

**Government of Kerala**

***Report On  
Cost of Cultivation of  
Important Crops in Kerala  
2008-09***

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**Department of Economics & Statistics  
Thiruvananthapuram  
2010**

## ***PREFACE***

The growth trend in the agricultural sector has not been consistent in Kerala. Food crops in general have shown a decreasing trend in area and production. The contribution of agriculture to State Income has been on the decline. For formulating proper price policies and for achieving economic efficiency of the crop production sector, studies on Cost of Cultivation of Important Crops in Kerala is essential. With this end in view, this Department conducts annual study on Cost of Cultivation of Important Crops in Kerala.

This report is based on the field study on Cost of Cultivation of Important Crops conducted during the year 2008-09. The crops covered during this year are Paddy (3 seasons), Coconut, Arecanut, Pepper, Banana, Tapioca, Ginger and Turmeric.

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## **Chapter I**

### **GENERAL**

#### **1.1 Introduction**

Government of Kerala accorded sanction for conducting annual survey of cost of cultivation of important crops in the State from 1980-81 onwards vide G.O.(Rt) 466/79/plg dated 27/10/1979. The present report relates to the 29th round of survey conducted during the agricultural year 2008-09. The Department of Economics and Statistics is conducting cost of cultivation survey annually.

The crops covered under the round are given below:-

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

#### **1.2 Objectives**

The main objective of this survey was to estimate the cost of cultivation per hectare of important crops in Kerala and to compare the cost under different concepts, over a period.

#### **1.3. Period of the Survey**

The period of the survey was the Agricultural Year (July to June) 2008-09

#### **1.4. Design of the Survey**

The survey covered all the districts of Kerala by selecting 38 Taluks. From each selected Taluk, two investigator zones were selected using circular systematic sampling method.

## Selection of cultivators

In selected Investigator zones, a list of cultivators growing paddy in the previous autumn season is prepared from the last year's Form I Diary connected with the EARAS works. From this, a list of 5 cultivators who are likely to be engaged in paddy cultivation during the current year are selected at random for cost of cultivation study for the autumn paddy. Similar procedure is adopted for the selection of cultivators for winter and summer paddy.

In case the cultivators selected for cost of cultivation study on Autumn Paddy possess suitable number of plots of other specified crops in stipulated area/numbers those will also be selected for the cost of cultivation study on other crops like Coconut, Pepper, Arecanut, Banana, Tapioca etc.

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

**The number of holdings selected for each crops in a Taluk was as follows:**

1	Paddy	Autumn	10 (5 holdings each from one Investigator zone)
		Winter	10 (5 holdings each from one Investigator zone)
		Summer	10 (5 holdings each from one Investigator zone)
2	Coconut		10 (5 holdings each from one Investigator zone)
3	Arecanut		10 (5 holdings each from one Investigator zone)
4	Pepper		5 (Minimum 2 holdings in one Investigator zone)
5	Banana		5 (Minimum 2 holdings in one Investigator zone)
6	Tapioca		5 (Minimum 2 holdings in one Investigator zone)
7	Ginger		5 (Minimum 2 holdings in one Investigator zone)
8	Turmeric		5 (Minimum 2 holdings in one Investigator zone)

A holding is considered for the study only if it contained at least 25 cents under the crops in the case of paddy and 10 cents for tapioca, banana, ginger and turmeric. In the case of perennial crops like coconut and pepper the holdings should have 25 trees/plants of which a minimum of 50% should be bearing trees/plants.

The holding size group (small, medium and large) of a crop is determined on the basis of the area under the crops under study in the holding as shown below:

Size Group	Holding size	
	Paddy	Other crops
Small	< 0.40 hectare	<0.2 hectare
Medium	0.40 to < 2 hectare	0.20 to < 0.80 hectare
Large	≥ 2 hectare	≥ 0.80 hectare

## 1.5 Schedules

Five schedules were designed for the survey

Schedule -1	Selected Investigator zone
Schedule -2	Summary of Form I Diary
Schedule –3	List of selected cultivators
Schedule –4	General Particulars
Schedule –5	In this schedule, the cultivation expenses incurred for a crop in each fortnight is reported.

## 1.6 Field work

Fieldwork was done in 38 selected Taluks. One Investigator is posted in each Taluk for this purpose. The investigators visited the selected holdings/cultivators every fortnight and recorded fortnightly details of agricultural operations in schedule 5. The fieldwork was supervised by Taluk Statistical Officer/Statistical Inspector at the Taluk level and Deputy Director/ District officer /other district level Officer at the District level.

## **1.7 Processing and Analysis of Data**

The compilation and tabulation were done at district level. The state level consolidation of the data, the report writing and analysis are done at the Directorate.

## **1.8 Method of Estimation of Cost**

### **(a) Concepts of Cost.**

Different cost concepts, cost 'A', cost 'B1', 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 expenses incurred for

- i. Hired human labour
- ii. Animal labour
- iii. Machine labour
- iv. Seed/ seed lings
- v. Farm yard Manure and Chemical fertilizers
- vi. Plant protection
- vii. Land tax and Irrigation Cess
- viii. Repair and maintenance charges of implements, machinery and buildings
- ix. Interest on working capital
- x. Other expenses

**Cost 'B1':** Cost 'A' + Interest on fixed assets (excluding land)

**Cost 'B':** Cost 'B1' + interest on land value

**Cost 'C':** Cost 'B' + Imputed value of family labour

**(b) Procedure for imputation of values of owned inputs**

In the production process, certain inputs from home stocks are used. In order to estimate the cost of cultivation, it is necessary to impute the value of these inputs. The procedures used for the imputation of values of such home stock inputs are indicated below:

i	Family 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 own stock and exchange human labour
iii	Owned and Exchange animal labour	The charges paid 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 (house grown) seed has been imputed at the prices prevalent in the investigator zone concerned at the time of sowing
vii	Farm produced manure	Imputed at the rate prevalent in the zone concerned.
viii	Interest on fixed capital	Interest on the present value of fixed assets such as land, farm, building, implements, machinery, irrigation structure, equipments 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 (i.e. rent, land tax etc) incurred during the period of cultivation
X	Payments of kind	The payments in kind have been evaluated at the market prices prevalent in the locality at the time of payment. Perquisites have been included in the payments in kind calculated at the market



prices.

**(c) Allocation of joint costs to different crops**

Some of the inputs used for the cultivation of one crop are common for many 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 charges of implements	In proportion to the area under the crop
ii	Interest on fixed capital (excluding land)	In proportion to the area under the crop
iii	Interest on land value	Interest on the value of land under the crop

**(d) Procedure for valuation of farm assets**

i	Own farm buildings (cattle sheds, storage shed etc)	Valuated at prices prevailing in the locality
ii	Implements and other machinery	Valuated at prevalent market prices
iii	Livestock (only draught animals)	Valuated at prevalent market prices

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 the period of 6 months is taken in to account. The land value is estimated at the current market rate in the different areas. There is a controversy in the assessment of land value. The land value is increasing considerably. If the actual value is taken for calculating the interest on land value, no cultivation is profitable in the State. However, there is always a tendency to under report the land value. It is therefore necessary

to evolve a method or criteria to estimate the land value reasonably while calculating the cost of cultivation of crops.

## CHAPTER 2

### RESULTS OF THE SURVEY

The crops selected for this round of study were paddy (autumn, winter and summer) coconut, tapioca , banana pepper, Arecanut, Ginger and Turmeric. The cost of cultivation of crops are calculated under three different cost concepts viz Cost ‘A’, Cost ‘B’, and Cost ‘C’ respectively.

#### 2.1.1 Paddy- Autumn

For this study details of holding selected and area coverage are given below. The data collected from 342 holding by covering 194.40 hectares of land.

**Table 1 - Area and number of holdings under autumn paddy during 2008-09**

Holding size class	No of selected holdings	Area under the crop in the sample (ha)	Percentage Area	Average Area per holding (ha)
Small	194	43.80	22.53	0.23
Medium	128	91.80	47.22	0.72
Large	20	58.80	30.25	2.94
<b>Total</b>	<b>342</b>	<b>194.40</b>	<b>100.00</b>	<b>0.57</b>

From the above table it can be seen that average area per holding was 0.57 hectare

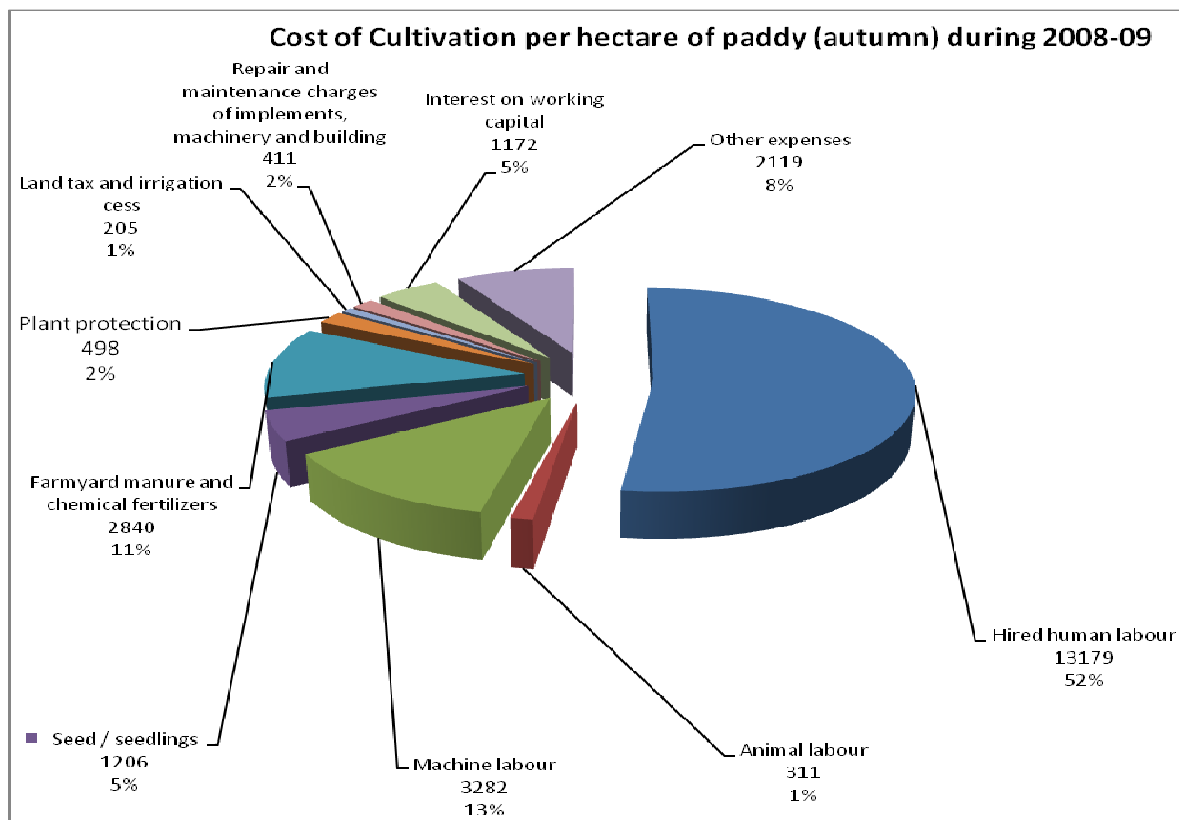
#### **Cost of cultivation**

When Cost A is considered about 52 percent of cost constitutes to hired human labour, farmyard manure and chemical fertilizers accounts to 11% and Machine labour cost shares 13%.

