



GOVERNMENT OF KERALA

REPORT ON
COST OF CULTIVATION
OF
IMPORTANT CROPS
IN KERALA
1987-88

DEPARTMENT OF ECONOMICS & STATISTICS
THIRUVANANTHAPURAM-1990

GOVERNMENT OF KERALA

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REPORT ON COST OF CULTIVATION OF IMPORTANT CROPS
IN KERALA FOR 1987-'88

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DEPARTMENT OF ECONOMICS AND STATISTICS

TRIVANDRUM

1989



P R E F A C E

This report, fifth in the series, is based on the eighth round of the Survey on Cost of Cultivation of Important Crops in Kerala, which was conducted during 1987-88. In this round the study was confined to 38 taluks for collection of data regarding cost of cultivation of four crops - Paddy, (3 Seasons), Coconut, Tapioca and Banana.

The tabulation of data was done at the district level and the consolidation, analysis and report writing was done at headquarters. The report was prepared by Smt. T. Bhavana, Research Officer under the guidance of Smt. S. Suneetha, Joint Director.

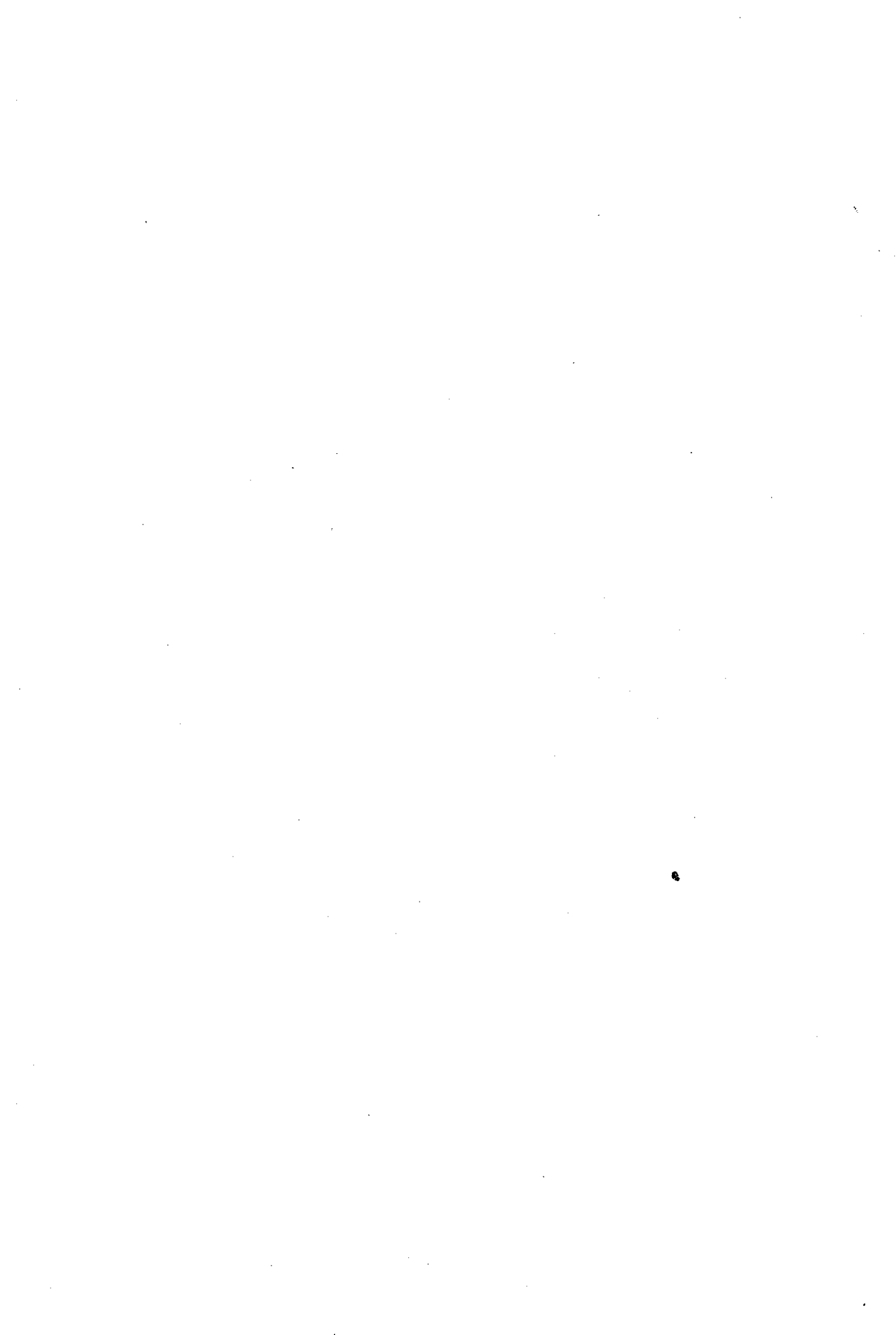
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Trivandrum,
17--10--1989.



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REPORT ON THE COST OF CULTIVATION OF IMPORTANT CROPS IN
KERALA DURING 1987-88.

Chapter I - General

1.1 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. The present report, relates to the eighth round (1987-88) of the survey. During this round of the survey, data on cost of cultivation of the following crops were collected.

- i. Paddy (3 seasons)
- ii. Coconut
- iii. Tapioca
- iv. Banana

1.2 Objectives

The main objectives of the survey are:-

- i. to estimate the cost of cultivation per hectare of different crops selected.
- ii. to compare the costs under different concepts over a period.

1.3 Staff

The following staff were engaged in the survey.

Category	Number
Field:-U.D. Investigators	- 14
L.D. Investigators	- 28
Head- Research Assistant	- 1
Office U.D. Compiler	- 1

1.4 Period of the survey

The period of the survey was Agricultural year 1987-88 (1-7-1987 to 30-6-1988)

1.5 Design of the survey

The present survey was conducted in 38 taluks, which are important growing centres of the crops under study. From each selected

taluk the first two villages chosen for EARAS Scheme (TRS) 1986-87 were selected for the study. The sample holding consisted of a key plot together with all the other plots (both wet and dry) possessed by the same cultivator within the taluk. The survey sub division number of the plots selected for the crop cutting experiments of the respective crops during 1986-87 was the frame for selection of key plots. The selection of key plots was done by simple random sampling method. (The TRS random tables were used for this purpose).

The number of holidays selected for each crop in a taluk was as follows:-

1. Paddy - Autumn - 10
2. Paddy - Winter - 10
3. Paddy - Summer - 10
4. Coconut - 10
5. Tapioca - 5
6. Banana - 5

In the case of Paddy separate selection was made for all the three seasons. In the case of Autumn/Winter paddy if the required number of key plots was not available in the selected villages, the remaining number of plots were selected from the list of wet land plots for 1986-87. In the case of summer paddy if sufficient number of holdings was not available in the selected villages, another TRS village in the taluk was selected and the remaining number of plots were selected from that village. If the cultivators selected for Autumn paddy possessed area under the other three crops. Viz. Coconut, Tapioca and Banana, fresh selections was not attempted to for these crops. In such cases, the holdings selected for paddy were taken for these crops also. If sufficient number of holdings were not obtained for coconut and tapioca from the selected paddy holdings, the balance was selected from the plots selected for the crop cutting experiments 1986-87 on Coconut and Tapioca. In the case of banana, the balance was selected purposively from within the sample village or in the extreme case, from the other village in the taluk.

A holding was considered for the study only if it contained at least 25 cents under the crop in the case of paddy and tapioca and 10 cents in the case of banana. For coconut, 25 trees (bearing and non-bearing together) were necessary in the holdings for consideration.

