoa cultivation under various cost concepts is given in the following table.

Table 2.10.6 - Estimated cost of cocoa cultivation per hect (in Rs.)

Concept of cost	cost per hectare	
	1983-84	1984-85
Cost 'A'	14 89	1575
Cost 'B'	31541	47782
Cost 'C'	31857	48154

Chapter 3

SUMMARY OF FINDINGS

- 3.1 **Autumn paddy**
- 3.1.1 The cost of cultivation of autumn paddy per hectare ie. cost 'A' is estimated to be Rs.4295 and Rs.4377 during the years 1983-84 and 1984-85 respectively.
- 3.1.2 Taking into consideration the imputed value of household labour and interest on fixed capital the cost of cultivation of autumn paddy per hectare (ie. cost 'C') is estimated to be Rs.8562 and 10306 respectively.
- 3.1.3 Hired labour cost constitutes 64% of the total cost 'A'.
- 3.1.4 The cost of seed/seedlings constitutes 8% of the total cost 'A' during the period under report.
- 3.1.5 The percentage of cost towards farm yard manure and chemical fertilizers ranges from 16% to 18%.
- 3.1.6 The imputed value of household labour is 2% of the total cost 'C'.
- 3.2 **Winter paddy**
- 3.2.1 The cost of cultivation of winter paddy per hectare ie. cost 'A' is estimated to be Rs.4381 and Rs.4780 for the years 1983-84 and 1984-85 respectively.
- 3.2.2 Taking into consideration, the imputed value of household labour and interest on fixed capital, the cost of cultivation of winter paddy per hectare (cost 'C') is estimated to be Rs.8772 and Rs.10163.
- 3.2.3 Hired labour cost constitutes 58% to 62% of the total cost 'A'.
- 3.2.4 About 9% of the total cost 'A' comes under the cost of seed/seedlings.
- 3.2.5 The percentage of cost towards farm yard manure and chemical fertilizers is 20% of the total cost 'A'.
- 3.2.6 The imputed value of household labour is 2% of the total cost 'C'.
- 3.3 **Summer paddy**
- 3.3.1 The cost of cultivation of summer paddy per hectare (cost 'A') is estimated to be Rs.5272 and Rs.5422 respectively for the years 1983-84 and 1984-85.

3.3.2 The cost of cultivation of summer paddy per hectare (cost 'C') is estimated to be Rs.9036 and Rs.10357 respectively.

3.3.3 Hired labour cost constitutes 62% to 65% of the total cost 'A'.

3.3.4 The cost of seed/seedlings constitutes 8% of the total cost 'A'.

3.3.5 The percentage of cost towards farm yard manure and chemical fertilizers ranges from 17% to 18% of the cost 'A'.

3.3.6 The percentage of imputed value of household labour is 3% of the total cost 'C'.

3.4 Coconut

3.4.1 The cost of cultivation of coconut per hectare (ie.cost 'A') is estimated to be Rs.2897 and Rs.2921 respectively for the years 1983-84 & 1984-85.

3.4.2 Taking into consideration, the imputed value of household labour and interest on fixed capital, the cost of cultivation of coconut per hectare (ie. cost 'C') is estimated to be Rs.26372 and Rs.36871 respectively for the years 1983-84 and 1984-85.

3.4.3 Hired labour cost constitutes 47% to 51% of the total cost 'A'.

3.4.4 The percentage of cost towards farm yard manure and chemical fertilizers is about one-third of the cost 'A'.

3.4.5 The imputed value of household labour is negligible.

3.5 Arecanut

3.5.1 The cost of cultivation of arecanut per hectare (cost 'A') is estimated to be Rs.2903 and Rs.3387 respectively for the years 1983-84 and 1984-85.

3.5.2 The cost of cultivation of arecanut per hectare (cost 'C') including household labour & interest on fixed capital is estimated to be Rs.27459 and Rs.29701 respectively for the years 1983-84 and 1984-85.

3.5.3 Labour cost constitutes about 57% of the total cost 'A'.

3.5.4 The percentage of cost towards farm yard manure and chemical fertilizers is about 25% of the total cost 'A'.

3.5.5 The imputed value of household labour is about 2% of the total cost 'C'.

3.6 Tapioca

3.6.1 The cost of cultivation of tapioca per hectare (cost 'A') is estimated to be Rs.3460 for the year 1983-84 and Rs.3386 for the year 1984-85.