**Table 2- Cost of Cultivation per hectare of paddy (autumn) during 2008-09**  
(Per Hectare in Rs.)

Sl	Components	Holding size Class
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No		Small	Medium	Large	All Size
1	Hired human labour	16347	13695	9991	13179
2	Animal labour	437	444	7	311
3	Machine labour	3234	3383	3159	3282
4	Seed / seedlings	1326	1132	1231	1206
5	Farmyard manure and chemical fertilizers	3323	3037	2168	2840
6	Plant protection	410	425	678	498
7	Land tax and irrigation cess	167	145	327	205
8	Repair and maintenance charges of implements, machinery and building	941	374	72	411
9	Interest on working capital	1327	1204	1005	1172
10	Other expenses	1467	1954	2868	2119
<b>11</b>	<b>Total cost 'A' (1-10)</b>	<b>28979</b>	<b>25793</b>	<b>21506</b>	<b>25223</b>
12	Interest on fixed capital	5074	2378	510	2426
<b>13</b>	<b>Cost 'B1' (11+12)</b>	<b>34053</b>	<b>28171</b>	<b>22016</b>	<b>27649</b>
14	Interest on land value	69343	41282	29561	44111
<b>15</b>	<b>Cost 'B' (13+14)</b>	<b>103396</b>	<b>69453</b>	<b>51577</b>	<b>71760</b>
16	Imputed value of household labour	3573	2255	1124	2213
<b>17</b>	<b>Cost 'C' (15+16)</b>	<b>106969</b>	<b>71708</b>	<b>52701</b>	<b>73973</b>



**Table 3: Percentage of Hired human labour hours to total human labour hours**

Sex	Holding size class			
	Small	Medium	Large	All Sizes
Male	23.33	21.85	22.07	22.32
Female	58.72	64.27	69.77	63.79
<b>Total</b>	<b>82.05</b>	<b>86.11</b>	<b>91.84</b>	<b>86.12</b>

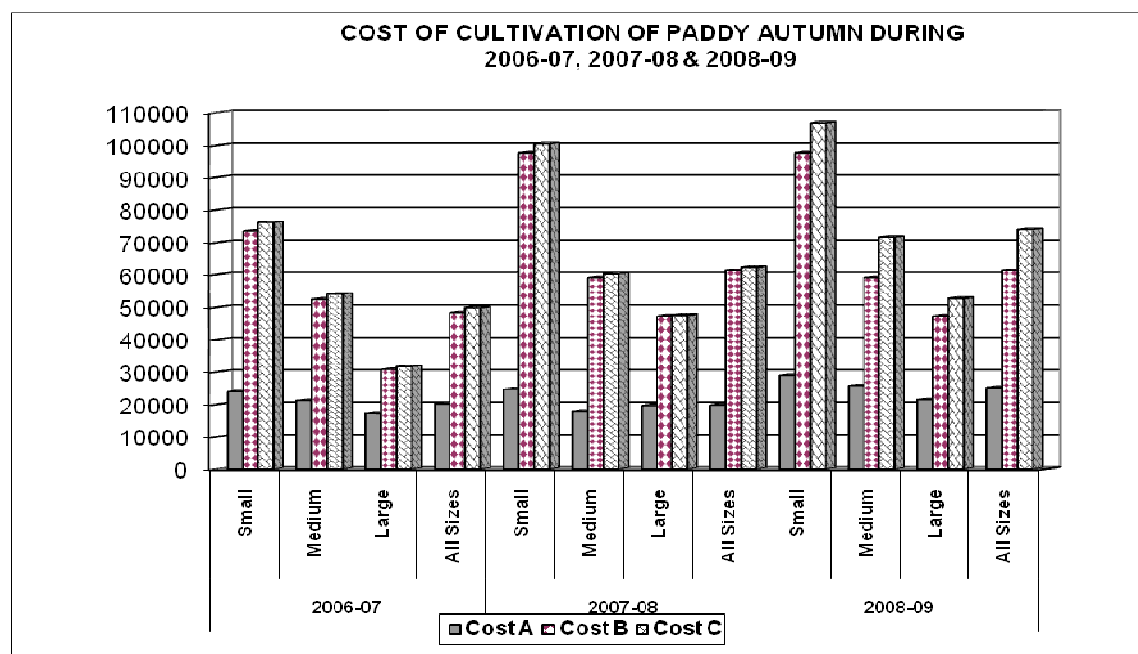
In Autumn paddy cultivation 64% of total labour hours shares to female participation.

### Cost of production of paddy during 2006-07 ,2007-08 and 2008-09

**Table: 4 Cost of production of Autumn paddy per hectare 2006-07 ,2007-08 and 2008-09**

Concept of cost	Year	Holding size class			
		Small	Medium	Large	All Sizes
Cost 'A'	2006-07	23963	21194	17226	20238
	2007-08	24761	17867	19712	19851
	2008-09	28979	25793	21506	25223
Cost 'B'	2006-07	73422	52446	30776	48358

	2007-08	97459	59089	47334	61245
	2008-09	103396	69453	51577	71760
Cost 'C'	2006-07	76112	54072	31738	49938
	2007-08	100492	60286	47617	62404
	2008-09	106969	71708	52701	73973



### 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. The survey results show that during 2008-09 for producing one quintal of paddy Rs.729/- has been expended by the farmer when Cost 'A' is considered. Details are given below:

**Table: 5 Per Quintal Cost of Production of Autumn paddy during 2006-07, 2007-08 & 2008-09**

Concept of cost	Year	Holding size class			
		Small	Medium	Large	All Sizes
Cost 'A'	2006-07	751	673	438	595
	2007-08	928	853	1198	986
	2008-09	917	788	541	729
Cost 'B'	2006-07	835	755	456	651

	2007-08	3650	2824	2879	3041
	2008-09	3274	2121	1301	2076
Cost 'C'	2006-07	2384	1717	806	1467
	2007-08	3764	2881	2896	3099
	2008-09	3387	2190	1329	2140

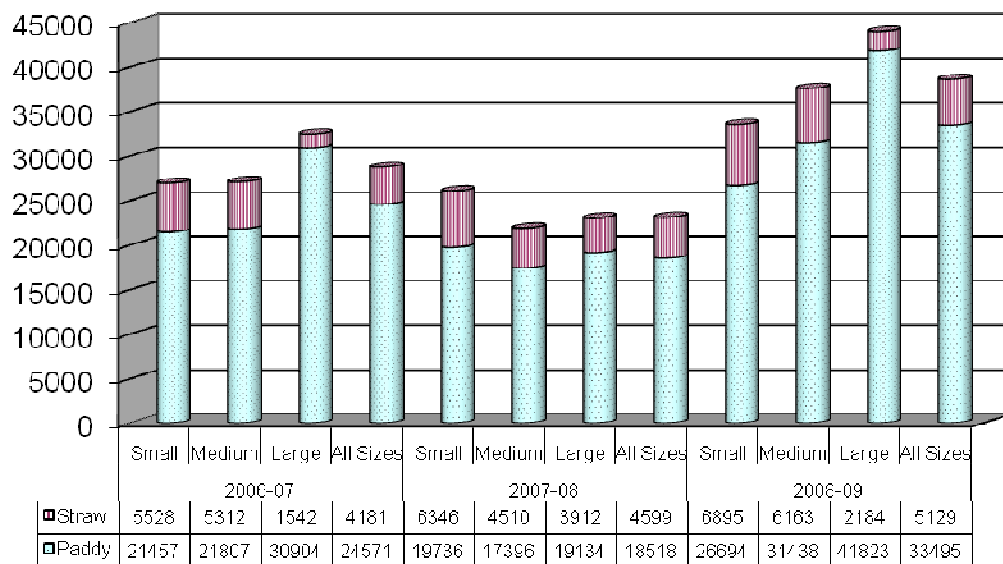
### Output

The details of product and by-product of Autumn Paddy cultivation are given below.

**Table: 6 Value of product and by-product per hectare of Autumn paddy during 2006-07 , 2007-08 & 2008-09**

Year	Product/ By product	Holding size class			
		Small	Medium	Large	All size
2006-07	Paddy	21457	21807	30904	24571
	Straw	5528	5312	1542	4181
	<b>Total</b>	<b>26985</b>	<b>27119</b>	<b>32446</b>	<b>28752</b>
2007-08	Paddy	19736	17396	19134	18518
	Straw	6346	4510	3912	4599
	<b>Total</b>	<b>26082</b>	<b>21906</b>	<b>23046</b>	<b>23117</b>
2008-09	Paddy	26694	31438	41823	33495
	Straw	6895	6163	2184	5129
	<b>Total</b>	<b>33589</b>	<b>37600</b>	<b>44007</b>	<b>38624</b>

**VALUE OF PRODUCT AND BY PRODUCT PER HECTARE OF AUTUMN PADDY DURING 2006-07, 2007-08 & 2008-09**



### 2.1.2 Paddy-Winter

During 2008-09 Cost of cultivation study on winter paddy was conducted in 380 holdings by covering 337.70 hectare of land. Details of these holdings are given below:

**Table 7 – Area and number of holdings under winter paddy during 2008-09**

Holding size class	No of selected holdings	Area under the crop in the sample (ha)	Percentage Area	Area per holding (ha)
Small	194	42.00	12.44	0.22
Medium	150	110.80	32.81	0.74
Large	36	184.90	54.75	5.14
<b>Total</b>	<b>380</b>	<b>337.70</b>	<b>100.00</b>	<b>0.89</b>

For the study on winter paddy cultivation during 2008-09, an area of 337.70 hectares was included. The average size of the holding was 0.89 hectares.

### **Cost of Cultivation**

In Cost A, the major share of the cost component was hired human labour. It constitutes 48 per cent. Another two major items were farmyard manure and chemical fertilizers and machine labour. It shows to 11% and 15% respectively. Interest on working capital accounts was 5%. By considering the various cost component of winter paddy cultivation it can be seen that per hectare cost calculated as Rs.28883/-.

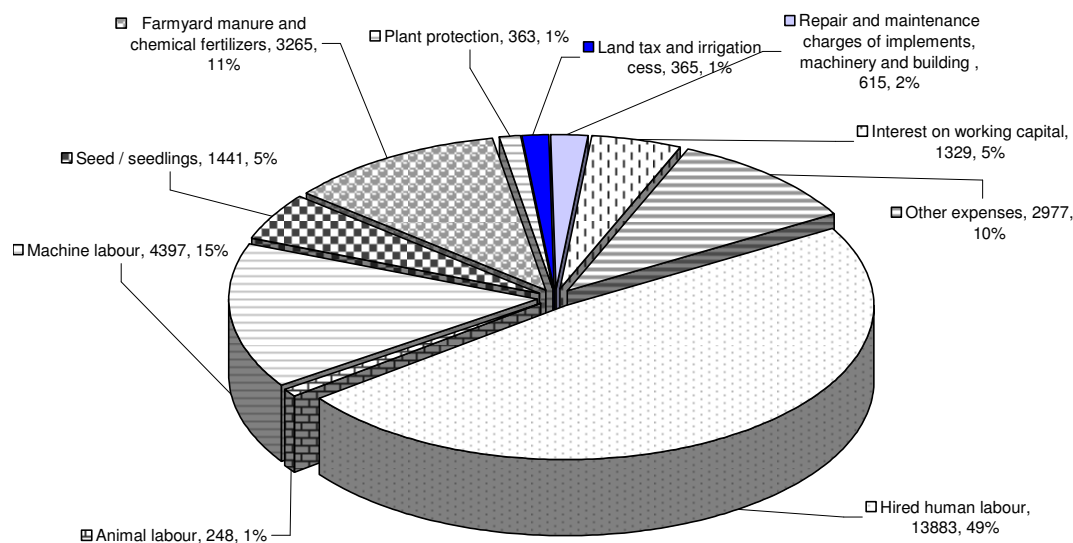
**Table 8 – Cost of cultivation per hectare of winter paddy during the year 2008-09**

(Per Hectare in Rs.)

