

SI no. 1419



GOVERNMENT OF KERALA



**REPORT OF**  
**SURVEY ON FLOWERS VEGETABLES**  
**MEDICINAL CROPS AND FRUITS**

**Department of Economics & Statistics**  
**Thiruvananthapuram**  
**2007**



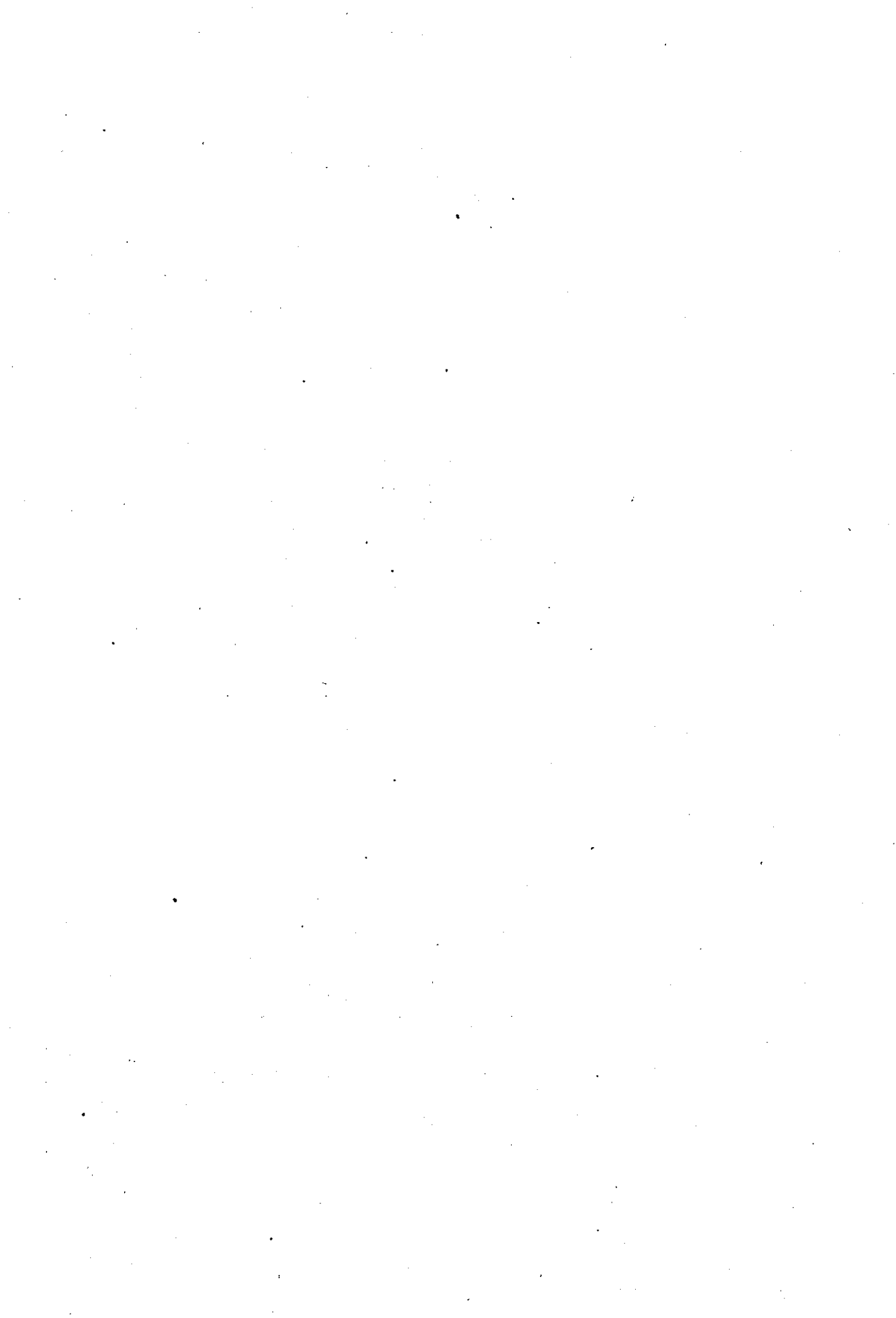


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## PREFACE

Kerala economy was predominantly an agriculture oriented in yester years. Due to a variety of reasons, a large number of people have abstained from agricultural operations and sought alternative occupations in the state, outside the state and outside the country. This has greatly affected the agricultural production in the state. This is particularly seen in the production of paddy, vegetables and tubers etc. Though a steady decline in the production of the above said crops is noticed, a gradual increase in the cash crops production is seen here. The disinterest of the farmers in the production of paddy like crops is also seen in the case of vegetables, fruits, medicinal plants and flowers. As a result crores of rupees from the state have flowed to neighbouring states like Tamil Nadu, Karnataka etc every years. This has drained the Kerala economy in a big way. Realising the precarious situation, the Government through the Agriculture Department and other similar organizations launched several schemes to encourage the cultivation of vegetables, flowers and medicinal plants along with awareness programmes among the cultivators about the subsidiary income they could generate through the cultivation of these crops. Though such encouragement and financial helps offered from government side, there is no reliable information about the net effect of such offers given to the cultivators. In this context, the Department of Economics & Statistics took up a survey of Vegetables/ Fruits/ Flowers/ Medicinal Plants to study the present status of these crops as asked by the Government.

The field work of the survey was carried out in 2003-04. The Investigators of the Department conducted the fieldworks over and above their works. I congratulate them in this occasion for the additional efforts taken by them to complete the fieldworks in time.

The data computerization and table generation works were carried out in the computer division of this directorate by Sri S. Anirudhan, M T Supervisor under the supervision of Sri.K. Vimalan, Deputy Director with the active support of Sri.Rajendran Kuttikkad, Smt.Mollykkutty.C.Varkey of the Survey and Design Division who have taken much pains to prepare this report. Sri.S.Rajendran, Joint Director and Sri.K.Asokan, Additional Director gave necessary and timely suggestions to this for the preparation of this report. I appreciate all those persons for their sincere association in making this report.

Suggestions for improvement of the report are most welcome.

Thiruvananthapuram  
27/02/2007

**M. R. Balakrishnan**  
Director



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# **REPORT OF SURVEY ON FLORICULTURE, VEGETABLES, MEDICINAL CROPS AND FRUITS**

## **Chapter I**

### **Introduction**

Historically Kerala economy is agro based and a major portion of the labour force is working in agriculture and related traditional industries like cashew, coir etc. More than two third of the population in India depend on Agriculture. Though the green revolution technologies enhanced agricultural productivity, it also widened the economic disparity in community life. The introduction of capital-intensive technologies in agricultural sector has adversely affected a section of rural people due to in-access of the latest technology.

Despite all the development efforts, agricultural workers in the unorganized sector are characterized by low income, high levels of insecurity of employment and poor condition of life. In Kerala Kuttanad and Palakkad are the rice belt regions. Reduced area of paddy cultivation, change in agriculture operations and introduction of machines in agriculture caused high levels of under employment and casualisation in agricultural sector.

The peculiar agro-climate conditions prevailing in our state enables us to produce a large number of agricultural crops. These crops are of two types. Food crops and commercial crops. In past, food crops were cultivated in vast areas with a view to feed our vast population. Currently commercial agriculture is developing since it is one of the major sources of foreign exchange for the country.

It can be seen that the share of agricultural sector in the total SDP has been declining after 90's and it is only about 10% of the total SDP in 2003-04. But this sector employed 60% of country's workforce. Total area under cultivation is also reducing year by year due to urbanization and industrialization. Hence it is the need of the time to change the traditional pattern of agriculture to a diverse cropping system.

## Crop diversification

It is viewed as a shift from traditionally grown less remunerative crops to more remunerative crops. Crop diversification and modern variety of crops are practicing to reduce risk factors of crop failure occurring due to flood, draught etc. Hence significant area shifted towards the cultivation of vegetables, fruits and herbs and it provides a more remunerative means to the cultivators. They can earn more returns than traditional crops due to higher yields and higher price availability in the international market and generate much employment opportunities. However horticulture and floriculture development has gradually moved out of its rural confines into urban areas and traditional agricultural enterprises to corporate sector. This trend has led to the adoption of improved technology, greater commercialization and professionalism in production and marketing. Export oriented organisations like Vegetables and Fruits Promotion Council and joint ventures like Kumdumabasree, Horticulture Corporation with the support of Government are coming up covering almost all areas of the state.

**Total cropped area of Vegetable, Banana/ Plantain and other fruits  
from 1999-00 to 2002-03**

Year	1999-00	2000-01	2001-02	2002-03
Total cropped area	3001704	3021682	2992252	2970384
Vegetables	192391	193013	191499	181299
Banana/plantain	92298	99412	106054	110479
Pineapple	9484	10692	11159	10943
Other fruits	400686	413132	415356	418679
Total	694859	716249	724068	721400
Percentage	23.14	23.70	24.19	24.28

It can be seen that about 24% of the gross cropped area is utilized for the cultivation of fruits and vegetables between the year 1999-00 and 2002-03. We are exporting fresh fruits, vegetables, cut flowers, seeds, cereals, spices and processed products of fruits and vegetables. But it is a paradox to see that we are depending other states for our need for vegetables, fruits and flowers to a certain extent. However reliable statistics relating to the production, consumption, sales, exports etc of the above items are not available with the government. Hence the government as per order GO (Rt) No.359/2003/Planning dated 26.09.2003 accorded sanction to conduct a survey "on the cultivation and trade on vegetables, fruits, flowers and herbs" to the Department of Economics and Statistics.

## **Methodology**

The survey was conducted in all the 14 districts taking Grama Panchayat / Municipality / Municipal Corporation as stratum. Farmers having vegetables, flowers and herbs cultivation above 5 cents or farmers who are selling the above items for more than Rs.1000/- were listed. From these lists, 25 cultivators each were selected from a Panchayat/Municipality/Corporation using systematic random sampling method. Cases, in which the total number of cultivators in any item was less than 25, all of them were selected. Persons having nursery of the above items were also included in the list.