3.6.2 Taking into consideration the imputed value of household labour and interest on fixed capital, the cost of cultivation of tapioca per hectare (cost 'C') is estimated to be Rs.27424 for the year 1983-84 and Rs.28746 for the year 1984-85.

3.6.3 Hired labour cost constitutes 42% of the total cost 'A'.

3.6.4 The percentage of cost towards farm yard manure comes to 17% of the cost 'A'. Cost on chemical fertilizers comes to 6% of the total cost 'A' during the period under report.

3.7 Pepper

3.7.1 The cost of cultivation of pepper per hectare (cost 'A') is estimated to be Rs.1370 for 1983-84 and Rs.2276 for the year 1984-85.

3.7.2 Taking into account the imputed value of household labour and interest on fixed capital, the cost of cultivation of pepper per hectare (cost 'C') is estimated to be Rs.21929 for the year 1983-84 and Rs.33841 for the year 1984-85.

3.7.3 The labour cost constitutes about half of the cost 'A'.

3.7.4 The percentage of cost towards farm yard manure ranges from 17 to 22% of the total cost 'A'. The percentage of cost towards chemical fertilizers ranges from 3 to 6% of the total cost 'A'.

3.8 Ginger

3.8.1 The cost of cultivation of ginger per hectare (cost 'A') is estimated to be Rs.17711 and Rs.19645 respectively for the years 1983-84 and 1984-85.

3.8.2 Taking into consideration the imputed value of household labour and interest on fixed capital, the cost of cultivation of ginger per hectare (cost 'C') is estimated to be Rs.36521 and Rs.44067 respectively during the two years.

3.8.3 Labour cost constitutes 28% of the total cost 'A' during the period under report.

3.8.4 The cost of seed/seedlings constitutes 33% of the total cost 'A' during the period under report.

3.8.5 The percentage of cost towards farm yard manure and chemical fertilizers ranges from 27% to 28% of the total cost 'A'.

3.8.6 The imputed value of household labour is 5% of the total cost 'C' during 1983-84 and 3% during 1984-85.

3.9 Banana

- 3.9.1 The cost of cultivation of banana per hectare (cost 'A') is estimated to be Rs.14675 and Rs.13503 respectively for the years 1983-84 and 1984-85.
- 3.9.2 Taking into consideration, the imputed value of household labour and interest on fixed capital, the cost of cultivation of banana per hectare (cost 'C') is estimated to be Rs.53712 and Rs.47698 respectively.
- 3.9.3 Labour cost constitutes about 30% of the cost 'A'.
- 3.9.4 The cost of seed/seedlings constitute 10% to 14% of the cost 'A'.
- 3.9.5 The percentage of cost towards farm yard manure and chemical fertilizers is 43% of the total cost 'A' during 1983-84 and 42% during 1984-85.

3.10 Cocoa

- 3.10.1 The cost of cultivation of cocoa per hectare (cost 'A') is estimated to be Rs.1489 and Rs.1575 respectively for the years 1983-84 & 1984-85.
- 3.10.2 Taking into consideration, the imputed value of household labour and interest on fixed capital, the cost of cultivation of cocoa per hectare (cost 'C') is estimated to be Rs.31857 and Rs.48154 respectively.
- 3.10.3 Labour cost constitutes 32% to 37% of the cost 'A'.
- 3.10.4 The percentage of cost towards farm yard manure and chemical fertilizers is 42% of the total cost 'A' during 1983-84 and 40% during 1984-85.