Sl No	Components	Holding size Class			
		Small	Medium	Large	All Size
1	Hired human labour	18578	16186	11419	13883
2	Animal labour	760	313	92	248
3	Machine labour	3649	4196	4690	4397
4	Seed / seedlings	1461	1293	1526	1441
5	Farmyard manure and chemical fertilizers	4153	3235	3078	3265
6	Plant protection	309	289	421	363
7	Land tax and irrigation Cess	98	195	529	365
8	Repair and maintenance charges of implements, machinery and building	1571	1169	62	615

9	Interest on working capital	1528	1371	1257	1329
10	Other expenses	1650	1909	3923	2977
<b>11</b>	<b>Total Cost 'A' (1-10)</b>	<b>33757</b>	<b>30156</b>	<b>26997</b>	<b>28883</b>
12	Interest on fixed capital	4903	1617	541	1443
13	Cost 'B1' (11+12)	<b>38660</b>	<b>31773</b>	<b>27538</b>	<b>30326</b>
14	Interest on land value	47476	68154	37794	48968
<b>15</b>	<b>Cost 'B' (13+14)</b>	<b>86136</b>	<b>99927</b>	<b>65332</b>	<b>79294</b>
16	Imputed value of household labour	4018	2205	1179	1873
<b>17</b>	<b>Cost 'C' (15+16)</b>	<b>90154</b>	<b>102132</b>	<b>66511</b>	<b>81167</b>

PERCENTAGE DISRIBUTION OF "COST A" CULTIVATION PER HECTARE OF PADDY-WINTER  
2007-08



Sex wise work participation in winter paddy cultivation reveals that 67% of work shared by

Female whereas 22% shared by male workers.

The following table reveals the percentage of hired human labours hours to total human labour hours.



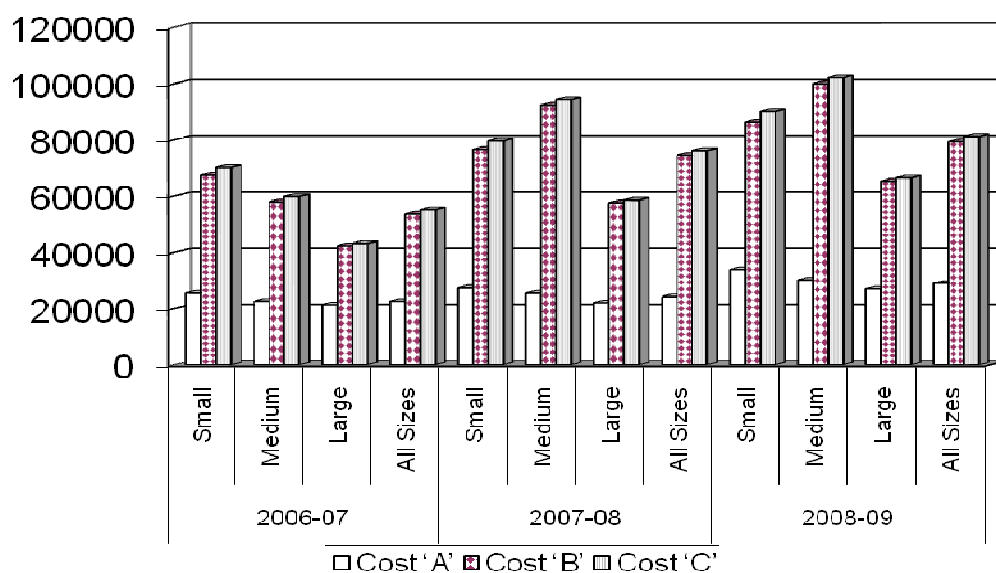
**Table 9 – Percentage of hired human labours to total human labour hours**

Sex	Holding size class			
	Small	Medium	Large	All Sizes
Male	24.47	22.33	20.70	22.05
Female	57.28	67.11	72.02	67.29
<b>Total</b>	<b>81.75</b>	<b>89.44</b>	<b>92.72</b>	<b>89.35</b>

**Table: 10 Cost of Cultivation per hectare of winter paddy during 2006-07 , 2007-08 &2008-09**

Concept of cost	Year	Holding Size class			
		Small	Medium	Large	All size
Cost 'A'	2006-07	25484	22618	21283	22605
	2007-08	27321	25453	22022	24198
	2008-09	33757	30156	26997	28883
Cost 'B'	2006-07	67426	57935	42304	53583
	2007-08	76506	93462	56548	74421
	2008-09	86136	99927	65332	79294
Cost 'C'	2006-07	70065	59805	43065	55161
	2007-08	79531	95402	57519	76091
	2008-09	90154	102132	66511	81167

### COST OF CULTIVATION OF PADDY -WINTER DURING 2006-07 , 2007-08 & 2008-09



### Cost of production of winter paddy

**Table: 11 Per Quintal Cost of production of winter paddy during  
2006-07, 2007-08 & 2008-09**

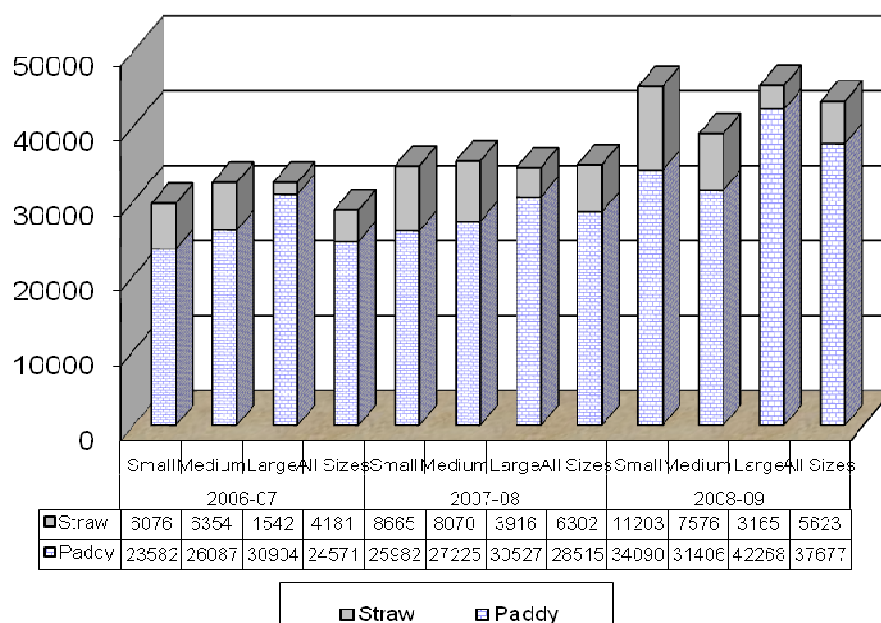
Concept of cost	Year	Holding size class			
		Small	Medium	Large	All Sizes
Cost 'A'	2006-07	742	657	574	638
	2007-08	701	791	877	804
	2008-09	935	930	728	816
Cost 'B'	2006-07	1963	1684	1141	1512
	2007-08	1962	2866	2290	2474
	2008-09	2385	3077	1764	2240
Cost 'C'	2006-07	2040	1738	1161	1557
	2007-08	2040	2926	2329	2530
	2008-09	2496	3145	1796	2293

## Output

**Table: 12 - Value of output (Rs/ha)**

Year	Product/ By product	Holding size class			
		Small	Medium	Large	All size
2006-07	Paddy	23225	24839	30297	26655
	Straw	7686	6068	2230	4875
	<b>Total</b>	<b>30911</b>	<b>30907</b>	<b>32527</b>	<b>31530</b>
2007-08	Paddy	25982	27225	30527	28515
	Straw	8665	8070	3916	6302
	<b>Total</b>	<b>34647</b>	<b>35295</b>	<b>34443</b>	<b>34817</b>
2008-09	Paddy	34090	31406	42268	37677
	Straw	11203	7576	3165	5623
	<b>Total</b>	<b>45293</b>	<b>38982</b>	<b>45433</b>	<b>43300</b>

**VALUE OF PRODUCT AND BY PRODUCT PER HECTARE OF WINTER-PADDY DURING 2006-07 , 2007-08 & 2008-09**



### 2.1.3 Paddy - Summer (Punja)

For the cost of cultivation study on summer paddy during 2008-09 the total number of holdings selected was 369. Number of holdings selected in large holding size is 41. The details of these holdings are presented below:

**Table 13 : Area under Summer Paddy during 2008-09**

Holding size class	No of selected holdings	Area under the crop in the sample (ha)	Percentage	Area per holding (ha)
Small	198	40.80	12.44	0.21
Medium	130	106.00	32.33	0.82
Large	41	181.10	55.23	4.42
<b>All Size</b>	<b>369</b>	<b>327.90</b>	<b>100.00</b>	<b>0.89</b>

The above table reveals that the total area under cultivation in the selected sample holdings covers to 327.90 hectares and the average size of a holding is 0.89 hectare.

#### **Cost of Cultivation**

Cost of cultivation of summer paddy per hectare is estimated as Rs. 39920/- when cost 'A' is considered. Component wise holding size class details are presented below:

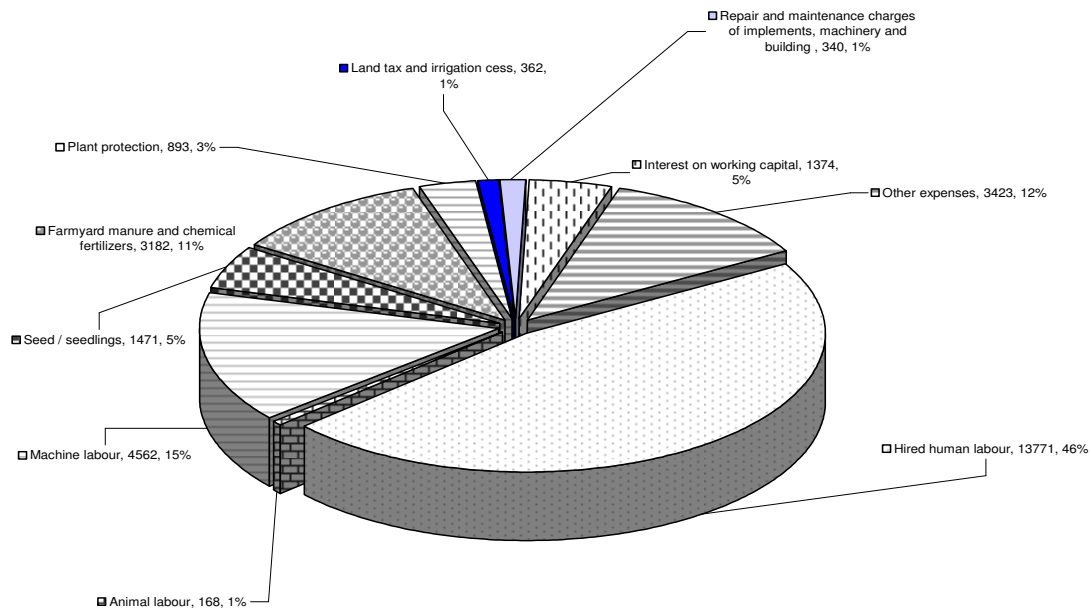
**Table 14: Cost of Cultivation per hectare of paddy -summer during 2008-09**

(Per Hectare in Rs.)