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

Size group	Holding size	
	Paddy	Other crops
1. Small	<0.40 hectare	<0.2 hectare
2. Medium	0.40 to <2 hectares	0.20 to <0.80 hectares
3. Large	>2 hectares	>0.80 hectares

Note:-

< = Less than

> = Greater than or equal to

1.6 Schedules

Three schedules were designed for the survey.

Schedule I - This schedule was used for listing the plots for selection of holdings and recording the details of the selected holdings.

Schedule II - This schedule was used for recording details of the cultivators' households and details like area of holdings, inventory of agricultural implements, livestock, etc.

Schedule III - This schedule was meant for recording the cultivation costs, every fortnight.

1.7 Field work

Field work was done by 38 Investigators posted at the rate of one Investigator in each taluk. The Investigators visited the selected holdings every fortnight and recorded fortnightly operations in schedule III. The field work was supervised by Taluk Statistical Officer at the taluk level and by Deputy Director/District Officer at the district level.

1.8 Analysis

Taluk level and district level compilations were done at the respective offices. State level consolidation, analysis and report writing was done in the headquarters.

1.9 Method of estimation of cost

a. Concept of cost:-

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

Cost 'A'

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

This includes:-

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

Cost 'B'

Cost 'A' + Interest on fixed assets (excluding land).

Cost 'B'

Cost 'B' + Interest on land value.

Cost 'C'

Cost 'B' + Imputed value of household labour.

b. Procedure for imputation of costs of owned inputs:-

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

- i. Household labour:- 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.
- iii. Owned and exchange animal labour The rate of changes 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 imputed at the prices prevalent in the village concerned at the time of sowing
- vii. Farm produced manure- Evaluated at the rates prevalent in the village concerned.
- viii. Interest on owned fixed capital - Interest on the present value of fixed assets such as land, farm, building, implements, machinery, irrigation structure, 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 on the working capital, cash and kind expenses excluding items in respect of which payments are generally made after harvest (ie., rent, land tax etc.) incurred during the period of cultivation.
- x. Payments in kind - The payments in kind have been accounted at the market prices prevalent in the locality at the time of payment. Perquisites have been included in the payments in kind accounted at market prices.

c. Allocation of joint costs to different crops

Some of the inputs used for the cultivation 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.

manner.

- i. Repair and maintenance- In proportion to the area under the crops. charges of implements.
 - ii. Interest on owned - In proportion to the area under the crops. fixed capital (excluding land)
 - iii. Interest on land - Interest on the value of land under the crops value.
- d. Procedure of accounting farm assets
- i. Own farm buildings- Accounted at prices prevailed in the locality (cattle sheds, storage shed, etc.)
 - ii. Implements and - Accounted at prevalent market prices other farm machinery
 - iii. Livestock (only - Accounted at prevalent market prices draught animals)

In calculating the cost of production of paddy crop in each season, the interest on land value at the rate of 10% per annum for a period of 6 months is taken into account. The land value is estimated at the current market rates in different areas.

Chapter 2 - RESULTS OF THE SURVEY

The crops selected for this round of study were paddy (autumn, winter and summer) coconut, tapioca and banana.

The survey results of these crops are discussed here under:

2.1 Paddy

Paddy is cultivated during the three seasons autumn, winter and summer. The total area under paddy in 1987-'88 was 6.04 lakh hectares and rice production estimated at 10.33 lakh tonnes.

The area under paddy during the three seasons are given below:

J. Area under paddy during the year 1987-'88
(in lakh hectares)

Season	Area	Percentage to total cropped area
1	2	3
Autumn	2.40	8.36
Winter	2.94	10.24
Summer	0.70	2.44
Total	6.04	21.04

Source: 'EARAS' estimate for the year (1987-'88).

The gross area under paddy during 1987-'88 was 21% of the total cropped area.

2. Percentage of area under paddy in each season to the total area under paddy during 1987-'88.

Season	Percentage
Autumn	39.74
Winter	48.68
Summer	11.58
Total	100.00

40% of the gross area under paddy comes under autumn, 49% under winter and 11% under summer. The rice production is seen to be 10.33 lakh tonnes during the period under study.

The production of rice during the three seasons is given below:

3. Production of rice (in lakh tonnes)
during 1987-'88

Season	Production of rice (lakh tonnes)	Percentage
Autumn	4.21	40.66
Winter	4.70	45.50
Summer	1.42	13.84
Total	10.33	100.00

Source: 'EARAS' estimates.

The above table gives the percentage of production of rice in each season to the total production of rice.

The average yield rate of paddy per hectare in each season is given in the following table:

4. Average yield of paddy 1987-'88

Season	Average yield (tonne/hect.)
Autumn	2.67
Winter	2.43
Summer	3.08

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

About 63% of the total irrigated cropped area is under paddy.

1. Autumn (Virippu) Paddy

As in the case of the previous rounds, in this round also 10 holdings were selected from each taluk. Total number of holdings in all the samples taken for the survey is 370. Distribution of sample holdings according to size class of holding is presented in the following table:-

5. Area under autumn paddy during 1987-'88

Holding size class	No. of selected holdings	Area under the crop in the sample (hectare)	Percentage	Area per holding (Ha.)
1	2	3	4	5
Small	224	49.64	29.10	0.22
Medium	143	112.40	65.89	0.79
Large	3	8.55	5.01	2.85
All sizes	370	170.59	100.00	0.46

The average area per sample holding under study is 0.46 hectare.

A. Cost of cultivation

The cost of cultivation is worked out on the basis of the concepts given in the previous paragraphs. The estimated cost of cultivation of different items per hectare of autumn paddy is given below: (Please refer Appendix-I also.)

6. Cost of cultivation per hectare of paddy (Autumn) during the year 1987-'88

Sl. No.	Components of different Cost concept	Cost per hectare (in Rs.)	% distribution of Cost 'A'
1	2	3	4
1.	Hired human labour	2799	50.28
2.	Animal labour	510	9.16
3.	Machine labour	277	4.98
4.	Seed/seedlings	388	6.97
5.	Farmyard manure	450	8.08
6.	Chemical fertilizers	499	8.96
7.	Plant protection	45	0.81
8.	Land tax	4	0.07
9.	Irrigation	17	0.31
10.	Repair & maintenance charges of implements, machinery and buildings	253	4.54
11.	Interest on working capital	252	4.53
12.	Other expenses	73	1.31
13.	Cost 'A' (1-12)	5567	100.00
14.	Interest on fixed capital (excluding land)	263	
15.	Cost 'B1' (13+14)	5830	
16.	Interest on land value	5428	
17.	Cost 'B' (15+16)	11258	
18.	Imputed value of household labour	370	
19.	Cost 'C' (17+18)	11628	

NOTE:- Figures in column (H) give the percentage to total cost 'A'.

paragraphs. The estimated cost of

The cost of cultivation is worked out on the basis of the

A. Cost of cultivation

Total cost 'A' of cultivation of Autumn paddy per hectare works out to Rs.5567/-. From the table it is seen that 50% of the total cost 'A' is towards hired human labour. 9% goes for animal labour and 5% towards machine labour. The percentage of hired human labour hours to total human labour hours engaged in Autumn paddy cultivation is shown below:

**7. Percentage of hired human labour hours to
total human labour hours**

Sex	Holding size class			
	Small	Medium	Large	All sizes
1	2	3	4	5
Male	27.20	19.71	10.00	21.53
Female	59.12	70.83	85.28	69.73
Total	86.32	90.54	95.28	91.26

91% of total human labour relates to hired human labour.

About 7% of the cost 'A' is accounted for by seed/seedlings and 17% is for farmyard manure and chemical fertilizers. Only a small percentage of cost 'A' is spent towards plant protection and a negligible amount towards land tax and irrigation cess. The interest on working capital is about 5% of the total cost 'A' and the expenditure towards other items is only 1.31%.