Similarly traders were also surveyed after preparing Block/ Municipality/Corporation list. Traders selling vegetables, fruits, Medicinal herbs and flowers for Rs.500/- and above per day were listed separately. From the list, 50 traders selected from each Block/ Municipality/Municipal Corporation using systematic sampling method. Cases where the total traders were less than 50 in a stratum (ie, Block/Municipality/City Corporation) all of them were selected. From the selected cultivators details regarding cost, receipt etc of the crops and from the traders details regarding trade were collected in the schedules designed for the purpose. The details such as area utilized for the cultivation of the items under study, their production, price obtained, cost of production, details regarding trade etc were inquired.

## **Conduct of the Survey**

The survey was conducted during 2003-04. Investigators carried out this work in addition to their normal duties, under the supervision of senior officers at field level. The canvassed schedules were scrutinized, coded and validated in the district offices. The data processing and table generation were done in the computer division of the Directorate.

## **Objectives**

1. To assess the number of cultivators engaged in the cultivation of vegetables, flowers and Medicinal herbs.
2. To assess the number of traders dealing with the above items and fruits.
3. To assess the area utilized for the cultivation of the above items.
4. To study the details regarding Production, Consumption, Income, cost of cultivation etc relating to these items.
5. To compare the economics of vegetable cultivation with other crops.

## **SCHEDULES**

**Four types of schedules were designed for the survey.**

- |                     |   |
|---------------------|---|
| <b>Schedule I</b>   | - It is designed for listing the cultivators who are engaged in the cultivation of vegetables, flowers and medicinal crops.                                   |
| <b>Schedule II</b>  | - This schedule is used for listing the traders who are trading vegetables, flowers, medicinal crops and fruits   |
| <b>Schedule III</b> | - This schedule is used for collecting details such as area, production, value of output, cost of cultivation etc of each crops from the selected cultivators |
| <b>Schedule IV</b>  | - In this schedule the details regarding the trade of each item were collected from the selected traders  |

## At a Glance

1	Total area under cultivation of vegetables. (Acres)	17472
2	Total vegetable production. (Quintals)	720671
3	Total income from Vegetable cultivation. (Rupees)	487250660
4	Net income from Vegetable cultivation. (Rupees)	361861804
5	Total no of persons engaged in vegetable cultivation.	35061
6	Number of vegetable nurseries	104
7	Total no of persons engaged in vegetable trade.	5921
8	Total quantity of vegetable traded /year. (Quintals)	4163597
9	Total quantity of vegetable traded /year (Rupees)	4399357899
10	Total area under cultivation of Flowers. (Acres)	602
11	Total flower production. (Quintals & Numbers in lakhs)	29360 & 16
12	Total income from flower cultivation. (Rupees)	116839470
13	Net income from flower cultivation. (Rupees)	103502150
14	Total no of persons engaged in flower cultivation.	2945
15	Number of flower nurseries	254
16	Total no of persons engaged in flower trade.	628
17	Total quantity of flower traded/year(Quintals &Numbers in lakhs).	61387&15.7
18	Total quantity of flower traded/year (Rupees)	296979149
19	Total area under cultivation of Medicinal Crops. (Acres)	846
20	Total medicinal plants production. (Quintals)	8651
21	Total income from medicinal crops cultivation. (Rupees)	29333455
22	Net income from medicinal crops. (Rupees)	12561171
23	Total no of persons engaged in medicinal crops cultivation.	1203
24	Number of medicinal crop nurseries	60
25	Total no of persons engaged in medicinal crops trade.	473
26	Total quantity of medicinal crops traded /year. (Quintals)	27314
27	Total quantity of medicinal crops traded /year. (Rupees)	121934470
28	Total no of persons engaged in fruit trade.	4734
29	Total quantity fruits traded/year. (Quintals)	4460681
30	Total quantity fruits traded/year. . (Rupees)	5926828533

**Number of Cultivators**

Sl. No	District	Flowers	Vegetables	Medicinal crops	Total
1	Kasaragode	28	1638	7	1673
2	Kannur	14	2359	27	2400
3	Wayanad	57	2864	110	3031
4	Kozhikkode	45	2038	55	2138
5	Malappuram	40	4265	180	4485
6	Palakkad	416	3162	70	3648
7	Thrissur	446	2097	81	2624
8	Eranakulam	1429	3531	92	5052
9	Idukki	31	3356	92	3479
10	Kottayam	60	2992	52	3104
11	Alappuzha	107	1769	35	1911
12	Pathanamthitta	34	1636	54	1724
13	Kollam	41	1016	110	1167
14	Thiruvananthapuram	197	2338	238	2773
	<b>State</b>	<b>2945</b>	<b>35061</b>	<b>1203</b>	<b>39209</b>

**Number of Nurseries**

Sl. No	District	Flowers	Vegetables	Medicinal crops	Total
1	Kasaragode	0	1	0	1
2	Kannur	1	0	2	3
3	Wayanad	22	0	13	35
4	Kozhikkode	49	2	9	60
5	Malappuram	8	1	11	20
6	Palakkad	0	0	1	1
7	Thrissur	65	2	5	72
8	Eranakulam	12	0	2	14
9	Idukki	5	1	5	11
10	Kottayam	19	94	4	117
11	Alappuzha	7	0	1	8
12	Pathanamthitta	55	3	4	62
13	Kollam	11	0	3	14
14	Thiruvananthapuram	0	0	0	0
	<b>State</b>	<b>254</b>	<b>104</b>	<b>60</b>	<b>418</b>



## Number of Traders

Sl. No	District	Flowers	Vegetables	Medicinal crops	Fruits	Total
1	Kasaragode	10	151	2	108	271
2	Kannur	18	367	19	264	668
3	Wayanad	5	158	14	158	335
4	Kozhikkode	37	837	57	643	1574
5	Malappuram	46	541	41	468	1096
6	Palakkad	29	269	19	103	420
7	Thrissur	69	743	63	523	1398
8	Eranakulam	104	777	92	640	1613
9	Idukki	18	296	8	200	522
10	Kottayam	32	423	36	229	720
11	Alappuzha	80	427	45	408	960
12	Pathanamthitta	14	128	26	77	245
13	Kollam	61	425	35	652	1173
14	Thiruvananthapuram	105	379	16	261	761
	<b>State</b>	<b>628</b>	<b>5921</b>	<b>473</b>	<b>4734</b>	<b>11756</b>

## Chapter II

### Cultivation of Vegetables

Vegetables and fruits are vital components of our daily food. Efforts are being made from various angles to encourage farmers to increase the area under these important food crops. Mainly 12 major varieties of vegetables and 6 minor varieties of fruits are cultivated in Kerala.

As per the survey, it is seen that there are 35061 vegetable cultivators in the state, in addition to nurseries and fruit cultivators.

For the cultivation of vegetables a net area of 17472 acres are utilized out of the total 48153 acres of agricultural land possessed by these cultivators i.e. only 36.28% of the total land owned by them is utilized for vegetable cultivation. From this land, an average income of Rs.279/- per cent is obtained during a year.

720671 Quintals of different kinds of vegetables were produced in the state in the year under study. According to the survey, major vegetable producing district is Malappuram. The major crops in the district are Bitter gourd, Cucumber, Ash gourd, Ladies finger and other vegetables. Kottayam district is the second largest producer of vegetables. The least vegetable-producing district is Alappuzha. The major vegetable crops in the state are Ash gourd, ginger, bitter gourd and snake gourd. Brinjal, coccinia, ladies finger, spinach etc are also cultivating in a good extent.

The economics of vegetable cultivation is still favourable or more attractive than any other crops looked from the point of returns per rupee investment. The per rupee investment made in vegetable cultivation gives an average income of Rs.3.88/-. Similarly per Acre income from all vegetables put together works out to Rs 27886/.

Among the vegetables, ginger fetches the highest income (Rs.17.58/kg), then comes bitter gourd. Cucumber, snake gourd, spinach etc are also fetching a fair income. Wayanad district gets the highest income from vegetable cultivation. Then comes Kottayam district and Malappuram district.

45470 Quintals of vegetables is used for own consumption and for giving gifts. Vegetables worth Rs.29978064/- is sold as farm sales. Vegetables amounting to Rs.156018830/ are sold to agents, for Rs 292578966/ is sold inside the state and for Rs.8674800/ is sold out side the state.

Even though India is the second largest producer of vegetables and fruits; only less than 2% of them are processed and converted into value added products. The percentage loss of fruits and vegetables due to poor infrastructure and post harvest handling is very high. Lack of suitable storage system, immediate processing facilities and uncertainty in prices etc discourage farmers from undertaking large scale cultivation of vegetables and fruits.

### **Expenditure:-**

If we look at the expenditure of vegetable cultivation, about 47.84 % is spent as labour charges. In other words vegetable cultivation absorbs a substantial amount of labour and it is well known that they constitute mostly low income and landless including women and children of rural area. Most of them are from villages also members of the welfare organizations like Kudumbasree, Ayalkoottam units etc. Thus there is further scope for promotion of vegetable cultivation, which will give direct employment to people. The other items of expenditure are 4.45% for seeds, 9.76% fertilizers, 9.23% for manures, 3.57% for organic manures, 3.43% for rent of land, 7.24% for transportation, 4.92% for pesticides and 9.56% for other expenditure like irrigation, purchase of hormones etc.

In the state, government and other agencies give some assistance and advices to vegetable cultivators. The main agencies giving help to the farmers are Krishi Bhavans, Banks, Local self-governments etc. There is insurance protection for the vegetable cultivators for crop loss etc. A pretty amount is getting as loan from Co-operative banks and other Banks. From the table, ( A 10), it can be seen that in every district, officials from the Agriculture Department, HortiCorp etc. are visiting and giving suggestions and

helps to the cultivators. Around 1% of the total loan amount is allowed as subsidy by different agencies and 5.1% is the average interest rate charged for loans.