Sl No	Components	Holding size Class			
		Small	Medium	Large	All Size
1	Hired human labour	17600	14756	12313	13771
2	Animal labour	575	265	18	168
3	Machine labour	3865	4905	4521	4562
4	Seed / seedlings	1641	1378	1486	1471
5	Farmyard manure and chemical fertilizers	3483	3211	3097	3182
6	Plant protection	505	622	1141	893
7	Land tax and irrigation Cess	140	188	515	362
8	Repair and maintenance charges of implements, machinery and building	1188	504	50	340
9	Interest on working capital	1490	1419	1320	1374

10	Other expenses	2125	3239	3828	3423
<b>11</b>	<b>Total Cost 'A' (1-10)</b>	<b>32612</b>	<b>30487</b>	<b>28289</b>	<b>29546</b>
12	Interest on fixed capital	4219	982	131	923
<b>13</b>	<b>Cost 'B1' (11+12)</b>	<b>36831</b>	<b>31469</b>	<b>28420</b>	<b>30469</b>
14	Interest on land value	70109	51063	34091	44131
<b>15</b>	<b>Cost 'B' (13+14)</b>	<b>106940</b>	<b>82532</b>	<b>62511</b>	<b>74600</b>
16	Imputed value of household labour	5358	2656	1176	2183
<b>17</b>	<b>Cost 'C' (15+16)</b>	<b>112298</b>	<b>85188</b>	<b>63687</b>	<b>76783</b>

PERCENTAGE DISRIBUTION OF "COST A" CULTIVATION PER HECTARE OF PADDY-SUMMER 2008-09



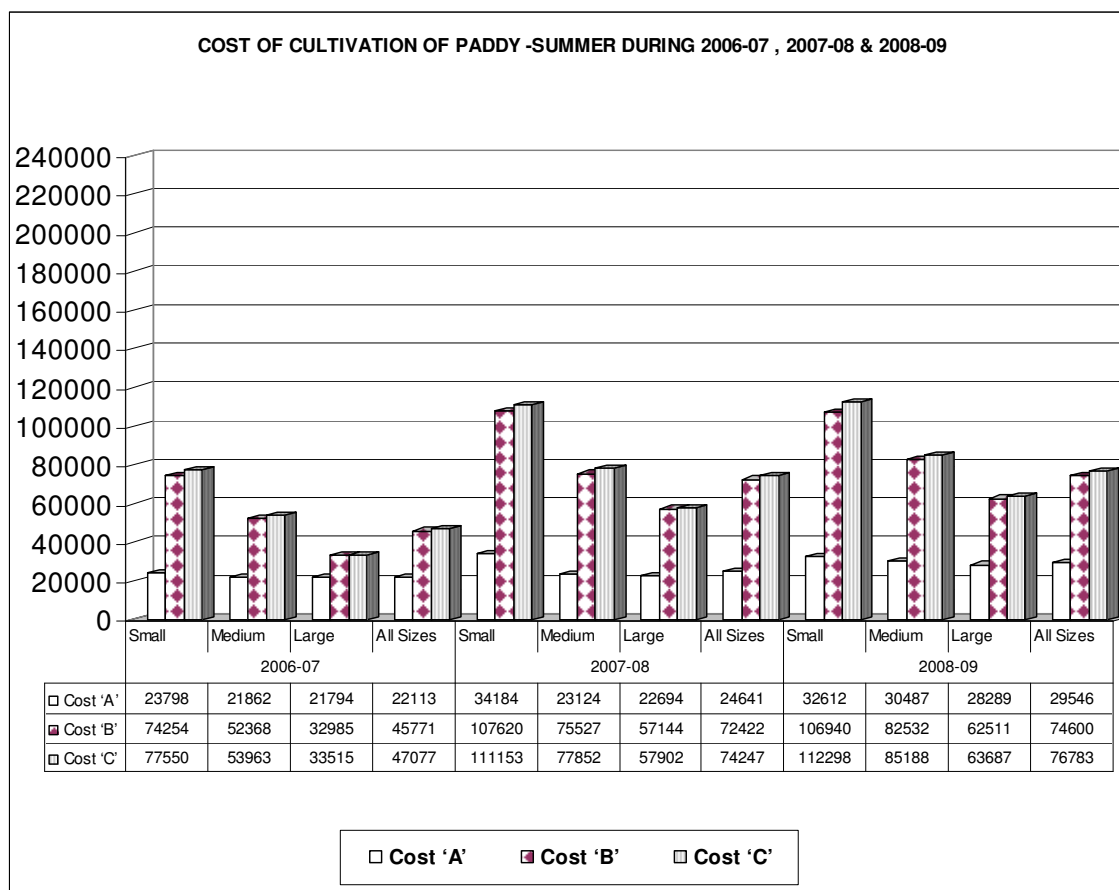
In summer paddy cultivation female labour participation accounted as 64% of the total labour hours. Details are given below:

**Table 15: Percentage of hired human labour hours engaged in summer paddy**

Sex	Holding size class			
	Small	Medium	Large	All Sizes
Male	23.45	22.58	21.42	22.21
Female	52.20	62.01	70.36	63.95
<b>Total</b>	<b>75.65</b>	<b>84.59</b>	<b>91.78</b>	<b>86.17</b>

**Table: 16 Cost of Cultivation per hectare of Summer paddy during 2006-07, 2007-08 & 2008-09**

Concept of cost	Year	Holding Size class			
		Small	Medium	Large	All size
Cost 'A'	2006-07	23798	21862	21794	22113
	2007-08	34145	23122	22685	24640
	2008-09	<b>32612</b>	<b>30487</b>	<b>28289</b>	<b>29546</b>
Cost 'B'	2006-07	74254	52368	32985	45771
	2007-08	107495	75518	57123	72420
	2008-09	<b>106940</b>	<b>82532</b>	<b>62511</b>	<b>74600</b>
Cost 'C'	2006-07	77550	53963	33515	47077
	2007-08	111024	77842	57881	74245
	2008-09	<b>112298</b>	<b>85188</b>	<b>63687</b>	<b>76783</b>



## Output

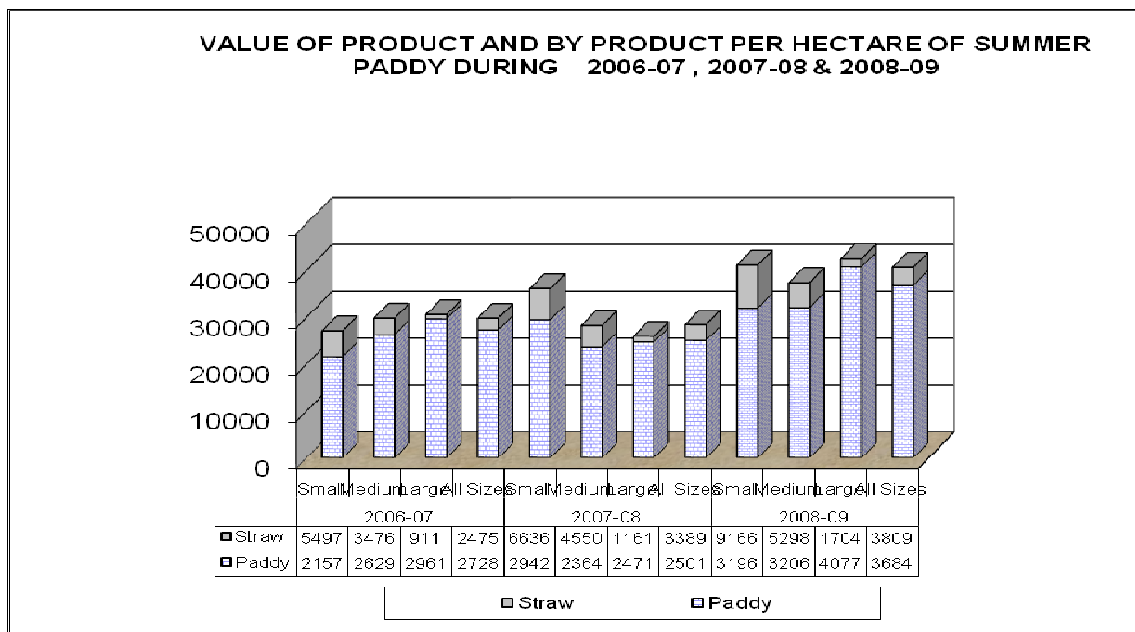
**Table: 17 Per Quintal Cost of production of paddy-Summer during 2006-07 , 2007-08 & 2008-09**

Concept of cost	Year	Holding size class			
		Small	Medium	Large	All Sizes
Cost 'A'	2006-07	742	550	595	597
	2007-08	772	622	715	686
	2008-09	1029	767	701	756
Cost 'B'	2006-07	2316	1317	900	1235
	2007-08	2426	2030	1800	2017
	2008-09	3372	2076	1548	1909
Cost 'C'	2006-07	2419	1357	914	1270
	2007-08	2506	2092	1824	2068
	2008-09	3541	2143	1577	1965

Above tables reveal that for producing one quintal of paddy in summer season an amount of Rs.756/- is required when cost 'A' is considered. Per hectare value of product paddy is calculated as Rs.36844/- and the value of by-product viz. straw is estimated as Rs.3809/-

**Table 18: Value of Out put (Rs./ha)**

Year	Product/ By product	Holding size class			
		Small	Medium	Large	All size
2006-07	Paddy	21578	26299	29612	27281
	Straw	5497	3476	911	2475
	<b>Total</b>	<b>80947</b>	<b>84901</b>	<b>78037</b>	<b>81478</b>
2007-08	Paddy	29425	23648	24717	25012
	Straw	6636	4550	1161	3389
	<b>Total</b>	<b>36061</b>	<b>28198</b>	<b>25878</b>	<b>28401</b>
2008-09	Paddy	31964	32065	40772	36844
	Straw	9166	5298	1704	3809
	<b>Total</b>	<b>41129</b>	<b>37363</b>	<b>42475</b>	<b>40652</b>



## 2.2 Coconut

Coconut is grown in over 93 countries. Kerala's share in area as well as production of coconut in the country has been declining years after years. Still the State is known as "Kera Nadu" and it provides livelihood to over 3.5 million families in Kerala. As such data regarding the Cost of Cultivation of Coconut is significant. Details of the study conducted during 2008-09 are presented below.