Cost 'B1'

Cost 'B1' is estimated by adding the interest on fixed capital (excluding land) to cost 'A'. It works out to Rs.5830/- for 1987-'88 as against Rs.5239/- in 1986-'87.

The interest on land value is found to be Rs.5428/- during the period which is less than the previous year's figure of Rs.5961/-. It is seen that the interest on land value is minimum in the case of large cultivators and maximum in the case of small cultivators.

Cost 'B' and cost 'C'

Cost 'B' is estimated by adding the interest on land value to cost 'B1' and cost 'C' is estimated by adding the imputed value of household human labour to cost 'B'. Cost 'B' is found to be Rs.11258/- and cost 'C' is Rs.11628/-. The imputed value of household human labour

is Rs.370/- per hectare. The estimates of cost under three major concepts relating to the year under study and to the previous year are given below:

8. Cost of cultivation of (Autumn) paddy Rs./hectare
for 1986-'87 and 1987-'88

Concept of cost	Year	Holding size class			
		Small	Medium	Large	All sizes
1	2	3	4	5	6
Cost 'A'	1986-87	5985	5052	4038	5006
	1987-88	6393	5715	4510	5567
Cost 'B'	1986-87	12681	11786	6953	11200
	1987-88	13608	11027	6201	11258
Cost 'C'	1986-87	13122	12086	7041	11488
	1987-88	14172	11327	6357	11628

Compared to the previous year, the cost of cultivation has increased during 1987-88, the percentage of increase being 11.21%, 0.52% and 1.22% in the case of cost 'A', cost 'B' and cost 'C' respectively.

B. Output

The values of product and byproduct per hectare for the period under report are seen to be Rs.5189/- and Rs.1305/- respectively. The total value of product and by-product for each size class is given in the following table.

9. Value of product and by-product per hectare
(in Rs.) during 1987-88

Product/ by-product	Holding size class			
	Small	Medium	Large	All sizes
1	2	3	4	5
Paddy	5264	5320	3030	5189
Straw	1574	1209	1018	1305
Total	6838	6529	4048	6494

During 1987-'88, the value of product and by-product has increased.

It can be seen that the value of product has shown an increasing trend from 1980-81 to 1983-84 and from 1984-85 onwards there is alternate increasing and decreasing trend which is shown in the following table:

10. Value of product/hectare (in Rs.)

Year	Value of product
1980-81	2262
1981-82	3446
1982-83	3937
1983-84	5012
1984-85	4368
1985-86	4801
1986-87	4618
1987-88	5189

C. Cost of production of paddy per quintal

Cost of production of paddy per quintal is estimated 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 quantity of paddy produced per hectare.

11. Cost of production of paddy per quintal during Autumn season (in Rs.)

Concept of cost	Holding size class			
	Small	Medium	Large	All sizes
Cost 'A'	217	181	119	175
Cost 'B'	543	395	177	410
Cost 'C'	566	407	182	425

The cost of production of paddy per quintal during the period under report is Rs.175/- when cost 'A' is considered. It is seen that the cost is higher in the case of small holding size class.

Compared to the previous year, the cost of production per quintal has decreased during 1987-88, the percentage decrease being 2%, 14% and 13% in the case of cost 'A' and cost 'B' and cost 'C' respectively. The percentage decrease for 1987-88 is shown below:

12. Cost of production per quintal of Autumn paddy 1986-87 and 1987-88 (cost in Rs.)

Concept of cost	1986-87	1987-88	Percentage decrease
Cost 'A'	179	175	2.23
Cost 'B'	474	410	13.50
Cost 'C'	488	425	12.91

ii. Winter (Mundakan) Paddy

For the present round of the study 380 holdings were selected for Winter paddy. The holdings selected have an area of 214.5 hectares. The number and area of the selected holdings for winter crop paddy are furnished in the following table:

13. Area and number of holdings selected during 1987-88

Holding size class	No. of holdings	Area under the crop	Percentage to total area	Area per holding(hect.)
1	2	3	4	5
Small	207	48.99	22.84	0.24
Medium	159	121.45	56.62	0.76
Large	14	44.06	20.54	3.15
All sizes	380	214.50	100.00	0.56

The average area per holding is found to be 0.56 hectares. 23% of the area are under the small size class, 57% under medium size class and 20% under large size class.

A. Cost of cultivation

The cost of cultivation per hectare of winter paddy during 1987-88 is given below: [Please see appendix - 2 also]

14. Cost of cultivation per hectare of winter paddy 1987-88

Sl. No.	Component of defferent cost concept	Cost per hect.(Rs.)	%age distribution of Cost 'A'
1	2	3	4
1.	Hired human labour	3117	53.28
2.	Animal labour	438	7.49
3.	Machine labour	283	4.84
4.	Seed/seedlings	399	6.82
5.	Farm yard manure	435	7.43
6.	Chemical fertilizers	516	8.82
7.	Plant protection	111	1.90
8.	Land tax	8	0.14
9.	Irrigation cess	20	0.34
10.	Repair and maintenance charges of implements machinery and buildings	196	3.35
11.	Interest on working capital	268	4.58
12.	Other expenses	59	1.01
13.	Total cost 'A' (1-12)	5850	100.00
14.	Interest on fixed capital (excluding land)	257	
15.	Cost 'B1' (13+14)	6107	
16.	Interest on land value	6037	
17.	Cost 'B' (15+16)	12144	
18.	Imputed value of household labour	310	
19.	Cost 'C' (17+18)	12454	

Note:- Figures in column (4) give the percentage to total cost (A).

The expenditure incurred towards hired human labour for winter paddy is Rs.3117/- per hectare. 53% of the total cost 'A' comes under this item. The percentage of hired human labour hours engaged in the paddy (winter) cultivation to the total labour hours is given in the following table:

15. Percentage distribution of hired human labour hours to total labour hours

Sex	Holding size class			
	Small	Medium	Large	All
1	2	3	4	5
Male	27.36	26.86	16.87	24.91
Female	57.50	65.42	79.77	66.29
Total	84.86	92.28	96.64	91.20

91% of the total labour hours is accounted for hired human labour. The percentage of hired female labour hours is higher as in the case of Autumn paddy cultivation.

The cost towards animal labour per hectare is 438/- and machine labour is 283/- per hectare. 61% of the total cost 'A' accounts for hired human and animal labour cost and 5% for machine labour. 7% of the total cost 'A' is spent for seed/seedlings and 16% is spent towards farm yard manure and chemical fertilizers. Nearly 2% is spent towards plant protection and 3% towards repair and maintenance charges of implements, machinery and building. Interest on working capital is estimated to be Rs.268/- which is about 5% of the total cost 'A' and 1% of the total cost 'A' comes under other expenses.

The interest on fixed capital excluding land is Rs.257/- and cost 'B1' is found to be Rs.6107/- per hectare. Interest on land value works out to Rs.6037/- and cost 'B2' comes to Rs.12144/- per hectare. The imputed value of family labour is Rs.310/-. It is maximum in the case of small cultivators and minimum in the case of large cultivators.

The estimated cost for the cultivation of winter paddy per hectare under the three major concepts of cost are given below:

16. Cost of cultivation under three major concepts of cost (Rs./hectare)

Concept of cost	Holding size class			
	Small	Medium	Large	All sizes
1	2	3	4	5
Cost 'A'	6827	5586	5499	5850
Cost 'B'	14507	11942	10165	12144
Cost 'C'	15091	12207	10296	12454

When compared with the corresponding costs for the previous round, the cost 'A' is found to be more or less the same while cost 'B' and 'C' showed an increasing trend during the current year. The percentage increase being 10% each in the case of Cost 'B' and Cost 'C'.