It is seen that in most cases the main source of livelihood of the cultivators selected for study is agricultural operations.

### Organic farming

There is a large potential for organic farming in Kerala due to the favourable agro climatic conditions. Many vegetables are grown in our state without the application of chemical fertilizers or pesticides. International demand for organic food is increasing day by day. We are using comparatively less fertilizers and vegetables grown out of agrochemicals have great advantage in the international market. There is immense scope for promoting organic farming vegetables. Agencies like Horticultural Board, Vegetable and Fruits Promotion Council, Kerala can help much in promoting organic cultivation in the state as vegetables and fruits produced out of organic farming are in high demand inside and outside the state/country.

**Table-A1**

#### District wise Utilisation Of Area For Vegetable Cultivation

Sl. No	District	Area in Cents			
		Agriculture Land Area	Non Agriculture Land Area	Total Land Area	Vegetable Cultivated Area (net)
1	Kasargod	209030	22095	231125	47765
2	Kannur	188811	12667	201478	66435
3	Wayanad	580630	27506	608136	187878
4	Kozhikkode	235927	14300	250227	64350
5	Malappuram	579607	54550	634157	302694
6	Palakkad	649935	79165	729100	240451
7	Thrissur	277907	26545	304452	128290
8	Ernakulam	457313	56365	513678	190087
9	Idukki	580523	59672	640195	104944
10	Kottayam	448757	48461	497218	172394
11	Alappuzha	135871	16225	152096	36842
12	Pathanamthitta	164053	19759	183812	61928
13	Kollam	120082	17665	137747	44117
14	Thiruvananthapuram	186930	20616	207546	99061
	<b>Total</b>	<b>4815376</b>	<b>475591</b>	<b>5290967</b>	<b>1747236</b>

Table-A2

## District wise Number Of Vegetable Cultivators According To Livelihood

Sl. No	District	Agriculture	Agriculture Labour	Government/ Quasi Government employee	Employment in Private firm/ Establishment.	Self Employment
1	Kasargod	874	308	25	13	59
2	Kannur	805	424	29	21	102
3	Wayanad	1962	289	56	35	21
4	Kozhikkode	782	309	49	18	121
5	Malappuram	1912	1015	32	24	177
6	Palakkad	1786	522	60	69	137
7	Thrissur	1315	196	23	45	84
8	Ernakulam	1693	374	77	121	318
9	Idukki	2073	284	82	170	151
10	Kottayam	1965	304	36	38	56
11	Alappuzha	524	223	88	65	237
12	Pathanamthitta	966	220	33	17	82
13	Kollam	601	40	28	15	53
14	Thiruvananthapuram	1147	726	43	4	76
<b>Total</b>		<b>18405</b>	<b>5234</b>	<b>661</b>	<b>655</b>	<b>1674</b>

Table-A2 (contd..)

Sl. No	District	Other Labour	Foreign Remittance	Others including pensioners, Rentiers etc.	Total
1	Kasargod	148	4	207	1638
2	Kannur	253	8	717	2359
3	Wayanad	240		261	2864
4	Kozhikkode	356	12	391	2038
5	Malappuram	452	50	603	4265
6	Palakkad	188	13	387	3162
7	Thrissur	119	19	296	2097
8	Ernakulam	121	8	819	3531
9	Idukki	297	9	290	3356
10	Kottayam	226	7	360	2992
11	Alappuzha	158	31	443	1769
12	Pathanamthitta	56	25	237	1636
13	Kollam	36	5	238	1016
14	Thiruvananthapuram	122	7	213	2338
<b>Total</b>		<b>2772</b>	<b>198</b>	<b>5462</b>	<b>35061</b>

Table-A3

## Annual Production Of Vegetables In Kilograms

Sl. No	District	Ash gourd	Beans	Bitter gourd	Brinjal	Coccinia
1	Kasargod	55107	7627	322759	32712	13512
2	Kannur	255831	16574	276651	10486	4939
3	Wayanad	14224	13490	953601	1009	
4	Kozhikkode	191670	8553	287833	3613	8291
5	Malappuram	1214743	13702	925194	59722	8661
6	Palakkad	783017	30815	2229823	476003	9746
7	Thrissur	852790	10550	2223722	19507	5250
8	Ernakulam	328900	34514	503651	16789	12678
9	Idukki	2666	205897	2279211	8907	6578
10	Kottayam	44328	1535192	1029537	15894	14575
11	Alappuzha	23386	3233	216578	14950	159
12	Pathanamthitta	16304	22211	206044	29322	5728
13	Kollam	12995	8083	370570	38180	922
14	Thiruvananthapuram	1654	40079	589812	58043	10941
<b>Total</b>		<b>3797615</b>	<b>1950520</b>	<b>12414986</b>	<b>785137</b>	<b>101980</b>

Table-A3 (contd..)

Sl. No	District	Cucumber	Curry leaf	Drumstick	Ginger	Green Chilly	Ladies finger
1	Kasargod	915955	57	638	59678	87921	138477
2	Kannur	918299			41635	9395	55349
3	Wayanad	323639	64		3690857	28039	2915
4	Kozhikkode	680588	481	961	202450	8176	4944
5	Malappuram	2681402			7808	62138	230281
6	Palakkad	958442	9076	54	77163	237123	367329
7	Thrissur	1181004	7668	4833	37253	25916	160948
8	Ernakulam	1064794	0	1221	151566	8609	138815
9	Idukki	146903	2082	183	614593	4859	186803
10	Kottayam	1401514	246	246	61045	13178	1541438
11	Alappuzha	171753	333	413	24683	1983	27845
12	Pathanamthitta	315976	475	1169	169510	10370	234337
13	Kollam	150810	196	16074	109915	8194	126866
14	Thiruvananthapuram	2083632	1592	1589	96602	42228	109519
<b>Total</b>		<b>12994711</b>	<b>22270</b>	<b>27381</b>	<b>5344758</b>	<b>548129</b>	<b>3325866</b>

Table-A3 (contd..)

Sl. No	District	Pumpkin	Snake gourd	Spinach	Amara	Other Vegetables	Total
1	Kasargod	98028	23873	156527	3067	421757	2337695
2	Kannur	96364	100490	257632	743	503723	2548111
3	Wayanad	36863	36234	71255	5365	812419	5989974
4	Kozhikkode	138341	107778	122717	6343	760406	2533145
5	Malappuram	349850	425126	206394	24	3228850	9413895
6	Palakkad	379816	659526	168801	772336	2377288	9536358
7	Thrissur	266403	965773	285882	1432	1609222	7658153
8	Ernakulam	86720	509582	182341	115	2329000	5369295
9	Idukki	11882	159401	15431	17716	1465627	5128739
10	Kottayam	33520	2212754	188891	83	1368210	9460651
11	Alappuzha	37731	122197	214583	5568	323143	1188538
12	Pathanamthitta	24286	338498	55441	90	554252	1984013
13	Kollam	12093	200158	362401	2351	581522	2001330
14	Thiruvananthapuram	12524	1651880	922968	684	1293518	6917265
<b>Total</b>		<b>1584421</b>	<b>7513270</b>	<b>3211264</b>	<b>815917</b>	<b>17628937</b>	<b>72067162</b>

Table-A4

## Annual Production Of Vegetables In Rupees

Sl. No	District	Ash gourd	Beans	Bitter gourd	Brinjal	Coccinia
1	Kasargod	181874	76039	2483302	175450	67607
2	Kannur	928627	139496	1746694	59594	24315
3	Wayanad	46167	109910	6744573	6141	
4	Kozhikkode	689659	84427	1746900	19962	38342
5	Malappuram	4930399	115656	6787168	309256	41994
6	Palakkad	3222801	273120	15004245	2560811	50512
7	Thrissur	3215004	94817	15488061	109047	27807
8	Ernakulam	1227558	325964	3714404	72142	62739
9	Idukki	10882	1923305	13650815	61309	38618
10	Kottayam	153800	14846680	6962364	89426	72683
11	Alappuzha	118148	30440	1623504	86654	637
12	Pathanamthitta	69341	221003	1614625	151243	32405
13	Kollam	58552	75832	2788832	222407	4541
14	Thiruvananthapuram	5224	393649	4573459	334671	54866
<b>Total</b>		<b>14858036</b>	<b>18710338</b>	<b>84928946</b>	<b>4258113</b>	<b>517066</b>

Table-A4 (contd..)

Sl. No	District	Cucumber	Curry leaf	Drumstick	Ginger	Green Chilly	Ladies finger
1	Kasargod	3864406	384	4170	1160191	454421	783692
2	Kannur	3651152			679135	64982	282936
3	Wayanad	1146421	0		62120656	151178	15248
4	Kozhikkode	2808222	3113	6042	3731791	58033	25131
5	Malappuram	11293149			138797	446964	1294072
6	Palakkad	3747321	63276	0	1538719	1691419	1907905
7	Thrissur	3951099	53231	33808	759246	200122	925882
8	Ernakulam	3828508	0	6864	3058144	29210	899157
9	Idukki	586932	9655	962	11580827	34390	1095878
10	Kottayam	5506192	1648	1542	1121124	91402	8587369
11	Alappuzha	753229	2171	2716	467391	13547	165466
12	Pathanamthitta	1348371	3717	7838	3173883	61037	1415512
13	Kollam	629177	1431	102785	2396521	46732	825959
14	Thiruvananthapuram	8882240	11326	10139	2038432	263819	669028
<b>Total</b>		<b>51996419</b>	<b>149952</b>	<b>176866</b>	<b>93964857</b>	<b>3607256</b>	<b>18893235</b>

Table-A4 (contd..)