**Table 19: Number of Holdings and Area under coconut**

Holding size class	No of selected holdings	Area under the coconut in the sample (ha)	Percentage	Area per holding (ha)
Small	122	17.40	9.95	0.14
Medium	183	66.90	38.25	0.37
Large	74	90.60	51.80	1.22
<b>Total</b>	<b>379</b>	<b>174.90</b>	<b>100.00</b>	<b>0.46</b>

### Cost of Cultivation

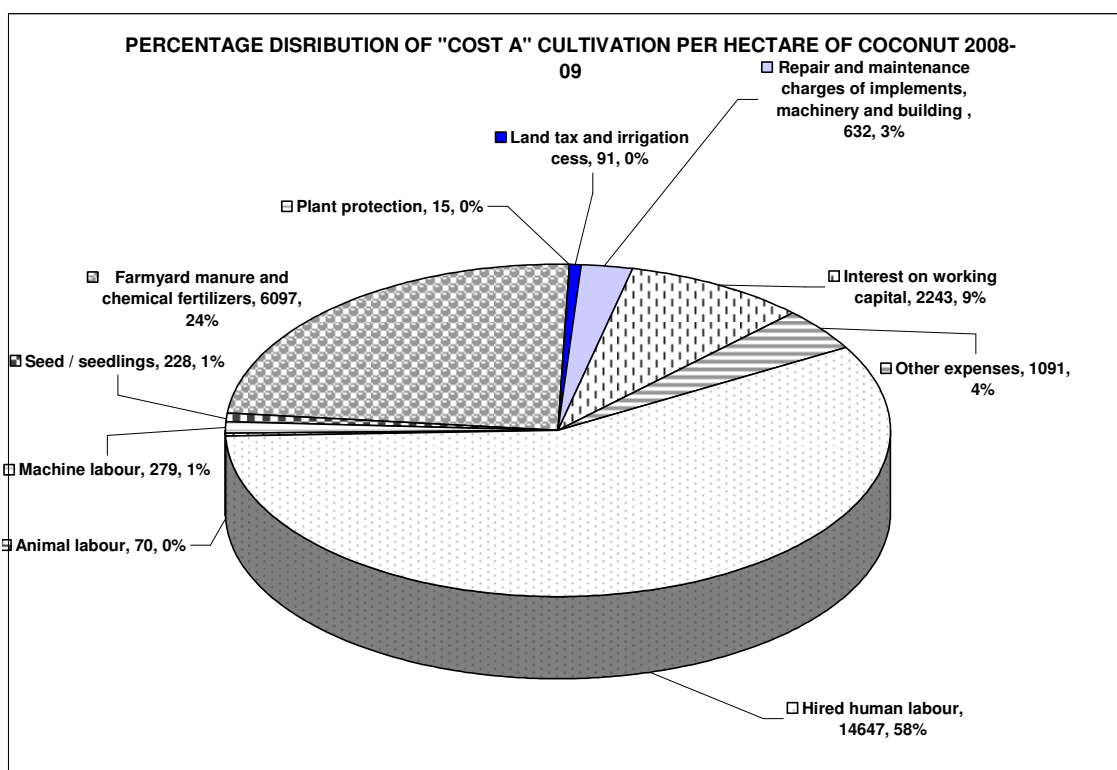
The cultivation practices and expenditure patterns of coconut tree is entirely different when compared to paddy. Details are given below.



**Table 20: Cost of Cultivation of Coconut during the year 2008-09**

(Per Hectare in Rs.)

Sl No	Components	Holding size Class			
		Small	Medium	Large	All Size
1	Hired human labour	14859	16105	13522	14647
2	Animal labour	40	14	118	70
3	Machine labour	298	244	302	279
4	Seed / seedlings	137	165	293	228
5	Farmyard manure and chemical fertilizers	7343	6531	5527	6097
6	Plant protection	11	13	18	15
7	Land tax and irrigation Cess	66	87	99	91
8	Repair and maintenance charges of implements, machinery and building	1082	755	452	632
9	Interest on working capital	2412	2420	2078	2243
10	Other expenses	1436	1124	999	1091
<b>11</b>	<b>Total Cost 'A' (1-10)</b>	<b>27684</b>	<b>27458</b>	<b>23408</b>	<b>25393</b>
12	Interest on fixed capital	8762	6422	4319	5577
13	Cost 'B1' (11+12)	<b>36446</b>	<b>33880</b>	<b>27727</b>	<b>30970</b>
14	Interest on land value	482432	471319	383381	427127
<b>15</b>	<b>Cost 'B' (13+14)</b>	<b>518878</b>	<b>505199</b>	<b>411108</b>	<b>458097</b>
16	Imputed value of household labour	5168	3293	2255	2949
<b>17</b>	<b>Cost 'C' (15+16)</b>	<b>524046</b>	<b>508492</b>	<b>413363</b>	<b>461046</b>



The above data reveals that the major two inputs are hired human labour and farmyard manure and chemical fertilizers. Both of these items are accounted as 58% and 24% respectively.

The following table reveals percentage distribution of hired human labour hours to the total human labour hours.

**Table 21: Percentage distribution of hired human labour hours to the total human labour hours**

Sex	Holding Size Class			
	Small	Medium	Large	All Sizes
Male	69.56	66.74	68.24	67.86
Female	5.96	12.45	13.56	11.90
<b>Total</b>	<b>75.52</b>	<b>79.19</b>	<b>81.80</b>	<b>79.76</b>

**Table 22: Cost of Cultivation per hectare of Coconut during 2006-07, 2007-08 & 2008-09**

Concept of cost	Year	Holding Size class			
		Small	Medium	Large	All size
Cost 'A'	2006-07	25828	20656	20043	20775

	2007-08	28180	24030	22251	23265
	2008-09	<b>27684</b>	<b>27458</b>	<b>23408</b>	<b>25393</b>
Cost 'B'	2006-07	389947	243875	196045	234570
	2007-08	407977	267752	255887	270200
	2008-09	<b>518878</b>	<b>505199</b>	<b>411108</b>	<b>458097</b>
Cost 'C'	2006-07	393227	245827	197173	236201
	2007-08	412741	270383	257561	272412
	2008-09	<b>524046</b>	<b>508492</b>	<b>413363</b>	<b>461046</b>

### Value of output

**Table 23: Value of Out put / Hectare**

Product/By-product	Holding Size Class			
	Small	Medium	Large	All Sizes
Product	41789	46146	42049	43589
By-Product	1274	1704	1525	1568
<b>Total</b>	<b>43063</b>	<b>47850</b>	<b>43574</b>	<b>45157</b>

The table shows the value of output is Rs.45157/- per hectare.

### 2.3 Arecanut

Arecanut, a traditional crop of the state is also facing certain problems especially in area. Details of the area covered under this study are as follows:

**Table. 24 Area and Number of holdings under Arecanut cultivation.**

Holding size class	No of selected holdings	Area under the crop in the sample (ha)	Percentage	Area per holding (ha)
Small	275	17.20	25.98	0.05
Medium	82	26.90	40.63	0.33
Large	23	22.10	33.38	0.96
<b>All size</b>	<b>380</b>	<b>66.20</b>	<b>99.99</b>	<b>0.17</b>

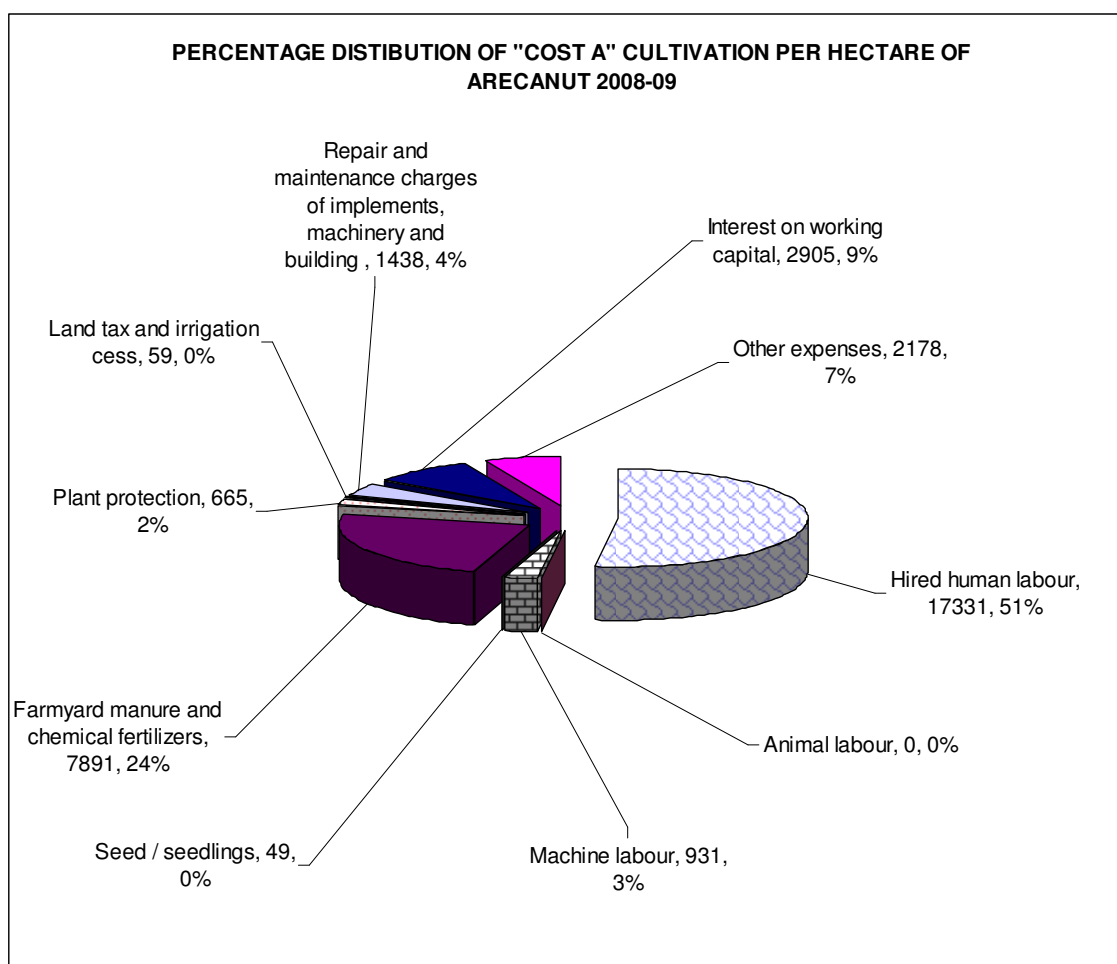
For this study 380 holdings were selected. It had an operational area of 66.20 hectare. The average size per holding was 0.17 hectare.

### Cost of Cultivation

The different cost components of Arecanut cultivation is given below: Per hectare cost C expenses is worked out as Rs.364301 /-

**Table 25: Cost of Cultivation per hectare of Arecanut during the year 2008-09**

Sl No	Components	(Per Hectare in Rs.) Holding size Class			
		Small	Medium	Large	All Size
1	Hired human labour	14196	17217	19982	17331
2	Animal labour	0	0	0	0
3	Machine labour	142	836	1680	931
4	Seed / seedlings	76	36	42	49
5	Farmyard manure and chemical fertilizers	7320	7870	8374	7891
6	Plant protection	681	767	526	665
7	Land tax and irrigation Cess	67	54	57	59
8	Repair and maintenance charges of implements, machinery and building	1831	1685	819	1438
9	Interest on working capital	2367	2864	3385	2905
10	Other expenses	1251	1917	3243	2178
11	Total Cost 'A' (1-10)	<b>27931</b>	<b>33246</b>	<b>38108</b>	<b>33447</b>
12	Interest on fixed capital	15250	10374	7683	10773
13	Cost 'B1' (11+12)	<b>43181</b>	<b>43620</b>	<b>45791</b>	<b>44220</b>
14	Interest on land value	440169	290330	245558	315052
15	Cost 'B' (13+14)	<b>483350</b>	<b>333950</b>	<b>291349</b>	<b>359272</b>
16	Imputed value of household labour	5180	6599	2965	5029
17	Cost 'C' (15+16)	<b>488530</b>	<b>340549</b>	<b>294314</b>	<b>364301</b>



When Cost A is considering, 51% comes under hired human labour and followed by 24% in Farmyard manure and chemical fertilizers.

The following table illustrates the work participation of arecanut cultivation. It shows that 72 per cent of the total labour hours has been shared by human labour.