17. Cost of cultivation of winter paddy (Rs./hectare) for 1986-87 and 1987-88

Concept of cost	Year	Holding size class			
		Small	Medium	Large	All sizes
1	2	3	4	5	6
Cost 'A'	1986-87	6916	5328	5771	5867
	1987-88	6827	5586	5499	5850
Cost 'B'	1986-87	13943	10776	8667	11018
	1987-88	14507	11942	10165	12144
Cost 'C'	1986-87	14452	11082	8756	11317
	1987-88	15091	12207	10296	12454

B. Output

The value of output per hectare is seen to be Rs.7529/-

18. Value of output

Product and by-product	Holding size class			
	Small	Medium	Large	All size classes
1	2	3	4	5
Paddy	5972	5646	6307	5856
Straw	2075	1658	1266	1673
Total	8047	7304	7573	7529

C. Cost of production of paddy per quintal

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

19. Cost of production of winter paddy per quintal (Rs.)

Concept of cost	Holding size class			
	Small	Medium	Large	All sizes
1	2	3	4	5
Cost 'A'	191	172	162	175
Cost 'B'	497	448	341	438
Cost 'C'	521	460	347	451

The cost of production of winter paddy is higher in the case of small size holdings and lower in the case of large size holdings.

The cost of production of winter paddy per quintal for 1986-87 and 1987-88 are presented below for comparison.

20. Cost of production of winter paddy per quintal (in Rs.) For 1986-87 and 1987-88

Concept of cost	Holding size class			
	Small		Medium	
	1986-87	1987-88	1986-87	1987-88
1	2	3	4	5
Cost 'A'	210	191	184	172
Cost 'B'	516	497	510	448
Cost 'C'	538	521	521	460

(Contd..)

Concept of cost	Holding size class			
	Large		All size classes	
	1986-87	1987-88	1986-87	1987-88
1	6	7	8	9
Cost 'A'	174	162	175	175
Cost 'B'	277	341	389	438
Cost 'C'	280	347	402	451

It is found that the costs 'A', 'B' and 'C' are lower in the case of small and medium size holdings for 1987-88 than 1986-87 while cost 'B' and cost 'C' showed an increasing trend in large size holding.

111. Summer (Punja) Paddy

For summer paddy 337 holdings were selected during 1987-88 for studying the cost of cultivation, The area under cultivation being 136.66 hectare. The average area per holding is given in the following table:-

21. Area under summer paddy

Holding size class	Number of selected holdings	Area under paddy in hectare	Percentage to total area under paddy	Area per holding (hectares)
1	2	3	4	5
Small	215	44.11	32.28	0.21
Medium	119	85.67	62.69	0.72
Large	3	6.88	5.03	2.29
Total	337	136.66	100.00	0.41

The average area per sample holding is found to be 0.41 hectare.

From the 337 holdings studied, the total cost 'A' per hectare, that is cash and kind expense is found to be Rs.6501/-. The cost of cultivation per hectare is given in table 22. [Please see appendix-3 also].

22. Cost of cultivation per hectare of summer paddy for the year 1987-88

Sl. No. Components of different cost concept	Cost per hectare (Rs.)	%age distribution of Cost 'A'
1	2	3
1. Hired human labour	3160	48.61
2. Animal labour	500	7.69
3. Machine labour	292	4.49
4. Seed/seedlings	416	6.40
5. Farmyard manure	372	5.72
6. Chemical fertilizers	699	10.75
7. Plant protection	222	3.41
8. Land tax	7	0.11
9. Irrigation cess	29	0.45
10. Repair and maintenance charges	405	6.23
11. Other expenses	110	1.69
12. Interest on working capital	289	4.45
13. Total cost 'A' (1-12)	6501	100.00

(Contd..)

1	2	3	4
14. Interest on fixed capital		304	
15. Cost 'B1' (13+14)		6805	
16. Interest on land value		6364	
17. Cost 'B' (15+16)		13169	
18. Imputed value of household labour		498	
19. Cost 'C' (17+18)		13667	

Note:- Figures in column (4) give the percentage to total cost 'A'.

The human, animal and machine labour cost per hectare is 3952/- which constitutes 61% of the total cost 'A'. Out of this, hired human labour cost constituted 49%, animal labour cost nearly 8% and machine labour 4%. The percentage of hired human labour hours engaged in the cultivation of summer paddy during 1987-88 is given below:-

23. Percentage of hired human labour hours engaged
in summer paddy cultivation

Holding size class	Male	Female	Total
1	2	3	4
Small	25.11	55.03	80.14
Medium	26.25	64.09	90.34
Large	23.99	73.98	97.97
All sizes	25.74	61.25	86.99

About 37% of the total human labour hours is hired human labour. 6% of the total cost 'A' is for seed/seedlings. 16% of the total cost 'A' constitutes the cost of farm yard manure and chemical fertilizers. 3% (Rs.222/-) was spent towards plant protection. The expenditure per hectare of land tax and irrigation cess is found to be Rs.7/- and Rs.29/- respectively. The interest on working capital is estimated to be Rs.289/- (4%) per hectare.

Cost 'B1' and cost 'B'

Cost 'B1' is obtained by adding the interest on fixed capital (excluding land) to cost 'A' and is seen to be Rs.6805/-. The interest on land value during this period also is maximum in the case of small holding size class and minimum in the case of large holding size class. Cost 'B' is seen to be Rs.13169/- per hectare during 1987-88. The imputed value of household labour is maximum in the case of small size class and minimum in the case of large size class, Cost 'A' showed an

increasing trend from year to year. The labour practices followed in this round is also the same as in the previous round that is the animal labour has decreased as size class increases. Machine labour is less in the case of small and medium size holdings than animal labour, while machine labour is higher than animal labour in the case of large size holdings. This indicates that cultivators of large size holdings are interested in using machines for cultivation.

During this round cost 'B1' is found to be higher in the case of small size holdings. When compared with the previous year the interest on land value during this year has decreased in the case of small holdings while it is increased as size class increases.

Cost 'B' remains higher in the case of cultivators belonging to small holding size class and it is lower in the case of large size classes. When the cost of cultivation is compared with the previous year, cost 'A' has increased by 11% and cost 'B' and cost 'C' by 17% each respectively.

24. Cost of cultivation of summer paddy Rs./hectare for
1986-87 and 1987-88

Concept of cost	Year	Holding size class			
		Small	Medium	Large	All sizes
1	2	3	4	5	6
Cost 'A'	1986-87	5863	5504	6507	5848
	1987-88	6918	6222	6234	6501
Cost 'B'	1986-87	13667	10910	8905	11239
	1987-88	14547	12454	11907	13169
Cost 'C'	1986-87	14498	11246	8962	11654
	1987-88	15415	12793	12014	13667

B. Output

The value of output is seen to be Rs.8578/- per hectare for the summer paddy. The details for the different holding size classes are given below:-

25. Value of product and by-product per hectare
1987-'88

Product/ by-product	Holding size class			
	Small	Medium	Large	All sizes
1	2	3	4	5
Paddy	6356	7159	8884	6986
Straw	1800	1535	974	1592
Total	8156	8694	9858	8578

C. Cost of production of paddy per quintal

Cost of producing one quintal of paddy is estimated 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 yield per hectare.

26. Cost of production of summer paddy per quintal

Concept of cost	Holding size class			
	Small	Medium	Large	All size classes
1	2	3	4	5
Cost 'A'	190	167	146	175
Cost 'B'	472	390	304	413
Cost 'C'	504	402	307	431

As in the case of Autumn paddy and Winter paddy, the cost of production of paddy/quintal is higher in small size class holdings in the case of summer paddy also. A comparison between the cost of production of paddy per quintal during 1987-88 and 1986-87 is given in the following table:-

27. Cost of production of paddy/quintal during
1986-87 and 1987-88

Concept of cost	1986-87	1987-88	Percentage of increase
Cost 'A'	151	175	15.89
Cost 'B'	345	413	19.71
Cost 'C'	360	431	19.72

The percentage of increase is seen to be 16% under cost 'A' and 20% each under Cost 'B' and Cost 'C'.