Sl. No	District	Pumpkin	Snake gourd	Spinach	Amara	Other Vegetables	Total
1	Kasargod	394433	99791	815025	16074	3142778	13719637
2	Kannur	390253	417000	1315149	4834	3040273	12744440
3	Wayanad	161089	143985	294294	34519	6380231	77354412
4	Kozhikkode	578530	468012	774637	40941	6495540	17569282
5	Malappuram	1429764	1801745	949620	0	27004979	56543563
6	Palakkad	1581378	2667403	686781	4822554	13859130	53677375
7	Thrissur	1129181	3679893	1302575	8373	13014889	43993035
8	Ernakulam	364043	2002170	1016816	614	18653137	35261470
9	Idukki	55624	606670	79438	94829	9946536	39776670
10	Kottayam	136837	7923778	1128488	478	11929869	58553680
11	Alappuzha	173140	519862	1926748	35046	2965161	8883860
12	Pathanamthitta	120847	1484088	321104	476	4805108	14830598
13	Kollam	53907	816820	2243840	12713	4818699	15098748
14	Thiruvananthapuram	54676	6616886	5680448	3963	9651064	39243890
<b>Total</b>		<b>6623702</b>	<b>29248103</b>	<b>18534963</b>	<b>5075414</b>	<b>135707394</b>	<b>487250660</b>



Table-A5

## Area And Production Of Vegetables

Sl. No	District	Area in Cents				Production (Kg)
		Gross area Irrigated	Gross area Un Irrigated	Total	Planned for Next Year	
1	Kasargod	49906	4451	54357	47313	2337695
2	Kannur	72385	4562	76947	59044	2548111
3	Wayanad	75737	68558	144295	158950	5989974
4	Kozhikkode	60885	6284	67169	54410	2533145
5	Malappuram	276409	47571	323980	289380	9413895
6	Palakkad	230548	25128	255676	184347	9536358
7	Thrissur	118598	8150	126748	114809	7658153
8	Ernakulam	177296	15742	193038	162771	5369295
9	Idukki	82852	24670	107522	104200	5128739
10	Kottayam	190241	4180	194421	143090	9460651
11	Alappuzha	40145	1745	41890	33301	1188538
12	Pathanamthitta	61946	3800	65746	65507	1984013
13	Kollam	53793	7380	61173	59067	2001330
14	Thiruvananthapuram	150842	935	151777	128505	6917265
<b>Total</b>		<b>1641583</b>	<b>223156</b>	<b>1864739</b>	<b>1604694</b>	<b>72067162</b>

Table-A6

## Total Income And Per Cent Of Income From Vegetable cultivation

Sl. No	District	Net Cultivated Area (cents)	Gross Cultivated Area (cents)	Total Income (Rs.)	Total Expenditure (Rs.)	Net Income (Rs)	Income Per Cent (Rs.)
1	Kasargod	47765	54357	13719637	5226613	8493024	287
2	Kannur	66435	76947	12744440	5950691	6793749	192
3	Wayanad	187878	144295	77354412	13288674	64065738	412
4	Kozhikkode	64350	67169	17569282	4663231	12906051	273
5	Malappuram	302694	323980	56543563	14043823	42499740	187
6	Palakkad	240451	255676	53677375	12563270	41114105	223
7	Thrissur	128290	126748	43993035	9301077	34691958	343
8	Ernakulam	190087	193038	35261470	8655689	26605781	186
9	Idukki	104944	107522	39776670	7547602	32229068	379
10	Kottayam	172394	194421	58553680	23469832	35083848	340
11	Alappuzha	36842	41890	8883860	2468132	6415728	241
12	Pathanamthitta	61928	65746	14830598	5295642	9534956	239
13	Kollam	44117	61173	15098748	4794921	10303827	342
14	Thiruvananthapuram	99061	151777	39243890	8119659	31124231	396
<b>Total</b>		<b>1747236</b>	<b>1864739</b>	<b>487250660</b>	<b>125388856</b>	<b>361861804</b>	<b>279</b>

Table-A7

## Sales Particulars Of Vegetables Produced In The State (In Kilograms)

Sl. No	District	Own consumption/ Gifts	On farm sale to consumers	Sales to agents	Market Sale		Total
					Within the state	Out side the state	
1	Kasargod	319508	103575	838478	964757	111377	2337695
2	Kannur	326428	146380	494135	1519540	61628	2548111
3	Wayanad	522613	177360	1687686	3602315		5989974
4	Kozhikkode	417784	206706	226659	1680767	1229	2533145
5	Malappuram	948652	351440	1662590	6421401	29812	9413895
6	Palakkad	393169	443461	3617389	4429964	652375	9536358
7	Thrissur	189261	303699	3939590	3222491	3112	7658153
8	Ernakulam	337347	487437	1246199	3291933	6379	5369295
9	Idukki	249513	503228	2757438	1525902	92658	5128739
10	Kottayam	374771	280519	3842018	4944320	19023	9460651
11	Alappuzha	78850	244782	264963	576845	23098	1188538
12	Pathanamthitta	113166	145527	253621	1448285	23414	1984013
13	Kollam	107027	239718	291497	1354151	8937	2001330
14	Thiruvananthapuram	169002	634817	2127180	3913916	72350	6917265
<b>Total</b>		<b>4547091</b>	<b>4268649</b>	<b>23249443</b>	<b>38896587</b>	<b>1105392</b>	<b>72067162</b>

Table-A8

## Sales Particulars Of Various types Of Vegetables (In Rupees)

Sl. No	District	On farm sale to consumers	Sales to agents	Market Sale		Total
				Within the state	Out side the state	
1	Kasargod	498176	4649821	7059627	1512013	13719637
2	Kannur	881404	2775294	8844356	243386	12744440
3	Wayanad	2560106	20885947	53908359		77354412
4	Kozhikkode	1337338	1658670	14560985	12289	17569282
5	Malappuram	2816929	11275696	42413623	37315	56543563
6	Palakkad	2344762	20935993	25861976	4534644	53677375
7	Thrissur	1732468	22524272	19704177	32118	43993035
8	Ernakulam	3316744	8951752	22939267	53707	35261470
9	Idukki	3715659	20199388	14604294	1257329	39776670
10	Kottayam	2733132	22878023	32900052	42473	58553680
11	Alappuzha	1957821	2102071	4782137	41831	8883860
12	Pathanamthitta	1159534	2334514	11210883	125667	14830598
13	Kollam	1548685	2759408	10745578	45077	15098748
14	Thiruvananthapuram	3375306	12087981	23043652	736951	39243890
<b>Total</b>		<b>29978064</b>	<b>156018830</b>	<b>292578966</b>	<b>8674800</b>	<b>487250660</b>

**Table-A9****Cost Of Vegetable Cultivation - Item Wise (In Rupees)**

Sl. No	District	Seed	Manure	Fertiliser	Pesticides	Organic Manures	Hormone
1	Kasargod	144374	505072	405245	88307	180421	7917
2	Kannur	284717	890350	506967	135115	129909	805
3	Wayanad	805407	650845	999203	227600	238986	8153
4	Kozhikkode	250405	789691	390127	166053	261786	2882
5	Malappuram	621339	1405854	1889158	961932	397591	6350
6	Palakkad	607935	1326927	1261199	766007	494541	54258
7	Thrissur	368888	1031896	799269	471349	457307	31206
8	Ernakulam	401409	1046327	1179553	606765	516314	5005
9	Idukki	544577	554175	884686	629557	647248	26124
10	Kottayam	420607	1109862	1695667	1137251	420157	30107
11	Alappuzha	168478	466814	175454	111733	149101	285
12	Pathanamthitta	231718	531486	637892	237453	195598	44
13	Kollam	254666	389668	426947	211542	224338	4157
14	Thiruvananthapuram	477938	874462	986427	419287	161734	965
<b>Total</b>		<b>5582458</b>	<b>11573429</b>	<b>12237794</b>	<b>6169951</b>	<b>4475031</b>	<b>178258</b>

**Table-A9(contd...)**

Sl. No	District	Transportation	Irrigation	Rent	Labour	Other Expenses	Total
1	Kasargod	239154	256078	63687	3249466	86892	5226613
2	Kannur	430651	264312	130402	2967125	210338	5950691
3	Wayanad	573235	123852	248100	9114212	299081	13288674
4	Kozhikkode	369410	301869	215951	1727817	187240	4663231
5	Malappuram	1475586	1078941	849821	4613301	743950	14043823
6	Palakkad	1027325	937133	252844	5197469	637632	12563270
7	Thrissur	629921	539324	255846	4244171	471900	9301077
8	Ernakulam	828614	528282	243896	2864878	434646	8655689
9	Idukki	600411	424679	128311	2664704	443130	7547602
10	Kottayam	1213689	548451	517307	15246301	1130433	23469832
11	Alappuzha	158953	135778	110846	841402	149288	2468132
12	Pathanamthitta	406297	423454	315915	1837057	478728	5295642
13	Kollam	341540	118344	53883	2542535	227301	4794921
14	Thiruvananthapuram	791283	253396	913173	2875900	365094	8119659
<b>Total</b>		<b>9086069</b>	<b>5933893</b>	<b>4299982</b>	<b>59986338</b>	<b>5865653</b>	<b>125388856</b>

**Table-A10****Man days –Vegetable Cultivation**

Sl No	District	Man days		
		Hired	House Hold	Total
1	Kasaragode	25911	66690	92601
2	Kannur	24531	90665	115196
3	Wayanad	83679	64499	148178
4	Kozhikkode	13782	51508	65290
5	Malappuram	43822	259161	302983
6	Palakkad	45443	125450	170893
7	Thrissur	36043	90892	126935
8	Eranakulam	22532	172376	194908
9	Idukki	25196	144629	169825
10	Kottayam	126677	133108	259785
11	Alappuzha	7502	46686	54188
12	Pathanamthitta	16707	71637	88344
13	Kollam	24496	83945	108441
14	Thiruvananthapuram	27436	198898	226334
<b>Total</b>		<b>523757</b>	<b>1600144</b>	<b>2123901</b>