**Table 26: Percentage distribution of hired human labour hours to total human Labour hours**

Sex	Holding size class			
	Small	Medium	Large	All Sizes
Male	58.91	49.48	66.86	57.29
Female	9.29	15.96	17.07	15.00
<b>Total</b>	<b>68.20</b>	<b>65.44</b>	<b>83.93</b>	<b>72.29</b>

**Table 27: Cost of Cultivation per hectare of Arecanut during 2006-07  
2007-08 & 2008-09**

Concept of cost	Year	Holding Size class			
		Small	Medium	Large	All size
Cost 'A'	2006-07	24399	28573	26276	26749
	2007-08	25495	33056	35698	32029
	2008-09	27931	33246	38108	33447
Cost 'B'	2006-07	361812	208031	193146	253725
	2007-08	437120	283695	254868	312700
	2008-09	483350	333950	291349	359272
Cost 'C'	2006-07	365816	212441	195313	257272
	2007-08	441133	287363	256218	315693
	2008-09	488530	340549	294314	364301

### Value of Out put

**Table 28: Value of Out put / Hectare**

The following table gives details of value of output per hectare of different holding size class. Here it shows that value of output per hectare increase according to the holding class size increases.

Holding Size Class			
Small	Medium	Large	All Sizes
50988	58188	59419	56697

## 2.4 Tapioca

Area under the crop in this study was 43 hectare which covers 190 holdings. Number of holding in large holding size class is very less. Holding size class wise details are given below.

**Table 29: Area and Number of Holdings Selected**

Size class	No of selected holdings	Area under the crop in the sample (ha)	Percentage to total area of Selected holdings	Area per holding (ha)
Small	105	10.80	25.12	0.10
Medium	77	23.30	54.19	0.30
Large	8	8.90	20.70	1.11
<b>All Size</b>	<b>190</b>	<b>43.00</b>	<b>100.01</b>	<b>0.23</b>

The average size of a selected holding is 0.23 hectare and number of holding selected for the survey is 190.

### Cost of Cultivation

When Cost A is considered per hectare cost of cultivation of tapioca is worked out Rs.38426/- . In this hired labour cost constituted 58% where as farmyard manure and chemical fertilizers shares 17% of the Cost A.

The cost of cultivation of Tapioca under different concepts is given below.

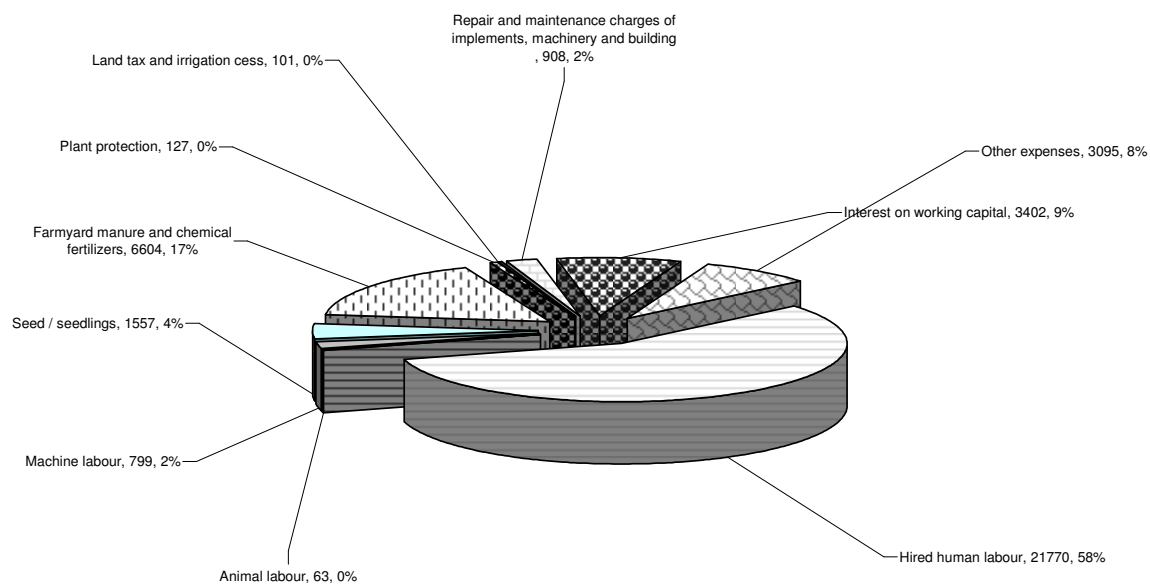
**Table 30: The Cost of cultivation per hectare of tapioca during the year 2008-09**

(Per Hectare in Rs.)

Sl No	Components	Holding size Class			
		Small	Medium	Large	All Size
1	Hired human labour	19761	22132	23332	21770
2	Animal labour	0	0	308	63
3	Machine labour	345	531	2069	799
4	Seed / seedlings	1487	1476	1856	1557
5	Farmyard manure and chemical fertilizers	7058	6911	5233	6604
6	Plant protection	82	148	126	127
7	Land tax and irrigation Cess	105	120	49	101
8	Repair and maintenance charges of implements, machinery and building	1307	500	1477	908

9	Interest on working capital	3079	3450	3679	3402
10	Other expenses	2052	3299	3864	3095
<b>11</b>	<b>Total Cost 'A' (1-10)</b>	<b>35276</b>	<b>38567</b>	<b>41993</b>	<b>38426</b>
12	Interest on fixed capital	10794	4726	1951	5713
13	Cost 'B1' (11+12)	<b>46070</b>	<b>43293</b>	<b>43944</b>	<b>44139</b>
14	Interest on land value	314808	295541	237216	288504
<b>15</b>	<b>Cost 'B' (13+14)</b>	<b>360878</b>	<b>338834</b>	<b>281160</b>	<b>332643</b>
16	Imputed value of household labour	8948	6342	2810	6285
<b>17</b>	<b>Cost 'C' (15+16)</b>	<b>369826</b>	<b>345176</b>	<b>283970</b>	<b>338928</b>

PERCENTAGE DISRIBUTION OF "COST A" CULTIVATION PER HECTARE OF TAPIOCA 2008-09



The following table shows the percentage distribution of hired human labour hours engaged in tapioca cultivation.



**Table 31: Percentage distribution of hired human labour hours**

Sex	Holding Size Class			
	Small	Medium	Large	All Sizes
Male	55.62	64.37	48.72	58.67
Female	8.59	12.33	42.88	17.65
<b>Total</b>	<b>64.21</b>	<b>76.70</b>	<b>91.60</b>	<b>76.32</b>

In tapioca cultivation 76.32% of the total human labour hours has been shared by hired human labour.

**Table 32: Cost of Cultivation per hectare of Tapioca during 2006-07, 2007-08 & 2008-09**

A comparative statement for 2006-07, 2007-08 and 2008-09 for cost of cultivation of different concept is given below.

Concept of cost	Year	Holding Size class			
		Small	Medium	Large	All size
Cost 'A'	2006-07	31134	29345	37577	31606
	2007-08	38537	33210	40479	36633
	2008-09	<b>35276</b>	<b>38567</b>	<b>41993</b>	<b>38426</b>
Cost 'B'	2006-07	242207	144230	186478	197450
	2007-08	362513	296610	281697	310760
	2008-09	<b>360878</b>	<b>338834</b>	<b>281160</b>	<b>332643</b>
Cost 'C'	2006-07	251096	148888	187112	202185
	2007-08	372505	302413	285091	317069
	2008-09	<b>369826</b>	<b>345176</b>	<b>283970</b>	<b>338928</b>

### Value of Out put

**Table 33: Value of Out put / Hectare**

Holding Size Class			
Small	Medium	Large	All Sizes
70672	89017	67964	79984

The value of output for all holding size is comparable. Value of output from tapioca is estimated Rs.79984/- per hectare.

## 2.5 Banana

In the cost of cultivation study on banana 191 holdings were selected by covering an area 44.20 hectares. Details of these holdings are given below.

**Table 34: Area and Number of holdings selected**

Size class	No of selected holdings	Area under the crop in the sample (ha)	Percentage to Total area	Area per holding (ha)
Small	118	10.40	23.53	0.09
Medium	62	20.30	45.93	0.33
Large	11	13.50	30.54	1.23
<b>All Size</b>	<b>191</b>	<b>44.20</b>	<b>100.00</b>	<b>0.23</b>

## Cost of Cultivation

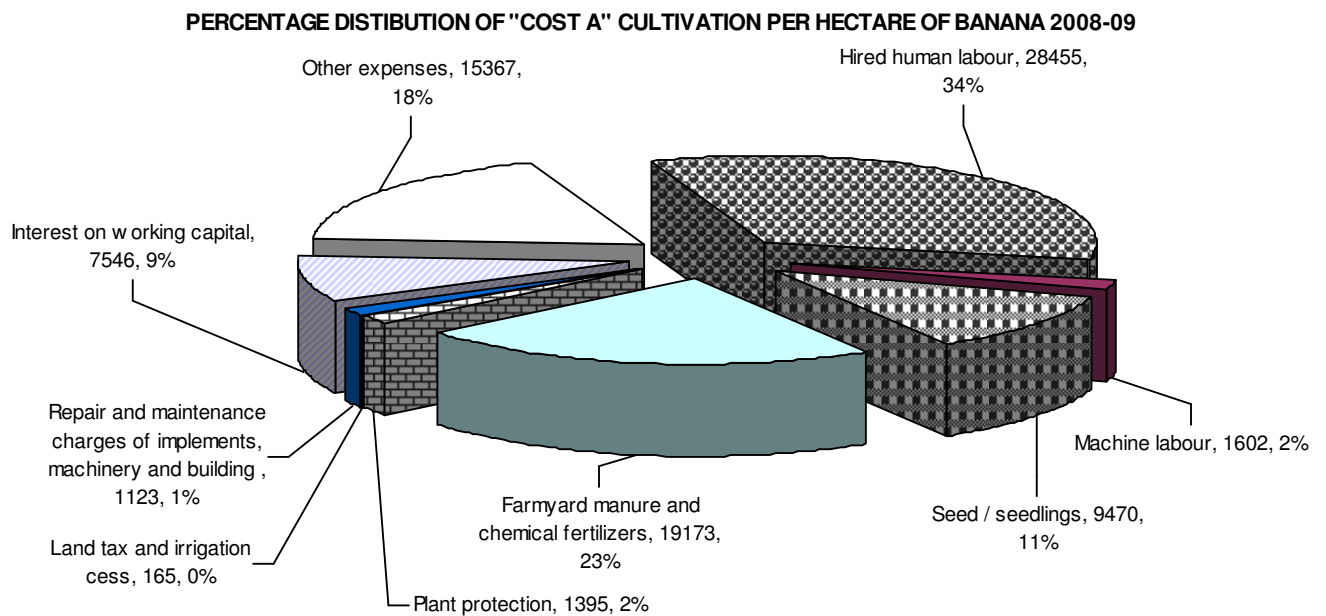
As in the case of other crops, cost of cultivation of banana is also calculated at different cost, concepts such as cost 'A', Cost 'B1', 'Cost 'B' and Cost 'C'. When Cost A is considered, cost of cultivation is Rs.84296/-.

**Table 35: The Cost of cultivation per hectare of Banana during the year 2008-09**

(Per Hectare in Rs.)