2.2 Coconut

During the agricultural year 1987-88 about 7.75 lakh hectares is under coconut cultivation, this is, about 27% of the total cropped area in the State is under coconut. The area and average yield per hectare is given in the following table:-

28. Area and average yield of coconut 1987-88

Area under coconut (hectare)	Percentage to total cropped area	Average yield per hectare (No. of nuts)
1	2	3
775365	27.03	4313

Source:- EARAS estimates 1987-88.

Selected holdings

380 holdings were selected during 1987-88 for the study of cost of cultivation of coconut. The area under coconut (size class wise) is given below:-

29. Number of holdings and area under coconut

Holding size class	No. of hold- ings	Area under coconut in the sample (hect.)	Percentage	Area per holding (hectares)
1	2	3	4	5
Small	105	15.93	9.04	0.15
Medium	227	98.84	56.07	0.44
Large	48	61.50	34.89	1.28
All sizes	380	176.27	100.00	0.46

The average area per sample holding is 0.46 hectare.

Number of bearing trees in the selected holdings:-

In the selected holdings the average number of bearing trees per hectare is found to be 133 and non bearing trees 75.

30. Number of bearing and non-bearing trees per hectare

Type of trees	Number of trees per hectare	Percentage
1	2	3
Bearing	133	64
Non-bearing	75	36
Total	208	100

64% of the total number of trees in the selected holdings is bearing and the rest is non-bearing.

A. Cost of cultivation

As in the case of paddy, cost of cultivation of coconut is also estimated under the three different concepts of cost.

i. Cost 'A'

The cash and kind expenses incurred by the cultivator is found to be Rs.4169/- during 1987-88 as against Rs.3153/- in the previous round. Rs.1939/- per hectare is spent for human, animal and machine labour. The estimated cost of cultivation of different items per hectare of coconut is given in table 31. (Please refer Appendix - 4 also.)

31. Cost of cultivation per hectare of coconut during the year 1987-'88.

Sl. No.	Component of different cost concept	Cost per hectare (in Rs.)	%age distribution of Cost 'A'
1.	Hired human labour	1865	44.72
2.	Animal labour	7	0.17
3.	Machine labour	67	1.60
4.	Seed/seedlings	34	0.82
5.	Farmyard manure	1100	26.39
6.	Chemical fertilizers	345	8.28
7.	Plant protection	9	0.22
8.	Land tax	7	0.17
9.	Irrigation cess	2	0.05
10.	Repair & maintenance charge of implements, machinery and buildings	229	5.49

(Contd.)

(Table 31 contd.)

1	2	3333333	4
11. Interest on working capital	344		8.25
12. Other expenses	160		3.84
13. Total cost 'A' (1-12)	4169		100.00
14. Interest on fixed capital (excluding land	592		
15. Cost 'B1' (13 + 14)	4761		
16. Interest on land value	36110		
17. Cost 'B' (15 + 16)	40871		
18. Imputed value of household labour	302		
19. Cost 'C' (17 + 18)	41173		

Note:- Figures in column (4) give the percentage to total cost 'A'.
The percentage of hired human labour hours to total human labour hours is given below.

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

Sex	Holding size class			
	Small	Medium	Large	All sizes
1	2	3	4	5
Male	66.12	68.94	77.73	71.31
Female	4.89	13.49	11.03	11.85
Total	71.01	82.43	88.76	83.16

83% of the total human labour hours has been constituted by hired human labour. Rs.34/- per hectare is spent towards seed/seedlings for new plantation. The cost for farm yard manure and chemical fertilizers per hectare is 1445/- ie. 35% of the total cost 'A' is spent for farmyard manure and chemical fertilizers. Rs.9/- is spent for plant protection per hectare. The expenditure towards land tax and irrigation cess is found to be Rs.9/- per hectare. The charges towards repair, maintenance of implements, machinery, buildings etc. is Rs.229/- per hectare. Interest on working capital is estimated to be Rs.344/- per hectare. The other expenses were found to be Rs.160/- per hectare. The interest on fixed capital is estimated to be Rs.592/- per hectare (excluding land improvement).

ii. Cost 'B1' and Cost 'B'

Cost 'B1' is estimated by adding the interest on fixed capital (excluding land) to Cost 'A'. It is found to be Rs.4761/- per hectare.

Cost 'B' is estimated to be Rs.40871/-. Imputed value of household labour is Rs.302/- per hectare. When compared with the previous round the interest on land value has decreased during the period under report.

iii. Cost 'C'

As in the case of previous round, the family labour is seen to be higher in small holding size class and lower in large holding size class. Cost 'C' is estimated as Rs.41173/- per hectare.

33. Cost of cultivation of coconut per hectare during 1986-87 and 1987-88

Concept of cost	Cost per hectare in (Rs.)		%age of increase in cost of cultivation
	1986-87	1987-88	
1	2	3	4
Cost 'A'	3153	4169	32.22
Cost 'B'	41886	40871	-2.42
Cost 'C'	42135	41173	-2.28

B. Value of product

The total value of output per hectare is seen to be Rs.10774/- during 1987-88.

34. Value of output per hectare

Output	Value in (Rs.)
1	2
Product	10165
By-Product	609
Total	10774

2.3 Tapioca

Tapioca is cultivated throughout the State since it is one of the main food items of the people of Kerala. But the area under tapioca is seen decreasing. During 1987-88, the area under the crop was 1.79 lakh hectares as against 1.93 lakh hectares during 1986-87.

35. The area and average yield of tapioca during 1987-88

Area under tapioca lakh hectares	Average yield per hectare (tonnes)	Percentage of area under tapioca to total cropped area
1	2	3
1.79	17.75	6.24

6% of the total cropped area is under tapioca during 1987-88.

180 holdings were selected for studying the cost of cultivation of tapioca in Kerala. The number of holdings and the area are given below.

36. Area and number of holdings selected

Size class	Number of holdings selected	Area under tapioca in the sample (hectare)	Percentage to total area	Area per holding (hectare)
Small	113	14.11	38.51	0.12
Medium	66	20.42	55.73	0.31
Large	1	2.11	5.76	2.11
All sizes	180	36.64	100.00	0.20

The average area per sample holding is 0.20 hectare. The total area of the holdings selected for studying the cost of cultivation of tapioca was 36.64 hectare.

A. Cost of cultivation

The Cost 'A' is estimated to be Rs.5568/- per hectare. The human, animal and machine labour cost is seen to be Rs.2728/- which is 49% of the total cost 'A'.

37. Cost of cultivation per hectare of Tapioca for the year 1987-'88

Sl. No.	Component of different cost concepts	Cost per Hectare (Rs.)	%age distribution of Cost A
1	2	3	4
1.	Hired human labour	2585	46.43
2.	Animal labour	127	2.28
3.	Machine labour	16	0.29
4.	Seed/seedlings	235	4.21
5.	Farmyard manure	902	16.20
6.	Chemical fertilizers	512	9.20
7.	Plant protection	-	-
8.	Land tax	5	0.09
9.	Irrigation cess	9	0.16
10.	Repair and maintenance of implements, machines, etc.	660	11.85
11.	Interest on working capital	427	7.67
12.	Other expenses	90	1.62
13.	Total Cost 'A' = (1-12)	5568	100.00
14.	Interest on fixed capital	519	
15.	Cost 'B1' = (13 + 14)	6087	
16.	Interest on land value	29540	
17.	Cost 'B' = (15 + 16)	35627	
18.	Imputed value	878	
19.	Cost 'C' = (17 + 18)	36505	

Note:- Figures in columns (4) give the percentage to total Cost 'A'.