Appendix 1 - Cost of cultivation per hectare of autumn paddy for the year
1983-84 & 1984-85

Sl. No.	Components of different cost concepts	Period	Small	Medium	Large	All
1	2	3	4	5	6	7
1.	Hired human labour	1983-84	2472	2014	2948	2299
		1984-85	2265	2022	2649	2221
2.	Animal labour	1983-84	535	363	29	325
		1984-85	439	355	92	323
3.	Machine labour	1983-84	88	137	242	150
		1984-85	132	164	562	239
4.	Seed/seedling	1983-84	421	357	210	338
		1984-85	395	341	288	345
5.	Farm yard manure	1983-84	571	396	48	356
		1984-85	486	473	136	406
6.	Chemical fertilizer	1983-84	376	318	456	358
		1984-85	416	284	599	387
7.	Plant protection	1983-84	32	31	71	40
		1984-85	49	31	117	54
8.	Land revenue	1983-84	7	4	6	5
		1984-85	4	6	2	5
9.	Irrigation	1983-84	9	27	16	21
		1984-85	4	12	9	9
10.	Repair & maintenance charges of implements machinery & building	1983-84	122	145	236	153
		1984-85	95	99	190	107
11.	Interest on working capital	1983-84	226	183	205	196
		1984-85	211	184	238	203
12.	Other expenses	1983-84	28	48	94	54
		1984-85	31	7	312	78
13.	Total (Cost 'A')	1983-84	4887	4023	4561	4295
		1984-85	4527	3978	5194	4377
14.	Interest on fixed capital	1983-84	4682	4142	3753	4092
		1984-85	6601	5690	4622	5718
15.	Cost 'B'	1983-84	9569	8165	8314	8387
		1984-85	11128	9668	9816	10095
16.	Imputed value of household human labour	1983-84	304	176	58	175
		1984-85	357	180	95	211
17.	Cost 'C'	1983-84	9873	8341	8372	8562
		1984-85	11485	9848	9911	10306

Appendix 2 - Percentage distribution of components of cost 'A' of autumn paddy cultivation for the year 1983-84 and 1984-85

Sl. No.	Components of different cost concepts	Period	Small	Medium	Large	All
1	2	3	4	5	6	7
1.	Hired human labour	1983-84	50.58	50.06	64.63	53.53
		1984-85	50.03	50.83	51.01	50.74
2.	Animal labour	1983-84	10.95	9.02	0.64	7.57
		1984-85	9.70	8.92	1.77	7.38
3.	Machine labour	1983-84	1.80	3.41	5.31	3.49
		1984-85	2.92	4.13	10.82	5.46
4.	Seed/seedling	1983-84	8.62	8.87	4.60	7.87
		1984-85	8.73	8.57	5.54	7.88
5.	Farm yard manure	1983-84	11.69	9.84	1.05	8.29
		1984-85	10.74	11.89	2.62	9.28
6.	Chemical fertilizer	1983-84	7.69	7.90	10.00	8.34
		1984-85	9.19	7.13	11.53	8.84
7.	Plant protection	1983-84	0.66	0.77	1.56	0.93
		1984-85	1.08	0.77	2.25	1.23
8.	Land revenue	1983-84	0.14	0.10	0.13	0.12
		1984-85	0.09	0.16	0.04	0.11
9.	Irrigation	1983-84	0.18	0.68	0.35	0.49
		1984-85	0.09	0.30	0.17	0.21
10.	Repair & maintenance charges of implements machinery & building	1983-84	2.50	3.61	5.18	3.56
		1984-85	2.09	2.49	3.66	2.44
11.	Interest on working capital	1983-84	4.62	4.55	4.49	4.56
		1984-85	4.66	4.63	4.58	4.64
12.	Other expenses	1983-84	0.57	1.19	2.06	1.25
		1984-85	0.68	0.18	6.01	1.79
13.	Total (Cost 'A')	1983-84	100.00	100.00	100.00	100.00
		1984-85	100.00	100.00	100.00	100.00