Sl No	Components	Holding size Class			
		Small	Medium	Large	All Size
1	Hired human labour	31507	31269	21663	28455
2	Animal labour	0	0	0	0
3	Machine labour	197	1191	3374	1602
4	Seed / seedlings	9249	9929	8946	9470
5	Farmyard manure and chemical fertilizers	23034	19006	16291	19173
6	Plant protection	1203	1740	1024	1395
7	Land tax and irrigation Cess	446	118	10	165
8	Repair and maintenance charges of implements, machinery and building	1243	1198	911	1123
9	Interest on working capital	8233	8008	6281	7546
10	Other expenses	17137	16941	11515	15367
<b>11</b>	<b>Total Cost 'A' (1-10)</b>	<b>92249</b>	<b>89400</b>	<b>70015</b>	<b>84296</b>

12	Interest on fixed capital	12696	5215	1864	6031
<b>13</b>	<b>Cost 'B1' (11+12)</b>	<b>104945</b>	<b>94615</b>	<b>71879</b>	<b>90327</b>
14	Interest on land value	326905	249478	268028	273830
<b>15</b>	<b>Cost 'B' (13+14)</b>	<b>431850</b>	<b>344093</b>	<b>339907</b>	<b>364157</b>
16	Imputed value of household labour	17523	10401	5967	10806
<b>17</b>	<b>Cost 'C' (15+16)</b>	<b>449373</b>	<b>354494</b>	<b>345874</b>	<b>374963</b>



In this hired human labour cost accounted as 34 per cent where as farmyard manure and chemical fertilizers cost as 23 per cent respectively of the total Cost 'A'. Seed/seedling cost constitutes to 11 % of the total cost 'A'.

In Banana cultivation male participation rate is higher than that of female. The percentage distribution of these facts are as follows:

**Table: 36 Percentage distributions of hired human labour hours to the total human labour hours**

Sex	Holding Size Class			
	Small	Medium	Large	All Sizes
Male	47.12	59.91	64.93	56.65
Female	6.12	12.04	10.90	9.84
<b>Total</b>	<b>53.24</b>	<b>71.95</b>	<b>75.83</b>	<b>66.49</b>

**Table 37: Cost of Cultivation per hectare of Banana during 2006-07, 2007-08 & 2008-09**

A comparative statement for 2006-07, 2007-08 and 2008-09 for cost of cultivation of different concept is given below.

Concept of cost	Year	Holding Size class			
		Small	Medium	Large	All size
Cost 'A'	2006-07	90602	92435	70343	85371
	2007-08	96037	109350	134631	109277
	2008-09	<b>92249</b>	<b>89400</b>	<b>70015</b>	<b>84296</b>
Cost 'B'	2006-07	271419	223376	155231	229731
	2007-08	446509	333663	375941	372701
	2008-09	<b>431850</b>	<b>344093</b>	<b>339907</b>	<b>364157</b>
Cost 'C'	2006-07	285381	233291	160493	239386
	2007-08	460709	343881	379985	383148
	2008-09	<b>449373</b>	<b>354494</b>	<b>345874</b>	<b>374963</b>

#### Value of out put

**Table 38: Value of Out put / Hectare**

Holding Size Class			
Small	Medium	Large	All Sizes
203809	191232	231028	206181

During 2008-09 per hectare value of output from banana cultivation is estimated out as Rs. 206181/--

## 2.6 Pepper

The monopoly of the state still continues in area and production of pepper. Details of the holdings selected for the study is given below:

**Table 39 - Area and number of holdings selected during 2008-09**

Holding size class	No of selected holdings	Area under the crop in the sample (ha)	Percentage	Area per holding (ha)
Small	153	8.00	38.28	0.05
Medium	31	7.90	37.80	0.25
Large	5	5.00	23.92	1.00
<b>Total</b>	<b>189</b>	<b>20.90</b>	<b>100.00</b>	<b>0.11</b>

### Cost of cultivation

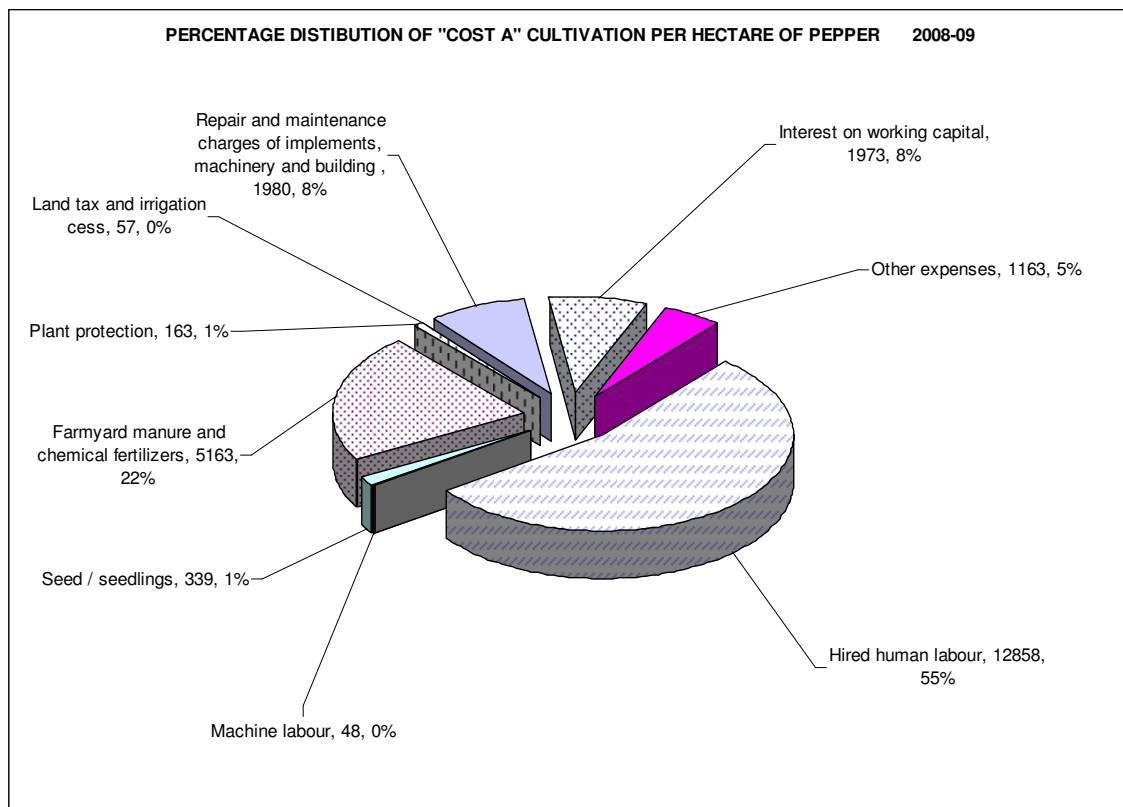
The cultivation cost incurred for pepper is entirely different when compared to the cost of paddy and other seasonal crops. Labour cost and fertilizer cost are the two major items of expenses for pepper cultivation. Item wise expenses incurred under pepper cultivation is as follows:

**Table 40: Cost of Cultivation of Pepper during the year 2008-09**

(Per Hectare in Rs.)

Sl No	Components	Holding size Class			
		Small	Medium	Large	All Size
1	Hired human labour	15347	12897	8597	12858
2	Animal labour	0	0	0	0
3	Machine labour	41	83	0	48
4	Seed / seedlings	604	268	12	339
5	Farmyard manure and chemical fertilizers	4823	4780	6368	5163
6	Plant protection	166	186	118	163
7	Land tax and irrigation Cess	69	58	36	57
8	Repair and maintenance charges of implements, machinery and building	2645	1675	1362	1980
9	Interest on working capital	2193	1963	1621	1973
10	Other expenses (Including soil condition)	946	1417	1113	1163

11	Total Cost 'A' (1 to 10)	<b>26834</b>	<b>23327</b>	<b>19227</b>	<b>23744</b>
12	Interest on fixed capital	21597	8937	3783	12673
13	Cost 'B1' (11+12)	<b>48431</b>	<b>32264</b>	<b>23010</b>	<b>36417</b>
14	Interest on land value	513455	300855	215722	363924
15	Cost 'B' (13+14)	<b>561886</b>	<b>333119</b>	<b>238732</b>	<b>400341</b>
16	Imputed value of household labour	9162	3601	944	5151
17	Cost 'C' (15+16)	<b>571048</b>	<b>336720</b>	<b>239676</b>	<b>405492</b>



The survey results reveal that out of the total human labour hours engaged in pepper cultivation 55% is shared by hired human labour. Details are given below:

**Table 41: Percentage of hired human labour hours engaged in pepper cultivation**

Sex	Holding size class			
	Small	Medium	Large	All Sizes
Male	48.98	59.92	65.52	55.00
Female	5.97	16.84	26.76	12.57
<b>Total</b>	<b>54.95</b>	<b>76.76</b>	<b>92.28</b>	<b>67.57</b>

**Table 42: Cost of Cultivation per hectare of Pepper during 2006-07  
2007-08 & 2008-09**

A comparative statement for 2006-07 , 2007-08 and 2008-09 for cost of cultivation of different concept is given below.

Concept of cost	Year	Holding Size class			
		Small	Medium	Large	All size
Cost 'A'	2006-07	20842	16229	12524	16960
	2007-08	25122	18196	17963	21325
	2008-09	<b>26834</b>	<b>23327</b>	<b>19227</b>	<b>23744</b>
Cost 'B'	2006-07	508914	267488	270463	364145
	2007-08	543078	339909	169507	399228
	2008-09	<b>561886</b>	<b>333119</b>	<b>238732</b>	<b>400341</b>
Cost 'C'	2006-07	515558	270107	274144	368376
	2007-08	548845	343417	171395	403450
	2008-09	<b>571048</b>	<b>336720</b>	<b>239676</b>	<b>405492</b>

### Value of out put

**Table 43: Value of Out put / Hectare**

Holding Size Class			
Small	Medium	Large	All Sizes
57322	65053	39875	56234

During 2006-07 it is estimated that Rs. 44389/- has been received as value of output from per hectare pepper cultivation.

During 2007-08 it is estimated that Rs. 55422/- has been received as value of output from per hectare pepper cultivation.