**Table-A11****Various Assistances From Government For Vegetable Cultivation-**

Sl. No	District	Number of Cultivators				
		Total	Technical assistance received	Seeds (Received)	Subsidies (Received)	Under Insurance coverage
1	Kasargod	1638	1319	219	251	19
2	Kannur	2359	1933	379	865	12
3	Wayanad	2864	6319	120	461	17
4	Kozhikkode	2038	1944	305	285	12
5	Malappuram	4265	2813	531	706	81
6	Palakkad	3162	1600	213	206	5
7	Thrissur	2097	1664	223	349	15
8	Ernakulam	3531	1256	326	483	42
9	Idukki	3356	2316	287	240	19
10	Kottayam	2992	2215	284	232	83
11	Alappuzha	1769	1312	272	224	47
12	Pathanamthitta	1636	1269	282	428	44
13	Kollam	1016	746	130	142	9
14	Thiruvananthapuram	2338	1021	164	263	32
<b>Total</b>		<b>35061</b>	<b>27727</b>	<b>3735</b>	<b>5135</b>	<b>437</b>

Table-A12

## Loans And Subsidies Received For Vegetable Cultivation

In Rupees

Sl. No	District	Loan Amount		Repayment outstanding		Subsidies Recieved
		Taken	Utilised	Principal	Interest	
1	Kasargod	5146105	4691467	3397060	137166	32425
2	Kannur	942633	776205	546244	51683	20531
3	Wayanad	17911229	5359491	12087461	364780	159536
4	Kozhikkode	4391940	4152301	3056211	379499	47170
5	Malappuram	6353415	5526465	4783471	448767	12506
6	Palakkad	9947012	8734724	7485060	637128	7242
7	Thrissur	3892318	3223898	2043278	164555	26495
8	Ernakulam	6085367	5202388	3643090	324191	37754
9	Idukki	2430670	2279542	1892730	281736	41647
10	Kottayam	16706009	14306731	11132815	1014973	199288
11	Alappuzha	724599	688483	370799	46063	32033
12	Pathanamthitta	466954	389041	313904	29869	2646
13	Kollam	1646296	1132652	1170505	136106	5017
14	Thiruvananthapuram	6014316	5240710	3611201	207790	5944
<b>Total</b>		<b>82658863</b>	<b>61704098</b>	<b>55533829</b>	<b>4224306</b>	<b>630234</b>

## **Chapter III**

### **Trade of Vegetables**

India is one of the largest producers of fruits and vegetables. Ideal climatic conditions ensure the availability of a wide range of fruits and vegetables in large quantities through out the year. Even though there is a handsome demand for these items in our cities due to large population and higher per capita income, vegetable cultivators allocate only 36.28% of their cultivable land towards the cultivation of these items and the internal demand is largely met from the arrivals from outside the state. Thus there are imported and domestic vegetables and fruits in our market and both are equally demanded. Generally domestic items of vegetables have more demand but this demand cannot be met fully due to the non-availability of enough quantities of the same. A study on the vegetable/fruit traders in the state was seen pertinent and hence a sample survey on traders was conducted along with the survey on cultivators of these items.

#### **Objectives**

- 1) To analyze the existing market infrastructure and service for fruits and vegetables in different markets in our state.
- 2) To identify the major market arrivals, buying and selling activities, major marketing channels and price for selected fruits and vegetables in our market.
- 3) To evaluate the share of farmers in consumer price for these items.

The data have been collected from the selected traders through structured questionnaires in different markets spread in 14 districts of Kerala.

About 30 types of fruits and vegetables arrived daily in the markets were studied. There may be slight variation in items as per seasonal and geographic changes. The price of some items will fluctuate according to seasonal demands.

#### **Results of the Survey**

2500 vegetable traders were selected for the study out of the 5921 traders listed. It was found that almost all the locally produced vegetables were traded by these traders in addition to the items arrived from outside the state. The major vegetables being

traded here are Beans, Bitter gourd, Brinjal, Coccinia, Cucumber, Drumstick, and Cabbage. Out of the total traded 11.28% was tomato, 7.77% was Potato 4.30% was bitter gourd, 7.09% was cucumber, 8.68% was onion and 5.05% was snake gourd.

As per the survey, 4163597 quintals of vegetables were traded in a year. Among the districts, Kozhikode stands in the top position with 15.07% vegetable trading. Then comes Alappuzha with 11.77%. Pathanamthitta district witnessed the least trading in the case of vegetables. All the vegetables together fetched an average income of Rs.10.5 per Kg in the state. It varies between Rs.9 and Rs.12 among districts, except Wynad where the average income is Rs. 21.3 due to the abundance of ginger and it fetches an average price of Rs.30.73. It can be seen that Potato, Tomato, Snake gourd, Bitter gourd, Cabbage, Cucumber, Onion etc. are the most demanded vegetables in the state and only few of these items like snake gourd and bitter gourd are cultivated in the state in abundance. Vegetables worth Rs. 4399357899 were traded in the survey year. Out of this, the farmers in our state received Rs.1445849852. It is seen from this that the lion share of the value of these goes to the cultivators of other states, middlemen and traders. In other words we are consuming vegetables for Rs.43892 lakhs and cultivating vegetables for Rs.14458 lakhs in a year. Out of this trade, vegetables for Rs.4322 lakhs was sold to different institutions like hotels, hostels etc. Vegetables for Rs.16757 lakhs were sold for small traders. A small portion had been exported.

## **Exports**

It can be understood that major part of vegetables for exports are collected by the agents directly from the cultivators. Usually the traders are not much involved in the exporting of vegetables. Their role in this is only negligible.

## **Purchase**

Traders purchase vegetables from different sources. Out of the total purchase of vegetables for Rs.30217/- lakhs, major portion was purchased from out side the state. About 52% of the vegetables came from outside the state by direct purchase or through

agents. 39.72% received through agents from inside the state. 8.68% was seen purchased directly from the cultivators inside and outside the state.

### **Employment**

About 12000 persons get direct employment through the trade of vegetables. Out of which 60% are household employees and 40% are paid employees. A multiple of these is estimated as indirect employees like agents, loading and unloading labourers, transportation workers etc.

### **Income and Expenditure**

It is estimated that 4163597 quintals of vegetables have been traded in the state in the reference year. Important vegetables traded are spinach, Beans, Bitter gourd, Cucumber, Brinjal, Cabbage Tomato, Onion etc. Majority of the vegetables traded in our state came from outside the state. Few of the items like bitter gourd Snake gourd Ash gourd etc. were cultivated in the state. Only 32.9% of total vegetables traded in our state is produced here.

The major vegetables traded here are Bitter gourd, Cabbage, Carrot, Onion, Cucumber, Potato, tomato etc. Kozhikode district is at the top and Pathanamthitta is in the bottom as far as vegetable trading is concerned. 15.63% of the vegetable trade is going on in Kozhikode district while only 1.21% in Pathanamthitta district. Kozhikode district sold vegetables for Rs.4732 lakhs in a year and Alapuzha district had a trade of Rs.3697 lakhs, while Pathanamthitta had only a trade of Rs. 368 lakhs in a year. The total trade of vegetables in the state was for Rs.30275 lakhs per year i.e. in our state an average sale of vegetables for 83 lakhs is going on per day. An average sale of Rs.5.92 lakhs per day in a district. This doesn't include the homegrown stock being consumed by the households. For the survey 2500 average retail traders were selected for study.



**Table-B1****Quantity of Vegetables Traded (in Kilograms)**

Sl. No	District	Coccinia	Beans	Bittergourd	B rinjal	Ladies finger	Cucumber
1	Kasargod	12500	210820	751363	347730	543982	3889224
2	Kannur	64863	544023	1209261	183589	101260	2996276
3	Wayanad	91979	202560	234983	125877	119504	388597
4	Kozhikkode	68110	532286	2193723	159590	78827	5054047
5	Malappuram	424835	838498	2020013	638705	241010	2475242
6	Palakkad	311808	693499	1017215	776522	279676	991029
7	Thrissur	747704	1473663	2027808	504320	455590	2281051
8	Ernakulam	210918	1897511	2038200	641442	682295	1933811
9	Idukki	12060	817196	379821	485015	314770	289770
10	Kottayam	95039	2290766	2592082	494453	1653999	2448730
11	Alappuzha	2721390	1446864	1504253	1522450	991166	3190418
12	Pathanamthitta	118488	181461	244228	95964	123202	353350
13	Kollam	898905	543010	1127017	859090	259809	1279045
14	Thiruvananthapuram	848459	363506	557205	1009693	110628	1636328
<b>Total</b>		<b>6627058</b>	<b>12035663</b>	<b>17897172</b>	<b>7844440</b>	<b>5955718</b>	<b>29206918</b>

**Table-B1 (contd...)**

Sl. No	District	Curryleaf	Drumstick	Ginger	Greenchilly	Ashgourd	Pumpkin
1	Kasargod	14172	316546	225757	464550	290431	343963
2	Kannur	27049	1174511	149560	988049	881683	384502
3	Wayanad	22152	122065	9752076	352418	194288	296751
4	Kozhikkode	47901	1653773	193095	3357840	1556461	1433291
5	Malappuram	168063	1176119	469323	1265267	2260133	1927454
6	Palakkad	110276	570776	1433556	739127	2182332	1500030
7	Thrissur	477197	1376803	544972	970004	3138944	2955682
8	Ernakulam	53500	1336117	417977	785645	1499161	1018337
9	Idukki	26760	436389	52731	419924	87520	179875
10	Kottayam	87019	588696	250555	1509446	758330	917360
11	Alappuzha	101326	3258314	688183	1291355	2105487	2062703
12	Pathanamthitta	10151	149386	65931	159817	94365	106100
13	Kollam	90863	655071	272004	943844	336950	682001
14	Thiruvananthapuram	26607	292882	119360	441056	113725	508461
<b>Total</b>		<b>1263036</b>	<b>13107448</b>	<b>14635080</b>	<b>13688342</b>	<b>15499810</b>	<b>14316510</b>

Table-B1 (contd...)