Appendix 3 - Cost of cultivation per hectare of winter paddy 1983-84 & 1984-85

Sl. No.	Components of different cost concepts	Period	Small	Medium	Large	All
1	2	3	4	5	6	7
1.	Hired human labour	1983-84	2681	1876	1196	1946
		1984-85	2780	2207	2603	2409
2.	Animal labour	1983-84	529	405	70	388
		1984-85	495	416	142	394
3.	Machine labour	1983-84	128	177	593	218
		1984-85	111	199	239	183
4.	Seed/seedling	1983-84	446	328	534	375
		1984-85	452	345	254	358
5.	Farm yard manure	1983-84	610	403	279	427
		1984-85	796	460	194	502
6.	Chemical fertilizer	1983-84	416	376	748	429
		1984-85	462	447	536	464
7.	Plant protection	1983-84	67	56	654	131
		1984-85	64	51	125	66
8.	Land revenue	1983-84	6	4	10	5
		1984-85	6	6	2	5
9.	Irrigation	1983-84	9	14	30	15
		1984-85	7	17	8	13
10.	Repair & maintenance charges of implements machinery & building	1983-84	159	138	185	150
		1984-85	122	94	272	117
11.	Interest on working capital	1983-84	247	184	221	201
		1984-85	259	207	213	221
12.	Other expenses	1983-84	62	62	339	96
		1984-85	27	24	175	48
13.	Total (Cost 'A')	1983-84	5360	4023	4859	4381
		1984-85	5581	4473	4763	4780
14.	Interest on fixed capital	1983-84	4513	4172	4208	4198
		1984-85	4588	5363	5320	5147
15.	Cost 'B'	1983-84	9873	8195	9067	8579
		1984-85	10169	9836	10083	9927
16.	Imputed value of household human labour	1983-84	362	161	105	193
		1984-85	425	207	41	236
17.	Cost 'C'	1983-84	10235	8356	9172	8772
		1984-85	10594	10043	10124	10163

Appendix 4 - Percentage distribution of components of cost 'A' of winter paddy cultivation during 1983-84 and 1984-85

Sl. No.	Components of different cost concepts	Period	Small	Medium	Large	All
1	2	3	4	5	6	7
1.	Hired human labour	1983-84	50.01	46.63	24.61	44.42
		1984-85	49.81	49.34	54.65	50.40
2.	Animal labour	1983-84	9.87	10.07	1.44	8.86
		1984-85	8.87	9.30	2.98	8.24
3.	Machine labour	1983-84	2.39	4.39	12.20	4.98
		1984-85	1.99	4.45	5.02	3.83
4.	Seed/seedling	1983-84	8.32	8.15	10.99	8.56
		1984-85	8.09	7.71	5.33	7.49
5.	Farm yard manure	1983-84	11.38	10.03	5.74	9.75
		1984-85	14.26	10.28	4.07	10.50
6.	Chemical fertilizer	1983-84	7.76	9.35	15.39	9.79
		1984-85	8.28	9.99	11.25	9.71
7.	Plant protection	1983-84	1.25	1.39	13.46	2.99
		1984-85	1.15	1.15	2.63	1.38
8.	Land revenue	1983-84	0.11	0.10	0.21	0.11
		1984-85	0.11	0.13	0.04	0.10
9.	Irrigation	1983-84	0.17	0.35	0.63	0.34
		1984-85	0.13	0.38	0.17	0.28
10.	Repair & maintenance charges of implements machinery & building	1983-84	2.97	3.43	3.80	3.42
		1984-85	2.19	2.10	5.71	2.45
11.	Interest on working capital	1983-84	4.61	4.57	4.55	4.59
		1984-85	4.64	4.63	4.47	4.62
12.	Other expenses	1983-84	1.16	1.54	6.98	2.19
		1984-85	0.48	0.54	3.68	1.00
13.	Total (Cost 'A')	1983-84	100.00	100.00	100.00	100.00
		1984-85	100.00	100.00	100.00	100.00

Appendix 5 - Cost of cultivation per hectare of summer paddy for the years 1983-84 and 1984-85

Sl. No.	Components of different cost concepts	Period	Small	Medium	Large	All
1	2	3	4	5	6	7
1.	Hired human labour	1983-84	2270	2511	3008	2579
		1984-85	3046	2631	2885	2794
2.	Animal labour	1983-84	529	327	175	339
		1984-85	560	390	191	413
3.	Machine labour	1983-84	172	332	259	272
		1984-85	213	410	184	318
4.	Seed/seedling	1983-84	381	407	435	407
		1984-85	377	325	287	334
5.	Farm yard manure	1983-84	623	285	38	307
		1984-85	575	286	--	443
6.	Chemical fertilizer	1983-84	462	608	874	640
		1984-85	470	608	697	470
7.	Plant protection	1983-84	126	154	342	196
		1984-85	108	136	403	165
8.	Land revenue and irrigation	1983-84	23	17	27	21
		1984-85	70	38	4	42
9.	Repair & maintenance charges of implements machinery & building	1983-84	189	85	33	121
		1984-85	149	128	10	130
10.	Interest on working capital	1983-84	232	234	275	244
		1984-85	269	242	241	250
11.	Other expenses	1983-84	77	57	377	146
		1984-85	33	53	179	63
12.	Total (Cost 'A')	1983-84	5084	5017	5843	5272
		1984-85	5870	5247	5081	5422
13.	Interest on fixed capital	1983-84	4173	3814	1905	3519
		1984-85	5685	4605	1894	4634
14.	Cost 'B'	1983-84	9257	8831	7748	8791
		1984-85	11555	9852	6975	10056
15.	Imputed value of household human labour	1983-84	436	231	81	245
		1984-85	527	239	60	301
16.	Cost 'C'	1983-84	9693	9062	7829	9036
		1984-85	12082	10091	7035	10357