The percentage of hired human labour hours engaged in tapioca cultivation is given below:-

38. Percentage distribution of hired human labour hours

Sex	Holding size class			
	Small	Medium	Large	All sizes
1	2	3	4	5
Male	56.59	56.25	79.84	57.02
Female	11.49	21.35	20.16	17.24
Total	68.08	77.60	100.00	74.26

74% of the total human labour hours relates to hired human labour. 4% of the total Cost 'A' is spent towards seed/seedlings and Rs.1414/- is

for farmyard manure and chemical fertilizers. Rs.14/- is spent for land tax and irrigation cess. The repair and maintenance charges on implements and machinery per hectare is Rs.660/-. The interest on working capital is Rs.427/- and other expenses is Rs.90/- respectively. The interest on fixed capital (excluding land value) is Rs.519/- per hectare. Cost 'B1' is estimated to be Rs.6087/-. The interest on land value is estimated to be Rs.29540/- per hectare and Cost 'B' is estimated to be Rs.35627/- per hectare. The imputed value of household labour is Rs.878/- per hectare. Cost 'C' is estimated to be Rs.36505/- per hectare. The estimated cost of tapioca cultivation under different cost concepts are shown below:-

39. Estimated cost of tapioca cultivation

Concept of cost	Cost per hectare (Rs.)
1	2
Cost 'A'	5568
Cost 'B'	35627
Cost 'C'	36505

A comparison between the cost of production of tapioca during 1986-87 and 1987-88 is given in the following table.

40. Cost of tapioca cultivation per hectare during 1986-87 and 1987-88

Concept of cost	Cost per hectare (Rs.)		Percentage increase in cost of cultivation
	1986-87	1987-88	
1	2	3	4
Cost 'A'	4180	5568	33.21
Cost 'B'	34681	35627	2.73
Cost 'C'	35563	36505	2.65

During the two years, the cost 'A' of tapioca cultivation has increased considerably (33%) while Cost 'B' and Cost 'C' has increased nominally (3%).

B. Output

The value of output per hectare is found to be Rs.9098/-

2.4 Banana

Banana is cultivated throughout the State of Kerala. During 1987-88 the area under the crop was 18608 hectares.

41. Area and average yield of Banana

Area under Banana (Hectares)	Percentage of area under the crop to total crop- ped area	Average yield per hectare of Banana (Kgs.)
1	2	3
18608	0.65	11762

Source: Agricultural Statistics 1987-88.

175 holdings were selected for the study of cost of cultivation of banana during 1987-88. The number of holdings selected and the area under the crop are given below:

42. Number of holdings selected and area under the crop

Size class	Number of holdings	Area under the crop	Percentage to total area	Average area per holding (hectare)
1	2	3	4	5
Small	160	13.53	72.90	0.08
Medium	15	5.03	27.10	0.34
Large	-	-	-	-
All sizes	175	18.56	100.00	0.11

The average area per holding is found to be 0.11 hectare. 73% of the total area of the crop is under small holding size. 27% of the total area under the crop belongs to medium household size class.

A. Cost of cultivation

The cost 'A' is estimated to be Rs.22970/- per hectare. The hired human labour cost is found to be Rs.5714/- per hectare which constitutes 25% of the total Cost 'A'.

43. Cost of cultivation per hectare of Banana during 1987-88

Sl. No.	Components of different cost concepts	Cost per hectare (Rs.)	%age distribution of Cost 'A'
1	2	3	4
1.	Hired human labour	5714	24.88
2.	Animal labour	10	0.04
3.	Machine labour	972	4.23
4.	Seed/seedlings	2571	11.19
5.	Farmyard manure & chemical fertilizers	6894	30.01
6.	Plant protection	249	1.08
7.	Land tax and irrigation cess	78	0.34
8.	Repair and maintenance charge of implements, machinery and building	1416	6.17
9.	Interest on working capital	1641	7.15
10.	Other expenses	3425	14.91
11.	Total Cost 'A'	22970	100.00
12.	Interest on fixed capital	762	
13.	Cost 'B1'	23732	
14.	Interest on land value	20614	
15.	Cost 'B'	44346	
16.	Imputed value of household labour	3971	
17.	Cost 'C'	48317	

Note:- Figures in column (4) give the percentage to total Cost 'A'.

The percentage of hired human labour hours engaged in banana cultivation is given below:-

44. Percentage of hired human labour hours to total human labour hours

Sex	Holding size class			
	Small	Medium	Large	All sizes
1	2	3	4	5
Male	45	61	-	49
Female	5	19	-	8
Total	50	80	-	57

The percentage of hired human labour hours engaged in banana cultivation is 57% of the total human labour hours. About 11% of the total cost 'A' is spent towards seed/seedlings, 30% of the total Cost 'A' is spent towards farmyard manure and chemical fertilizers and 1% is for plant protection. The interest on working capital is 7% of the

total Cost 'A'. 15% of the total Cost 'A' is for other expenses. The interest on fixed capital (excluding land) is estimated to be Rs.762/- per hectare.

B. Cost 'B1' and Cost 'C'

Cost 'B1' is estimated to be Rs.23732/- per hectare and Cost 'B' is estimated to be Rs.44346/- per hectare. The imputed value of household labour is Rs.3971/- per hectare. Cost 'C' is found to be Rs.48317/- per hectare. When compared to the previous year Cost 'A' and Cost 'B1' has increased while Cost 'B' and Cost 'C' has decreased during this year.

45. Cost of cultivation per hectare of banana during 1986-87 and 1987-88

Concept of Cost	1986-87	1987-88	Percentage of increase
1	2	3	4
Cost 'A'	22645	22970	1.44
Cost 'B'	47619	44346	(-)6.87
Cost 'C'	51205	48317	(-)5.64

C. Value of product

The value of product per hectare is found to be Rs.39036/- during 1987-88.

Chapter 3 - Summary of Findings

The Cost of cultivation of important crops viz., paddy (Autumn, Winter and Summer), Coconut, Tapioca and Banana are worked out by analysing the data collected through the Survey 1987-88.

1. Autumn Paddy

Even though the cost of cultivation per hectare of Autumn paddy has increased during 1987-88, the value of product has also shown an increasing trend compared to the previous year. This year recorded marginal decline in percentage distribution of cost towards farmyard manure, chemical fertilizers and plant protection measures.

ii. Winter Paddy

Compared to the previous year, Cost 'A' of winter paddy during this round is found to be more or less the same while Cost 'B' and Cost 'C' showed an increasing trend. Value of output increased from Rs.7387/- to Rs.7529/-

iii. Summer Paddy

Cost 'B1' relating to size class analysis of Summer Paddy showed reverse trend in this round. It is found to be higher in the case of small size holdings and lower in large size class, while it was higher in the case of large size class during the previous year.

iv. Coconut

The Cost 'A' Per hectare of coconut cultivation has increased during this round (32%) while Cost 'B' and Cost 'C' showed negative trend.

v. Tapioca

The Cost 'A' relating to the cultivation of Tapioca is found to be increased by 33% when compared to the previous year. 49% of the Cost 'A' comes under hired human labour, animal labour and machine labour and 25% relates to the Cost of farmyard manure and chemical fertilizers.

vi. Banana

From the 175 holdings selected for the study of cost of cultivation of banana during 1987-88, the size class confined to small and medium only. The cost of cultivation per hectare of Banana during 1987-88 is estimated to be Rs.22970/- (Cost 'A'). The value of product per hectare decreased from Rs.39214/- to Rs.39036/- during this year.