Sl. No	District	Snakegourd	Spinach	Tomato	Cabbage	Carrot	Cauliflower
1	Kasargod	167680	89818	1625404	312371	369690	52952
2	Kannur	406729	551505	3955280	1023228	1162591	42484
3	Wayanad	202900	116522	780788	258080	254747	78182
4	Kozhikkode	1780722	474782	14360257	1909904	1638731	311790
5	Malappuram	1007492	717182	6672905	2190334	1104191	249144
6	Palakkad	1134328	132608	2200856	1043717	576907	333628
7	Thrissur	1915193	967213	4252920	1990955	1372594	395912
8	Ernakulam	1701892	493304	2605339	1975021	5166042	244891
9	Idukki	384550	40700	849350	1504470	1197564	89785
10	Kottayam	5618626	168965	2246581	1865907	1329295	170651
11	Alappuzha	3409991	616947	2466226	1752708	1791434	603212
12	Pathanamthitta	399359	40682	443720	260467	212093	42293
13	Kollam	1572144	119059	3356739	743770	725876	44113
14	Thiruvananthapuram	1360239	123150	1157352	929894	597134	153712
<b>Total</b>		<b>21061845</b>	<b>4652437</b>	<b>46973717</b>	<b>17760826</b>	<b>17498889</b>	<b>2812749</b>

Table-B1 (contd...)

Sl. No	District	Beetroot	Raddish	Onion	Potato	Other vegetables	Total
1	Kasargod	70253	19247	462325	678106	3069027	14327911
2	Kannur	571165	14261	1769010	1471926	5067716	24740521
3	Wayanad	180543	76179	919087	649257	1084252	16503787
4	Kozhikkode	384219	10872	7400367	6376667	11775632	62752887
5	Malappuram	922699	91960	6457784	4002985	9027759	46349097
6	Palakkad	658231	138725	1840666	1901820	3028267	23595599
7	Thrissur	984497	143779	2335374	2443185	8330161	42085521
8	Ernakulam	939060	57114	2009592	2329537	7784349	37821055
9	Idukki	958056	5720	869193	950520	1785387	12137126
10	Kottayam	1357960	3317	2002980	2227490	8410681	39088928
11	Alappuzha	2278900	143140	3908089	4380993	6779565	49015114
12	Pathanamthitta	174294	20467	640591	450630	540242	4927281
13	Kollam	563385	253819	4614703	3537303	3948762	27427282
14	Thiruvananthapuram	505322	4341	920169	975566	2832816	15587605
<b>Total</b>		<b>10548584</b>	<b>982941</b>	<b>36149930</b>	<b>32375985</b>	<b>73464616</b>	<b>416359714</b>

Table-B2

## Quantity of Vegetables Traded in Rupees

Sl. No	District	Coccinia	Beans	Bitter gourd	B rinjal	Ladies finger	Cucumber
1	Kasargod	104000	3265050	8348902	3197438	7011093	20517652
2	Kannur	567464	9394238	14303128	1899240	1094426	16592305
3	Wayanad	742783	3440281	2360238	1266116	1374826	2077982
4	Kozhikkode	586552	8995602	27598720	1471643	863443	28927934
5	Malappuram	3443933	14053075	22161604	6214621	2881846	13264322
6	Palakkad	2561177	12448883	11275275	8017016	2816484	5535980
7	Thrissur	6293772	25069650	22184284	4771984	5272022	12645425
8	Ernakulam	1840855	32473864	23575935	6344057	6968312	9996936
9	Idukki	94330	13391647	4536810	5020355	3212890	1567000
10	Kottayam	820076	36885910	26195969	4746375	15375711	14033611
11	Alappuzha	20376116	24016573	15548304	15019347	10009975	16296827
12	Pathanamthitta	997136	2960253	2846999	1043278	1384172	1840447
13	Kollam	6730406	8752887	13004272	8882894	3057991	7491727
14	Thiruvananthapuram	7211602	5599015	6604509	10290518	1397892	9428819
<b>Total</b>		<b>52370202</b>	<b>200746928</b>	<b>200544949</b>	<b>78184882</b>	<b>62721083</b>	<b>160216967</b>

Table-B2 (contd...)

Sl. No	District	Curry leaf	Drumstick	Ginger	Green chilly	Ash gourd	Pumpkin
1	Kasargod	214055	3219952	7863802	8140914	1920787	2826985
2	Kannur	499318	14805673	4965370	14110819	6724033	2890180
3	Wayanad	340335	1248341	285774268	5522058	1440918	2603346
4	Kozhikkode	705878	17599712	6424821	50781438	10817696	11552284
5	Malappuram	2727680	14637089	15344424	19420256	14352511	15196043
6	Palakkad	1621439	6693605	45691509	10243704	13248757	11318307
7	Thrissur	7554239	14554181	19741136	16338042	18953420	22545645
8	Ernakulam	836716	14543265	13781127	11160462	9933166	7747602
9	Idukki	432800	4188265	1767764	7125376	681212	1389715
10	Kottayam	1304417	7453143	7535514	24028717	4877281	6707788
11	Alappuzha	1697399	31159852	25347486	22515602	13052355	14949297
12	Pathanamthitta	161102	1561997	2173938	2845134	633397	826393
13	Kollam	1397660	7484850	9045194	15162786	2066169	5185506
14	Thiruvananthapuram	362354	3096096	3893966	7094429	739217	3909260
<b>Total</b>		<b>19855392</b>	<b>142246021</b>	<b>449350319</b>	<b>214489737</b>	<b>99440919</b>	<b>109648351</b>

**Table-B2 (contd...)**

Sl. No	District	Snake gourd	Spinach	Tomato	Cabbage	Carrot	Cauliflower
1	Kasargod	981465	1115530	15772170	2682451	3949257	789310
2	Kannur	2063786	6621308	36335578	9247350	11064633	502202
3	Wayanad	1039111	1292990	7524115	2292792	2528705	1019326
4	Kozhikkode	9519989	5765138	144842810	17138217	15483737	4371061
5	Malappuram	5701969	8620751	70586479	16853293	11556744	3455823
6	Palakkad	5963900	1608168	19981619	8915989	5922354	4783162
7	Thrissur	10363541	11758756	41940246	16595662	15994719	4562348
8	Ernakulam	9646424	6259887	23664419	16409476	54040703	3116811
9	Idukki	2158750	521820	8442015	14606356	11737089	1185710
10	Kottayam	30596133	2075875	20452067	14937843	15082628	2388847
11	Alappuzha	19905054	7765941	26318084	15089775	19516975	7944578
12	Pathanamthitta	2014117	535824	4269825	2235753	2164598	650898
13	Kollam	8906560	1510718	36768422	6861586	7243940	642714
14	Thiruvananthapuram	7615362	1239731	12016387	8510921	6636540	2003157
<b>Total</b>		<b>116476161</b>	<b>56692437</b>	<b>468914236</b>	<b>152377464</b>	<b>182922622</b>	<b>37415947</b>

**Table-B2 (contd...)**

Sl. No	District	Beetroot	Raddish	Onion	Potato	Other vegetables	Total
1	Kasargod	602651	152800	3881042	6419635	32303848	135280789
2	Kannur	5688869	93096	17562725	14511738	57207095	248744574
3	Wayanad	1795529	760375	7790629	6357666	12160216	352752946
4	Kozhikkode	3510311	82062	56118333	63360650	165337909	651855940
5	Malappuram	7566606	678214	56878079	41662466	104150523	471408351
6	Palakkad	5569971	1064320	16635025	16285528	31567756	249769928
7	Thrissur	8471662	1243436	19655766	20811781	90718484	418040201
8	Ernakulam	8048000	504559	19012661	20251482	102795715	402952434
9	Idukki	9444803	44600	7675376	10058155	22632260	131915098
10	Kottayam	11863242	27294	19098883	20174880	91192759	377854963
11	Alappuzha	21827983	1403391	34029360	43099556	88938279	495828109
12	Pathanamthitta	1594188	203681	5471267	4490249	5733593	48638239
13	Kollam	5279513	2115083	33864836	29226404	40110668	260792786
14	Thiruvananthapuram	4250543	30053	8578356	9243777	33771037	153523541
<b>Total</b>		<b>95513871</b>	<b>8402964</b>	<b>306252338</b>	<b>305953967</b>	<b>878620142</b>	<b>4399357899</b>

**Table-B3****Quantity of Vegetables Traded (in Rupees)**

Sl. No	District	Individual Consumers	Institutions	Traders	Export	Total
1	Kasargod	71355872	11008784	49589633	3326500	135280789
2	Kannur	131565250	27337766	87438207	2403351	248744574
3	Wayanad	40779668	12803840	296002384	3167054	352752946
4	Kozhikkode	376086402	36802358	238967180		651855940
5	Malappuram	215588281	67774550	187772707	272813	471408351
6	Palakkad	110508906	33333714	105423708	503600	249769928
7	Thrissur	279114942	36824720	101961658	138881	418040201
8	Ernakulam	295614251	35695909	71642274		402952434
9	Idukki	97181122	21682865	13042111	9000	131915098
10	Kottayam	186695207	50789765	140256575	113416	377854963
11	Alappuzha	135322663	44584994	315920452		495828109
12	Pathanamthitta	32204328	7619054	8814857		48638239
13	Kollam	183091339	27820437	49881010		260792786
14	Thiruvananthapuram	126102966	18192175	9049335	179065	153523541
	<b>Total</b>	<b>2281211197</b>	<b>432270931</b>	<b>1675762091</b>	<b>10113680</b>	<b>4399357899</b>