Appendix 6 - Percentage distribution of components of cost 'A' of summer paddy for the years 1983-84 and 1984-85

Sl. No.	Components of different cost concepts	Period	Small	Medium	Large	All
1	2	3	4	5	6	7
1.	Hired human labour	1983-84	44.65	50.05	51.48	48.92
		1984-85	51.89	50.14	56.78	51.53
2.	Animal labour	1983-84	10.41	6.52	2.99	6.43
		1984-85	9.54	7.43	3.76	7.62
3.	Machine labour	1983-84	3.38	6.62	4.43	5.15
		1984-85	3.63	7.81	3.62	5.87
4.	Seed/seedling	1983-84	7.50	8.11	7.45	7.72
		1984-85	6.42	6.20	5.65	6.16
5.	Farm yard manure	1983-84	12.25	5.68	0.65	5.82
		1984-85	9.80	5.45	--	8.17
6.	Chemical fertilizer	1983-84	9.09	12.12	14.96	12.14
		1984-85	8.01	11.59	13.72	8.67
7.	Plant protection	1983-84	2.48	3.07	5.85	3.72
		1984-85	1.84	2.59	7.93	3.04
8.	Land revenue & Irrigation	1983-84	0.45	0.34	0.46	0.40
		1984-85	1.19	0.73	0.08	0.78
9.	Repair & maintenance charges of implements machinery & building	1983-84	3.71	1.69	0.57	2.30
		1984-85	2.54	2.44	0.20	2.39
10.	Interest on working capital	1983-84	4.56	4.66	4.71	4.63
		1984-85	4.58	4.61	4.74	4.61
11.	Other expenses	1983-84	1.52	1.14	6.45	2.77
		1984-85	0.56	1.01	3.52	1.16
12.	Total (Cost 'A')	1983-84	100.00	100.00	100.00	100.00
		1984-85	100.00	100.00	100.00	100.00

Appendix 7 - Cost of cultivation per hectare of coconut for the year
1983-84 and 1984-85

Sl.No.	Items	cost per hectare (Rs.)	
		1983-84	1984-85
1	2	3	4
1	Labour cost (excluding household labour)	1370	1479
2	Seed/seedling	3	11
3	Farm yard manure	742	675
4	Chemical fertilizers	206	233
5	Plant protection	8	8
6	Irrigation cess and land revenue	13	7
7	Repair and maintenance of implements, machinery	159	117
8	Interest on working capital	248	254
9	Other expenses	148	137
10.	Cost 'A'	2897	2921
11.	Interest on fixed capital	23290	33766
12.	Cost 'B'	26187	36687
13.	Imputed value of household labour	185	184
14.	Cost 'C'	26372	36871

Appendix 8 - Cost of cultivation per hectare of arecanut for the year
1983-84 and 1984-85

Sl.No.	Items	cost per hectare (Rs.)	
		1983-84	1984-85
1	2	3	4
1	Labour cost (excluding household labour)	1643	1892
2	Seed/seedling	2	--
3	Farm yard manure	740	805
4	Chemical fertilizers	12	32
5	Plant protection	96	11
6	Irrigation cess and land revenue	10	13
7	Repair and maintenance of implements, machinery	146	323
8	Interest on working capital	250	277
9	Other expenses	4	34
10.	Cost 'A'	2903	3387
11.	Interest on fixed capital	24096	25811
12.	Cost 'B'	26999	29198
13.	Imputed value of household labour	460	503
14.	Cost 'C'	27459	29701