During 2008-09 per hectare value of output from pepper cultivation is estimated out as  
Rs.56234/--

### 2.7 Ginger

For the cost of cultivation study during 2008-09, 170 holdings were selected. Details are given below:

**Table 44: Area and number of holdings under Ginger cultivation 2008-09**

Holding size class	No of selected holdings	Area under the crop in the sample (ha)	Percentage to total Area	Average area per holding (ha)
Small	137	8.30	30.97	0.06
Medium	29	11.70	43.66	0.40
Large	4	6.80	25.37	1.70
<b>All sizes</b>	<b>170</b>	<b>26.80</b>	<b>100.00</b>	<b>0.16</b>

**Cost of cultivation**

Among the various inputs of ginger cultivation labour cost, seed/seedling, fertilizer, etc. are the most important. Details of these various inputs are presented below:

**Table 45 Cost of Cultivation per hectare of Ginger during the year 2008-09**

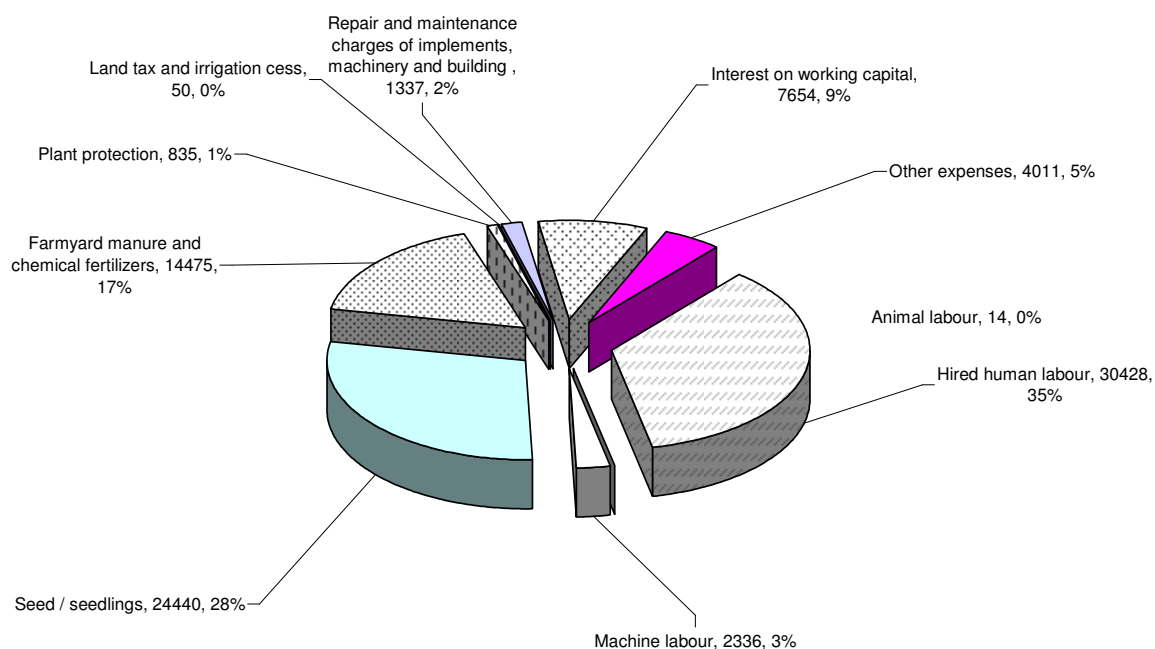
(Per Hectare in Rs)

Sl No	Components	Holding size Class			
		Small	Medium	Large	All Size
1	Hired human labour	28574	26007	40571	30428
2	Animal labour	17	21	0	14
3	Machine labour	297	2814	4150	2336
4	Seed / seedlings	23154	25257	24681	24440
5	Farmyard manure and chemical fertilizers	13784	13045	17877	14475
6	Plant protection	342	844	1459	835
7	Land tax and irrigation cess	53	55	38	50
8	Repair and maintenance charges of implements, machinery and building	2372	1198	235	1337
9	Interest on working capital	6881	7139	9560	7654
10	Other expenses	2642	3399	6859	4011
11	<b>Total Cost 'A' (1-10)</b>	<b>78116</b>	<b>79779</b>	<b>105430</b>	<b>85580</b>
12	Interest on fixed capital	15447	4077	273	6785



13	<b>Cost 'B1' (11+12)</b>	<b>93563</b>	<b>83856</b>	<b>105703</b>	<b>92365</b>
14	Interest on land value	315663	192260	86485	205722
15	<b>Cost 'B' (13+14)</b>	<b>409226</b>	<b>276116</b>	<b>192188</b>	<b>298087</b>
16	Imputed value of household labour	13634	7378	4333	8633
17	<b>Cost 'C' (15+16)</b>	<b>422860</b>	<b>283494</b>	<b>196521</b>	<b>306720</b>

**PERCENTAGE DISTRIBUTION OF "COST A" CULTIVATION PER HECTARE OF GINGER 2008-09**



**Table 46: Percentage of hired human labour hours to total human labour hours**

Sex	Holding size class			
	Small	Medium	Large	All Sizes
Male	39.28	42.90	23.15	34.40
Female	17.73	35.88	69.68	43.54
<b>Total</b>	<b>57.01</b>	<b>78.78</b>	<b>92.83</b>	<b>77.94</b>

**Table 47: Cost of Cultivation per hectare of Ginger during 2006-07 ,2007-08 and 2008-09**

A comparative statement for 2006-07 , 2007-08 and 2008-09 for cost of cultivation of different concept is given below.

Concept of cost	Year	Holding Size class			
		Small	Medium	Large	All size
Cost 'A'	2006-07	57857	53906	95014	59694
	2007-08	73982	68976	85583	76293
	2008-09	<b>78116</b>	<b>79779</b>	<b>105430</b>	<b>85580</b>
Cost 'B'	2006-07	243845	108339	299701	194238
	2007-08	350221	248169	153488	249748
	2008-09	<b>409226</b>	<b>276116</b>	<b>192188</b>	<b>298087</b>
Cost 'C'	2006-07	252883	111754	303344	199438
	2007-08	363881	256081	154216	257118
	2008-09	<b>422860</b>	<b>283494</b>	<b>196521</b>	<b>306720</b>

### Value of Out put

**Table 48: Value of Out put / Hectare**

Holding Size Class			
Small	Medium	Large	All Sizes
171444	162866	245974	186144

The per hectare value of output received from Ginger cultivation is seen as Rs.186144/- during 2008-09.

## 2.8 Turmeric

Details of the holdings selected for the cost of cultivation study during 2008-09 are given below:

**Table 49: Area and Number of holdings selected for Turmeric cultivation 2008-09**

Holding size class	No of selected holdings	Area under the crop in the sample (ha)	Percentage to total area	Average area per holding (ha)
Small	116	6.40	64.65	0.06
Medium	10	2.70	27.27	0.27
Large	2	0.80	8.08	0.40
<b>All size</b>	<b>128</b>	<b>9.90</b>	<b>100.00</b>	<b>0.08</b>

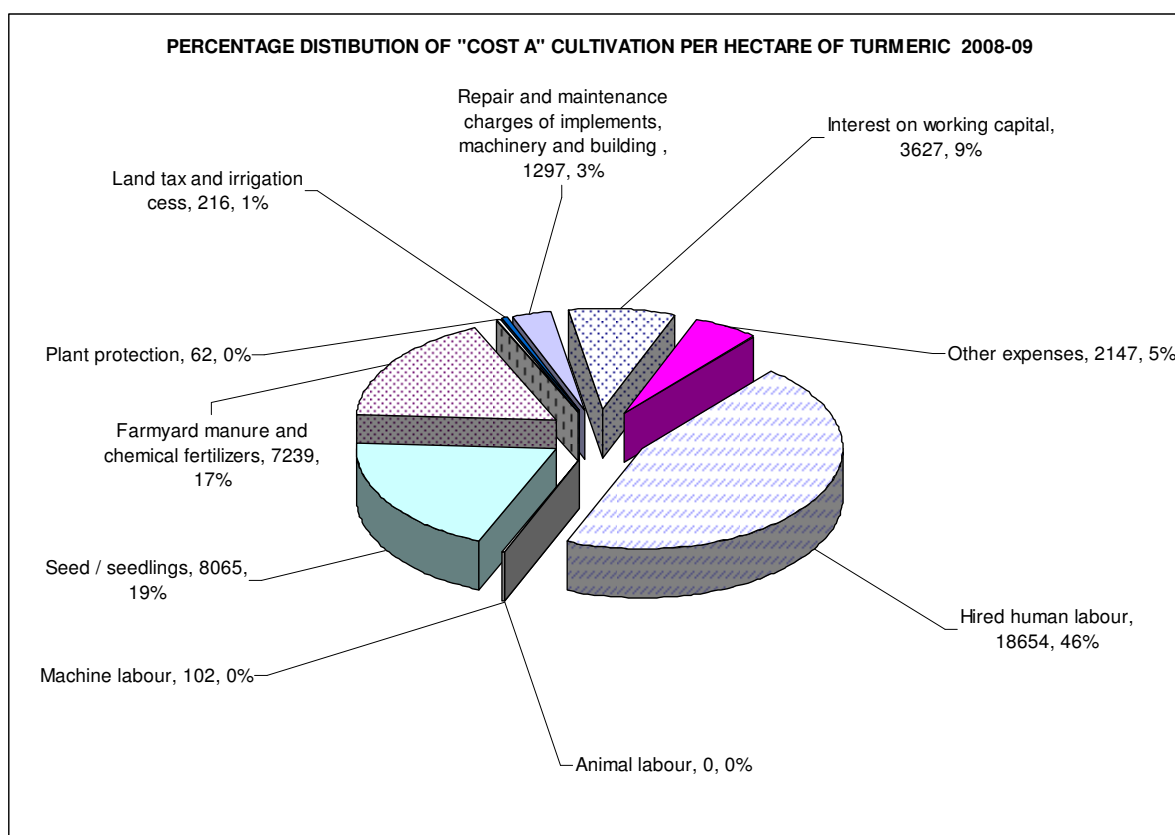
## Cost of cultivation

The cash and other kind expenses incurred under Turmeric cultivation is estimated as Rs.41409/- for one hectare. Details of these items are given below:

**Table 50: Cost of Cultivation of Turmeric during the year 2008-09**

(Per Hectare in Rs.)

Sl No	Components	Holding size Class			
		Small	Medium	Large	All Size
1	Hired human labour	19236	16475	21158	18654
2	Animal labour	0	0	0	0
3	Machine labour	97	144	0	102
4	Seed / seedlings	8236	8190	6178	8065
5	Farmyard manure and chemical fertilizers	8407	5425	3459	7239
6	Plant protection	87	10	31	62
7	Land tax and irrigation Cess	301	40	99	216
8	Repair and maintenance charges of implements, machinery and building	1715	634	0	1297
9	Interest on working capital	3824	3294	3083	3627
10	Other expenses	2177	2697	0	2147
<b>11</b>	<b>Total Cost 'A' (1-10)</b>	<b>44080</b>	<b>36909</b>	<b>34008</b>	<b>41409</b>
12	Interest on fixed capital	13558	2685	210	9658
<b>13</b>	<b>Cost 'B1' (11+12)</b>	<b>57638</b>	<b>39594</b>	<b>34218</b>	<b>51067</b>
14	Interest on land value	381022	245481	24710	317799
<b>15</b>	<b>Cost 'B' (13+14)</b>	<b>438660</b>	<b>285075</b>	<b>58928</b>	<b>368866</b>
16	Imputed value of household labour	13733	6823	1439	10962
<b>17</b>	<b>Cost 'C' (15+16)</b>	<b>452393</b>	<b>291898</b>	<b>60367</b>	<b>379828</b>



The following table illustrates the percentage distribution of hired human labour hours to the total human labour hours engaged in turmeric cultivation.

**Table 51: Percentage distribution of Hired human labour hours to the total human hours**

Sex	Holding size class			
	Small	Medium	Large	All Sizes
Male	27.11	40.82	28.95	29.26
Female	28.58	27.36	31.58	28.63
<b>Total</b>	<b>55.69</b>	<b>68.18</b>	<b>60.53</b>	<b>57.89</b>

**Table 52: Cost of Cultivation per hectare of Turmeric during 2006-07, 2007-08 and 2008-09**

A comparative statement for 2006-07 , 2007-08 and 2008-09 for cost of cultivation of different concept is given below.

Concept of cost	Year	Holding Size class			
		Small	Medium	Large	All size
Cost 'A'	2006-07	39565	29420	0	34374
	2007-08	43103	38986	0	41701
	2008-09	44080	36909	34008	41409
Cost 'B'	2006-07	380944	132299	0	295590
	2007-08	397830	249181	0	347221
	2008-09	438660	285075	58928	368866
Cost 'C'	2006-07	390875	138796	0	303764
	2007-08	410090	258261	0	358398
	2008-09	452393	291898	60367	379828

## Output

The per hectare value of output received from turmeric cultivation is estimated as Rs.92117/- during the year 2008-09.

**Table 53: Value of Out put / Hectare**

Holding Size Class			
Small	Medium	Large	All Sizes
105515	65383	69189	92117