**Table-B4****Quantity of Vegetables Purchased (in Rupees)**

Sl. No	District	Directly from farmers		From Agents			Total
		In the state	Outside the state	Local items	With in the state	Out Side the State	
1	Kasargod	17987281	11075500	4363225	11759341	36747897	81933244
2	Kannur	4650104	1828176	10574087	62442545	109801916	189296828
3	Wayanad	132004446	1521596	6308877	15701476	29822070	185358465
4	Kozhikkode	6073358	55120	3780495	118810920	344564707	473284600
5	Malappuram	11293226	164291	30862022	196117533	88534925	326971997
6	Palakkad	5061045	216000	13792109	40580929	94876813	154526896
7	Thrissur	17785759	63393	43003033	159365041	82701616	302918842
8	Ernakulam	19191903	30539	20402213	115475470	94865544	249965669
9	Idukki	2557237	94150	8227805	25525144	43088724	79493060
10	Kottayam	15611708	240218	20062321	54158118	179938037	270010402
11	Alappuzha	3410699	250038	953103	64379921	300714639	369708400
12	Pathanamthitta	2120727	20317	2617386	13856579	18264184	36879193
13	Kollam	3626000	828848	4493006	78851968	95457068	183256890
14	Thiruvananthapuram	4069530	583026	8578506	65363656	39505541	118100259
	<b>Total</b>	<b>245443023</b>	<b>16971212</b>	<b>178018188</b>	<b>1022388641</b>	<b>1558883681</b>	<b>3021704745</b>

**Table-B5****Employment in the Trade of Vegetables**

Sl. No	District	Number of Employees		
		Household Members	Paid employees	Total
1	Kasargod	168	125	293
2	Kannur	418	324	742
3	Wayanad	193	134	327
4	Kozhikkode	989	676	1665
5	Malappuram	681	640	1321
6	Palakkad	379	257	636
7	Thrissur	866	612	1478
8	Ernakulam	791	500	1291
9	Idukki	305	116	421
10	Kottayam	525	213	738
11	Alappuzha	584	386	970
12	Pathanamthitta	142	108	250
13	Kollam	484	403	887
14	Thiruvananthapuram	496	294	790
<b>Total</b>		<b>7021</b>	<b>4788</b>	<b>11809</b>

**Table-B6****Annual Income and Expenditure of Vegetable Trade (in Rupees)**

Sl. No	District	Total Expenditure	Net Income
1	Kasargod	7787500	60229291
2	Kannur	20986781	68101823
3	Wayanad	1322942	18917120
4	Kozhikkode	12833414	125179547
5	Malappuram	22245701	148831606
6	Palakkad	13462259	45771224
7	Thrissur	30134291	289423676
8	Ernakulam	18647676	116093238
9	Idukki	8895335	20762951
10	Kottayam	9290009	40051455
11	Alappuzha	13133900	114958516
12	Pathanamthitta	3891793	13069134
13	Kollam	11267081	89498007
14	Thiruvananthapuram	7436902	70732461
<b>Total</b>		<b>181335584</b>	<b>1221620049</b>

## **Chapter IV**

### **Trade of Fruits**

It is estimated that 4734 traders have engaged in fruit trade in the state during the year 2004. They traded 4460681 quintals fruits in a year. Mainly 10 types of fruits are traded in our market. This includes locally cultivated fruits as well as fruits brought from other states. Banana, plantain, Pineapple, Jack fruit, Mango etc are local fruits and orange, apple, grapes, guava etc are arrived mostly from other states.

Fruits for Rs.59268 lakhs had been traded in a year. Out of which 19.78.% was in Thrissur district 17.99% in Kozhikode district and 11.56% in Ernakulam district. The least traded districts are Pathanamthitta and Idukki. Traders purchased fruits for Rs.41704 lakhs in a year. It is to be noted that only about 40% of them are locally cultivated fruits like pineapple, plantain, Banana, Jack fruits etc. Others were arrived from outside the state. 38.53% fruits were procured from our state itself through agents or direct from the cultivators by the traders. 61% was purchased from outside the state through agents or by direct purchase. 0.16% is imported fruits like dates.

When we study the sales pattern, we can see that the traders sell these items to consumers, institutions, other traders and for exports. 30.12% is seen sold to consumers directly. 8.01% traded to institutions, 43.99% traded to other traders and 17.88% exported. The total demand for fruits in the state is Rs.41704 lakhs. The supply from farmers is only Rs16069 lakhs.

#### **Export of fruits and vegetables**

Export earnings of fruits and vegetables was Rs.647.22 crores and that of processed fruits and vegetables was 993.64 crs in the year 2000 in India. The same from floriculture was Rs.132.65cr during this period and is showing an increasing trend year by year. Common facilities like collection centers, sorting, cleaning, grading, packinghouses and platform for sale must be created on large scale to meet the demand in domestic market as well as overseas market.

**Employment**

9321 persons are employed in fruits trade and out of which 5416 are household employees and 3905 are paid employees.

**Table-C1****Quantity of Fruits Traded (in Kilograms)**

Sl. No	District	Banana	Grapes	Guva	Jackfruit
1	Kasargod	2126774	369408	188619	
2	Kannur	11029713	2163680	128609	
3	Wayanad	21287562	88008	30691	6252
4	Kozhikkode	25044123	4054368	758151	3394
5	Malappuram	14930904	1834089	213108	78455
6	Palakkad	3449770	395331	52341	3468
7	Thrissur	4276180	10615913	518996	169260
8	Ernakulam	7593809	1463961	366559	21745
9	Idukki	855198	370000	32193	
10	Kottayam	6453919	676832	103139	95050
11	Alappuzha	9835147	1385440	40720	
12	Pathanamthitta	1016879	197470	37716	
13	Kollam	15727304	2480709	341834	22177
14	Thiruvananthapuram	2152965	1020714	130212	2663
<b>Total</b>		<b>125780247</b>	<b>27115923</b>	<b>2942888</b>	<b>402464</b>

**Table-C1(contd...)**

Sl. No	District	Lemon	Mango	Orange	Pineapple
1	Kasargod	9529	755365	225539	325969
2	Kannur	242210	2782898	5022338	1753010
3	Wayanad	19153	364832	106951	248560
4	Kozhikkode	182336	15026358	3159889	5602657
5	Malappuram	256621	2320635	1744156	1640240
6	Palakkad	13663	385619	323388	201707
7	Thrissur	348682	14517075	7427879	2724725
8	Ernakulam	201558	2440975	1449561	24708295
9	Idukki	74660	520192	282792	900239
10	Kottayam	256785	4061371	1139232	750221
11	Alappuzha	200971	1254336	893467	773325
12	Pathanamthitta	6479	294915	196113	173805
13	Kollam	1816641	3676171	2639048	1940521
14	Thiruvananthapuram	353415	774786	898995	585021
<b>Total *</b>		<b>3982703</b>	<b>49175528</b>	<b>25509348</b>	<b>42328295</b>



**Table-C1(contd...)**

Sl. No	District	Plantain	Water melon	Other fruits	Total
1	Kasargod	1162144	204088	1790640	7158075
2	Kannur	3071269	2085585	1867313	30146625
3	Wayanad	4231853	38988	268771	26691621
4	Kozhikkode	13847096	7943692	10567437	86189501
5	Malappuram	8054127	656980	2872040	34601355
6	Palakkad	1898090	86383	1366132	8175892
7	Thrissur	3119986	454595	34816183	78989474
8	Ernakulam	6202642	726185	17740205	62915495
9	Idukki	970077	88416	338457	4432224
10	Kottayam	4364667	422875	1855879	20179970
11	Alappuzha	14311861	78827	2193883	30967977
12	Pathanamthitta	822759	55278	303253	3104667
13	Kollam	10126669	478843	3813535	43063452
14	Thiruvananthapuram	2092730	136285	1304079	9451865
<b>Total</b>		<b>74275970</b>	<b>13457020</b>	<b>81097807</b>	<b>446068193</b>

**Table-C2**

**Quantity of Fruits Traded in Rupees**

Sl. No	District	Banana	Grapes	Guva	Jackfruit
1	Kasargod	30351558	6192053	2186047	
2	Kannur	173567848	37693300	1175687	
3	Wayanad	305606902	1432486	326230	37852
4	Kozhikkode	352570226	65364074	8628627	26065
5	Malappuram	221378638	32266129	2100333	603209
6	Palakkad	46808487	5840424	605472	26486
7	Thrissur	63860186	179249670	4725857	867138
8	Ernakulam	109992411	27255996	3728352	130309
9	Idukki	11427034	5446472	321929	
10	Kottayam	94352695	11308832	1003630	539100
11	Alappuzha	134377200	19576267	418507	
12	Pathanamthitta	14134953	3172339	364595	
13	Kollam	211118709	35500291	3481769	155238
14	Thiruvananthapuram	30018041	14930353	1467666	15980
<b>Total</b>		<b>1799564888</b>	<b>445228686</b>	<b>30534701</b>	<b>2401377</b>

Table-C2(contd...)

Sl. No	District	Lemon	Mango	Orange	Pineapple
1	Kasargod	140559	4765024	4154792	1769294
2	Kannur	3803086	19221467	85635625	9961264
3	Wayanad	293494	2278383	1879836	1358317
4	Kozhikkode	2735492	101924512	58931627	33476731
5	Malappuram	3775081	13876006	29869279	9242148
6	Palakkad	193703	2336156	4948309	1084359
7	Thrissur	4949143	100114774	127301387	15011726
8	Ernakulam	2976940	17027522	22179142	124700453
9	Idukki	1113381	3477122	5133360	5182741
10	Kottayam	3834180	27311380	17149850	3981245
11	Alappuzha	3091307	7455333	16651387	4248747
12	Pathanamthitta	91671	1833709	3184623	985850
13	Kollam	28193899	22296404	42540117	11081250
14	Thiruvananthapuram	5587531	5303826	16892306	3174655
<b>Total</b>		<b>60779467</b>	<b>329221618</b>	<b>436451640</b>	<b>225258780</b>

Table-C2(contd...)