**Appendix 9 - Cost of cultivation per hectare of tapioca for the years
1983-84 and 1984-85**

Sl.No.	Items	cost per hectare (Rs.)	
		1983-84	1984-85
1	2	3	4
1	Labour cost (excluding household labour)	1449	1430
2.	Seed/seedling	153	224
3.	Farm yard manure	578	581
4.	Chemical fertilizers	215	215
5.	Plant protection	1	2
6.	Irrigation cess and land revenue	25	12
7.	Repair and maintenance of implements, machinery	689	492
8.	Interest on working capital	250	262
9.	Other expenses	49	90
10.	Animal labour	24	29
11.	Machine labour	27	49
12.	Cost 'A'	3460	3386
13.	Interest on fixed capital	23307	24567
14.	Cost 'B'	26767	27953
15.	Imputed value of household labour	657	793
16.	Cost 'C'	27424	28746

**Appendix 10 - Cost of cultivation per hectare of pepper for the years
1983-84 and 1984-85**

Sl.No.	Items	cost per hectare (Rs.)	
		1983-84	1984-85
1	2	3	4
1	Labour cost (excluding household labour)	719	1017
2.	Seed/seedling	9	13
3.	Farm yard manure	231	491
4.	Chemical fertilizers	34	148
5.	Plant protection	9	17
6.	Irrigation cess and land revenue	4	5
7.	Repair and maintenance of implements, machinery	249	294
8.	Interest on working capital	103	180
9.	Other expenses	12	29
10.	Cost 'A'	1370	2276
11.	Interest on fixed capital	20281	31169
12.	Cost 'B'	21651	33445
13.	Imputed value of household labour	278	396
14.	Cost 'C'	21929	33841

Appendix 11 - Cost of cultivation per hectare of ginger for the years
1983-84 and 1984-85

Sl.No.	Items	cost per hectare (Rs.)	
		1983-84	1984-85
1	2	3	4
1	Labour cost (excluding household labour)	5085	5488
2.	Seed/seedling	5963	6572
3.	Farm yard manure	3518	4168
4.	Chemical fertilizers	1257	1375
5.	Plant protection	124	111
6.	Irrigation cess and land revenue	11	14
7.	Repair and maintenance of implements, machinery	79	56
8.	Interest on working capital	1602	1780
9.	Other expenses	72	81
10.	Cost 'A'	17711	19645
11.	Interest on fixed capital	17129	23168
12.	Cost 'B'	34840	42813
13.	Imputed value of household labour	1681	1254
14.	Cost 'C'	36521	44067

Appendix 12 - Cost of cultivation per hectare of banana for the years
1983-84 and 1984-85

Sl.No.	Items	cost per hectare (Rs.)	
		1983-84	1984-85
1	2	3	4
1	Labour cost (excluding household labour)	4092	4030
2.	Seed/seedling	1529	1893
3.	Farm yard manure	3395	3192
4.	Chemical fertilizers	2935	2499
5.	Plant protection	74	117
6.	Irrigation cess and land revenue	59	50
7.	Repair and maintenance of implements, machinery	98	84
8.	Interest on working capital	1320	849
9.	Other expenses	1173	789
10.	Cost 'A'	14675	13503
11.	Interest on fixed capital	37332	32046
12.	Cost 'B'	52007	45549
13.	Imputed value of household labour	1705	2149
14.	Cost 'C'	53712	47698

Appendix 13 - Cost of cultivation per hectare of cocoa for the years
1983-84 and 1984-85

Sl.No.	Items	cost per hectare (Rs.)	
		1983-84	1984-85
1	2	3	4
1	Labour cost (excluding household labour)	482	590
2.	Seed/seedling	--	--
3.	Farm yard manure	389	337
4.	Chemical fertilizers	239	296
5.	Plant protection	25	19
6.	Irrigation cess and land revenue	32	4
7.	Repair and maintenance of implements, machinery	78	118
8.	Interest on working capital	125	132
9.	Other expenses	119	79
10.	Cost 'A'	1489	1575
11.	Interest on fixed capital	30052	46207
12.	Cost 'B'	31541	47782
13.	Imputed value of household labour	316	372
14.	Cost 'C'	31857	48154