Appendix - I
 Cost of cultivation per hectare of paddy (Autumn) during
 the year 1987-88

Sl. No.	Components of different Cost Concept	Holding size class			
		Small	Medium	Large	All sizes
1	2	3	4	5	6
1.	Hired human labour	3264 (51.05)	2631 (46.04)	2305 (51.10)	2799 (50.28)
2.	Animal labour	600 (9.39)	489 (8.56)	257 (5.70)	510 (9.16)
3.	Machine labour	245 (3.83)	291 (5.09)	295 (6.54)	277 (4.98)
4.	Seed/seedlings	421 (6.58)	380 (6.65)	312 (6.92)	388 (6.97)
5.	Farmyard manure	544 (8.51)	888 (15.54)	157 (3.48)	450 (8.08)
6.	Chemical fertilizers	499 (7.81)	490 (8.57)	618 (13.70)	499 (8.96)
7.	Plant protection	51 (0.80)	45 (0.79)	30 (0.67)	45 (0.81)
8.	Land tax	4 (0.06)	4 (0.07)	-	4 (0.07)
9.	Irrigation Cess	3 (0.05)	18 (0.31)	91 (2.02)	17 (0.31)
10.	Repair and maintenance charges of implements, machinery and buildings	434 (6.79)	188 (3.29)	3 (0.07)	253 (4.54)
11.	Interest on working capital	283 (4.43)	262 (4.58)	210 (4.66)	252 (4.53)
12.	Other expenses	45 (0.70)	29 (0.51)	232 (5.14)	73 (1.31)
13.	Total Cost 'A' = (1-12)	6393 (100.00)	5715 (100.00)	4510 (100.00)	5567 (100.00)

(Contd..)

(Appendix - I contd.)

1	2	3	4	5	6
14. Interest on fixed capital (excluding land)	274	258	124	263	
15. Cost 'B1' (13 + 14)	6667	5973	4634	5830	
16. Interest on land value	6941	5054	1567	5428	
17. Cost 'B' (15 + 16)	13608	11027	6201	11258	
18. Imputed value of house- hold labour	564	300	156	370	
19. Cost 'C' (17 + 18)	14172	11327	6357	11628	

Note:- Figures in brackets relates to percentage to total Cost 'A'.

Appendix - II
Cost of cultivation per hectare of Winter Paddy for
the year 1987-88

Sl. No.	Components of different cost concepts	Size class			
		Small	Medium	Large	All sizes
1	2	3	4	5	6
1.	Hired human labour	3397 (49.76)	3003 (53.76)	3118 (56.70)	3117 (53.28)
2.	Animal labour	700 (10.26)	420 (7.52)	199 (3.62)	438 (7.49)
3.	Machine labour	204 (2.99)	310 (5.55)	298 (5.42)	283 (4.84)
4.	Seed/seedlings	441 (6.46)	368 (6.59)	437 (7.95)	399 (6.82)
5.	Farmyard manure	719 (10.53)	441 (7.90)	102 (1.85)	435 (7.43)
6.	Chemical fertilizers	517 (7.57)	542 (9.70)	445 (8.09)	516 (8.82)
7.	Plant protection	74 (1.08)	70 (1.25)	265 (4.82)	111 (1.90)
8.	Land tax	11 (0.16)	8 (0.14)	4 (0.07)	8 (0.14)
9.	Irrigation Cess	6 (0.09)	18 (0.32)	44 (0.80)	20 (0.34)
10.	Repairs & maintenance charges	422 (6.18)	108 (1.93)	186 (3.38)	196 (3.35)

(Contd.)

(Appendix - II contd.)

1	2	3	4	5	6
11. Interest on working capital	304 (4.45)	260 (4.66)	251 (4.57)	268 (4.58)	
12. Other expenses	32 (0.47)	38 (0.68)	150 (2.73)	59 (1.01)	
13. Total Cost 'A' (1-12)	6827 (100.00)	5586 (100.00)	5499 (100.00)	5850 (100.00)	
14. Interest on fixed capital	292	257	303	257	
15. Cost 'B1' (13 + 14)	7119	5843	5802	6107	
16. Interest on land value	7388	6099	4363	6037	
17. Cost 'B' (15 + 16)	14507	11942	10165	12144	
18. Imputed value of house- hold labour	584	265	131	310	
19. Cost 'C' (17 + 18)	15091	12207	10296	12454	

Appendix - III
Cost of cultivation per hectare of Summer Paddy for
the year 1987-88

Sl. No.	Components of different cost concepts	Size class			
		Small	Medium	Large	All sizes
1	2	3	4	5	6
1.	Hired human labour	2930 (42.35)	3243 (52.12)	3601 (57.76)	3160 (48.61)
2.	Animal labour	673 (9.73)	430 (6.91)	263 (4.23)	500 (7.69)
3.	Machine labour	312 (4.51)	281 (4.52)	291 (4.67)	292 (4.49)
4.	Seed/seedlings	427 (6.17)	403 (6.47)	482 (7.73)	416 (6.40)
5.	Farmyard manure	662 (9.57)	250 (4.02)	-	372 (5.72)

(Contd.)

(Appendix - III contd.)

1	2	3	4	5	6
6. Chemical fertilizers	606 (8.77)	728 (11.70)	-	699 (10.75)	
7. Plant protection	151 (2.18)	207 (3.33)	870 (13.96)	222 (3.41)	
8. Land tax	10 (0.14)	5 (0.08)	-	7 (0.11)	
9. Irrigation Cess	50 (0.72)	21 (0.34)	-	29 (0.45)	
10. Repair and maintenance charge of implements, machinery and buildings	696 (10.06)	280 (4.50)	105 (1.68)	405 (6.23)	
11. Other expenses	108 (1.56)	92 (1.48)	330 (5.29)	110 (1.69)	
12. Interest on working capital	293 (4.24)	282 (4.53)	292 (4.68)	289 (4.45)	
13. Total Cost 'A' = (112)	6918 (100.00)	6222 (100.00)	6234 (100.00)	6501 (100.00)	
14. Interest on fixed capital (excluding land)	334	282	121	304	
15. Cost 'B1' = (13 + 14)	7252	6504	6355	6805	
16. Interest on land value	7295	5950	5552	6364	
17. Cost 'B' = (15 + 16)	14547	12454	11907	13169	
18. Imputed value of household labour	868	339	107	498	
19. Cost 'C'	15415	12793	12014	13667	

Appendix - IV

**Cost of cultivation per hectare of Coconut for
the year 1987-88**

Sl. No.	Component of different Cost concept	Size class			
		Small	Medium	Large	All sizes
1	2	3	4	5	6
1.	Hired human labour	1841 (46.05)	1901 (43.62)	1813 (47.16)	1865 (44.72)
2.	Animal labour	7 (0.18)	3 (0.07)	15 (0.39)	7 (0.17)
3.	Machine labour	30 (0.75)	57 (1.30)	97 (2.52)	67 (1.60)
4.	Seed/seedlings	35 (0.38)	9 (0.21)	10 (0.26)	34 (0.82)
5.	Farmyard manure	1044 (26.10)	1208 (27.72)	940 (24.46)	1100 (26.39)
6.	Chemical fertilizers	329 (8.23)	330 (7.57)	373 (9.70)	345 (8.28)
7.	Plant protection	9 (0.23)	12 (0.28)	4 (0.10)	9 (0.22)
8.	Land tax	7 (0.18)	6 (0.14)	8 (0.21)	7 (0.17)
9.	Irrigation Cess	8 (0.20)	2 (0.05)	1 (0.03)	2 (0.05)
10.	Repair and maintenance charge of implements, machinery and building	273 (6.82)	265 (6.08)	161 (4.19)	229 (5.49)
11.	Interest on working capital	331 (8.28)	353 (8.10)	326 (8.48)	344 (8.25)
12.	Other expenses	84 (2.10)	212 (4.86)	96 (2.50)	160 (3.84)
13.	Total Cost 'A' (1-12)	3998 (100.00)	4358 (100.00)	3844 (100.00)	4169 (100.00)

(Contd.)

(Appendix - IV contd.)

1	2	3	4	5	6
14. Interest on fixed capital		691	587	538	592
15. Cost 'B1' (13 + 14)		4689	4945	4382	4761
16. Interest on land value		41944	40904	28949	36110
17. Cost 'B' (15 + 16)		46633	45849	33331	40871
18. Imputed value of house- hold labour		558	328	194	302
19. Cost 'C' (17 + 18)		47191	46177	33525	41173

Appendix - V

Cost of cultivation per hectare of Tapioca for
the year 1987-88

Sl. No.	Components of different Cost concepts	Size Class			
		Small	Medium	Large	All sizes
1	2	3	4	5	6
1.	Hired human labour	2353 (39.55)	2827 (50.77)	1801 (59.73)	2585 (46.43)
2.	Animal labour	47 (0.80)	186 (3.34)	88 (2.92)	127 (2.28)
3.	Machine labour	11 (0.18)	20 (0.37)	16 (0.53)	16 (0.29)
4.	Seed/seedlings	240 (4.03)	249 (4.47)	66 (2.19)	235 (4.21)
5.	Farmyard manure	1117 (18.77)	847 (15.21)	-	902 (16.20)
6.	Chemical fertilizers	497 (8.35)	495 (8.89)	770 (25.54)	512 (9.20)
7.	Plant protection	-	-	-	-
8.	Land tax	8 (0.14)	3 (0.05)	-	5 (0.09)

(Contd..)

(Appendix - V contd.)

1	2	3	4	5	6
9. Irrigation Cess		3 (0.05)	15 (0.28)	-	9 (0.16)
10. Repair & maintenance charges of implements, machinery, etc.		1136 (19.09)	400 (7.18)	-	660 (11.85)
11. Interest on working capital		413 (6.94)	450 (8.08)	274 (9.09)	427 (7.67)
12. Other expenses		125 (2.10)	76 (1.36)	-	90 (1.62)
13. Total Cost 'A' (1 + 12)		5950 (100.00)	5568 (100.00)	3015 (100.00)	5568 (100.00)
14. Interest on fixed capital		526	529	88	519
15. Cost 'B1' (13 + 14)		6476	6097	3103	6087
16. Interest on land value		31250	29501	18483	29540
17. Cost 'B' (15 + 16)		37726	35598	21586	35627
18. Imputed value of household labour		1381	621	-	878
19. Cost 'C' (17 + 18)		39107	36219	21586	36505

Appendix - VI

Cost of cultivation per hectare of Banana during 1987-88

Sl. No.	Component of different Cost concept	Size class			
		Small	Medium	Large	All sizes
1	2	3	4	5	6
1.	Hired human labour	5683 (23.16)	5798 (28.90)	-	5714 (24.88)
2.	Animal labour	14 (0.06)	-	-	10 (0.04)
3.	Machine labour	730 (2.97)	1624 (8.10)	-	972 (4.23)

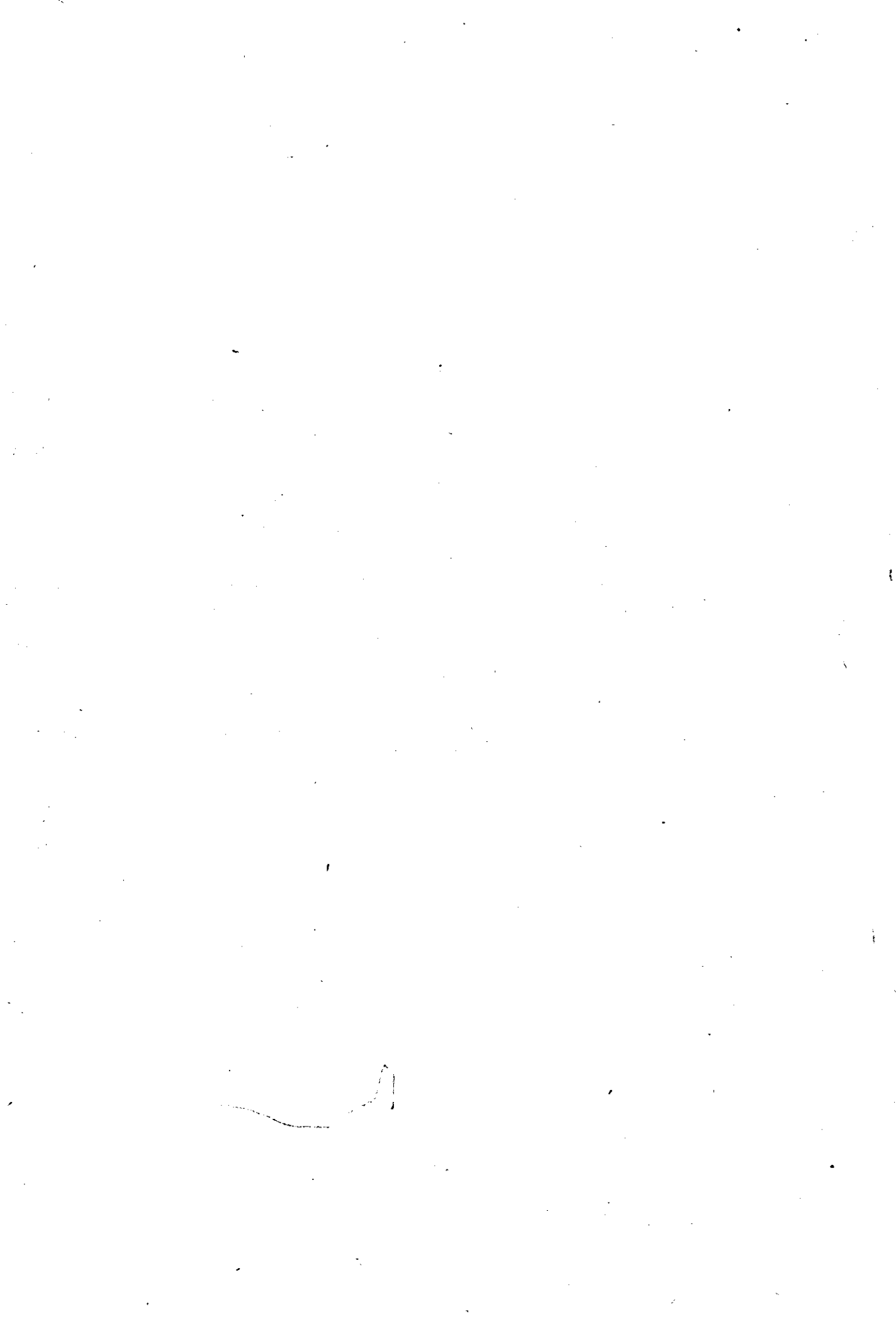
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(Appendix VI Contd.)

1	2	3	4	5	6
4. Seed/seedlings		2855 (11.64)	1726 (8.60)	-	2571 (11.19)
5. Farmyard manure and chemical fertilizers		7781 (31.72)	5589 (27.87)	-	6894 (30.02)
6. Plant protection		244 (0.99)	261 (1.30)	-	249 (1.08)
7. Land tax & Irrigation Cess		49 (0.20)	154 (0.77)	-	78 (0.34)
8. Repair & maintenance charge of implements, machinery and building		1897 (7.73)	320 (1.60)	-	1416 (6.17)
9. Interest on working capital		1731 (7.05)	1500 (7.48)	-	1641 (7.14)
10. Other expenses		3552 (14.48)	3084 (15.38)	-	3425 (14.91)
11. Total Cost 'A' = (1 - 10)		24536 (100.00)	20056 (100.00)	-	22970 (100.00)
12. Interest on fixed capital		761	763	-	762
13. Cost 'B1' = (11 + 12)		25297	20819	-	23732
14. Interest on land value		25468	7557	-	20614
15. Cost 'B' = (13 + 14)		50765	28376	-	44346
16. Imputed value of household labour		4851	1603	-	3971
17. Cost 'C'		55616	29979	-	48317

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