Sl. No	District	Plantain	Water melon	Other fruits	Total
1	Kasargod	18397482	1238029	32358684	101553522
2	Kannur	42855080	11113992	41039722	426067071
3	Wayanad	63100114	217449	5135341	381666404
4	Kozhikkode	201656123	46559706	194701043	1066574226
5	Malappuram	116490459	3825554	49029476	482456312
6	Palakkad	27170549	519288	25475421	115008654
7	Thrissur	44135929	2517586	630014213	1172747609
8	Ernakulam	90863517	4313047	282285908	685453597
9	Idukki	14238990	515604	5031563	51888196
10	Kottayam	62620444	2656925	31410055	256168336
11	Alappuzha	213914507	536827	41604360	441874442
12	Pathanamthitta	11914463	300411	4294969	40277583
13	Kollam	147470868	2479064	71180215	575497824
14	Thiruvananthapuram	31335045	742545	20126809	129594757
<b>Total</b>		<b>1086163570</b>	<b>77536027</b>	<b>1433687779</b>	<b>5926828533</b>

**Table-C3**  
**Quantity of Fruits traded (in Rupees)**

Sl. No	District	Individual Consumers	Institutions	Traders	Export	Total
1	Kasargod	60590939	14455508	18278428	8228647	101553522
2	Kannur	71664089	40808808	194793821	118800353	426067071
3	Wayanad	94191841	34110290	83400320	169963953	381666404
4	Kozhikkode	217022526	72550756	515773768	261227176	1066574226
5	Malappuram	133910286	42108371	144053162	162384493	482456312
6	Palakkad	55196565	17702557	28154241	13955291	115008654
7	Thrissur	127276102	38620838	992832684	14017985	1172747609
8	Ernakulam	391536139	49858507	205484784	38574167	685453597
9	Idukki	36240025	8740343	6353513	554315	51888196
10	Kottayam	92222566	25160565	89379176	49406029	256168336
11	Alappuzha	116906322	25954160	173473027	125540933	441874442
12	Pathanamthitta	21611689	5758237	4422080	8485577	40277583
13	Kollam	280549435	82403929	132265962	80278498	575497824
14	Thiruvananthapuram	86231399	16471569	18367542	8524247	129594757
<b>Total</b>		<b>1785149923</b>	<b>474704438</b>	<b>2607032508</b>	<b>1059941664</b>	<b>5926828533</b>

Table-C4

Quantity of Fruits Purchased (in Rupees)

Sl. No	District	Directly from farmers		From Agents			Imports	Total
		In the state	Outside the state	Local items	With in the state	Out Side the State		
1	Kasargod	187729	17470588	7868118	6578471	31047719		63152625
2	Kannur	6477573	351634	13956118	67188640	258459552		346433517
3	Wayanad	154267991	120276647	27070708	27383844	8575763		337574953
4	Kozhikkode	21202773	418788	6380431	211623017	659858150	1557120	901040279
5	Malappuram	39853891	3817351	14151488	162106175	126575417	2181211	348685533
6	Palakkad	2676003	1266480	13530810	29179564	25825660	119906	72598423
7	Thrissur	21121635	630307	102960344	93521491	515216299	1280478	734730554
8	Ernakulam	126126187		21298782	84309074	104631442	324832	336690317
9	Idukki	8776104	4721	2264589	12500396	15465766	63959	39075535
10	Kottayam	11327980		5452833	24694440	158808740		200283993
11	Alappuzha	1480720		1341867	63600176	241923507		308346270
12	Pathanamthitta	2477153	2304022	1337884	10346729	12169397		28635185
13	Kollam	1919985	1924952	12509707	119691091	227087032	652000	363784767
14	Thiruvananthapuram	2721617	21972	8289147	55156750	22565447	698468	89453401
	<b>Total</b>	<b>400617341</b>	<b>148487462</b>	<b>238412826</b>	<b>967879858</b>	<b>2408209891</b>	<b>6877974</b>	<b>4170485352</b>

**Table-C5**

**Employment in the Trade of Fruits**

Sl. No	District	Number of Employees		
		Household Members	Paid employees	Total
1	Kasargod	79	70	149
2	Kannur	304	223	527
3	Wayanad	189	172	361
4	Kozhikkode	741	496	1237
5	Malappuram	581	391	972
6	Palakkad	116	118	234
7	Thrissur	555	473	1028
8	Ernakulam	729	606	1335
9	Idukki	185	69	254
10	Kottayam	254	131	385
11	Alappuzha	512	256	768
12	Pathanamthitta	93	68	161
13	Kollam	794	656	1450
14	Thiruvananthapuram	284	176	460
<b>Total</b>		<b>5416</b>	<b>3905</b>	<b>9321</b>

**Table-C6**

**Annual Income and Expenditure of Fruits Trade (in Rupees)**

Sl. No	District	Total Expenditure	Net Income
1	Kasargod	4717659	8968177
2	Kannur	20360974	239673141
3	Wayanad	971433	13326593
4	Kozhikkode	16354183	230367339
5	Malappuram	21118362	115142185
6	Palakkad	7319975	17001819
7	Thrissur	22614154	910723466
8	Ernakulam	19555724	145052645
9	Idukki	4242891	11030805
10	Kottayam	3067392	39264120
11	Alappuzha	17612272	167357267
12	Pathanamthitta	2989468	6688063
13	Kollam	17508679	103592483
14	Thiruvananthapuram	5977865	54926867
<b>Total</b>		<b>164411031</b>	<b>2063114970</b>

## **Chapter V**

### **Cultivation of Flower**

Flowers play a vital role in human life from ancient times. Flowers are the inevitable part of our festive occasions. Flowers are largely used in special occasions like wedding, religious ceremonies and other functions. Women in Kerala like in other states widely use flowers to adorn themselves from ancient times onwards.

As per our heritage, our festivals and festive occasions are the festivals of flowers also. In our religious rites, flowers have very important place. Garlands, Bouquets and floral decorations are essential in our marriage occasions. In addition to this, the tendency of decorating hotels, commercial establishments and even houses with beautiful flowers is increasing now a days.

But flowers needed for these purposes are mainly coming from other states. Understanding these increased demand for flowers, steps have been taken to encourage flower cultivation in the state. Many people have shown interest in floriculture and are going ahead with this cultivation. To know the extent of cultivation and production of flowers, Economics and Statistics department had conducted a survey on floriculture along with vegetables, fruits and medicinal crops survey.

#### **Results of the Survey**

As per the survey 601.97 acres of land was utilised for flower cultivation by 2945 cultivators in the state. This is only 16% of the agricultural land occupied by these 2945 flower cultivators.

The important flower crops cultivated are Orchids, Anthooriyam, Lotus, Banthi, Cut flowers, Ixora, Jasmine, Lilly, Marigold, Vadamulla etc. Orchids and Anthooriyam are cultivated in all districts except Kasargod where commercial cultivation of these

flowers is not traded. Ernakulam is the largest producer of these two items followed by Thrissur. Malappuram district is in the first place in the cultivation of lotus. Among the flowers, the above three items are traded in numbers. All the other items are traded in weights.

In the production of other flowers Thiruvananthapuram stood in the first place with 38.49%. Thrissur is in the second place with 18.54% and Ernakulam is in the third place with 13.58%. In Kasaragod and Pathanamthitta districts, the production of flowers is below 1% of total production of flowers.

Out of Rs.1168 lakhs received by selling flowers, Rs.395 lakhs (33.87%) was received from Thiruvananthapuram district, 19.82% received from Ernakulam and 21.5% received from Thrissur district.

Regarding the sales pattern of flowers it can be seen that 37% of the total flowers was sold to consumers, 36% to agents, 21.24% sold to market within the state and 5.62% to outside the state.

Gross area cultivated for flowers was 667.57 acre, the income received from this cultivation is Rs.116839470/- and the annual income per acre is Rs.194095/-.

The cost of cultivation is found to be Rs.13337320/- and out of this, 50.02% is spent as labour charges. 10.73% is spent for seeds and seedlings. The expenditure for manure is 8.09%, for fertilizers 6.37%, pesticides 4.5%, organic manure 4.59%, Hormone 0.39%, transportation 4.81%, irrigation 6.01%, rent 0.33% and other expenses 4.11%.

It is found that a net income of Rs.103502150/- was obtained from flower cultivation i.e. a net income of Rs.171939/- per acre was obtained from this cultivation. Jasmine is the highest income-generating flower cultivated which has a share of 35.69% of total income.

It is also understood that some assistance was received by this flower cultivators. 1137 cultivators were visited by some officers from different agencies. 287 were helped by supplying seeds or seedlings, 515 cultivators got some subsidy from few agencies, 117 cultivators got insurance protection for their crops.

It was found that an amount of Rs.21985929/- was got as loan and Rs.1608058/- as subsidy.

**Table-D1**

**District wise Utilisation Of Area For Flower Cultivation**

Sl. No	District	Area in Cents			
		Agriculture Land Area	Non Agriculture Land Area	Total Area	Flower Cultivated Area (Net)
1	Kasargod	4393	393	4786	437
2	Kannur	1041	64	1105	159
3	Wayanad	13387	927	14314	1730
4	Kozhikkode	7070	267	7337	647
5	Malappuram	7875	689	8564	2868
6	Palakkad	90488	11250	101738	12019
7	Thrissur	39727	4551	44278	9820
8	Ernakulam	96063	14696	110759	14578
9	Idukki	4847	222	5069	446
10	Kottayam	9538	1714	11252	5009
11	Alappuzha	6857	1146	8003	1432
12	Pathanamthitta	3387	577	3964	587
13	Kollam	5271	682	5953	1490
14	Thiruvananthapuram	22835	2045	24880	8975
<b>Total</b>		<b>312779</b>	<b>39223</b>	<b>352002</b>	<b>60197</b>



**Table-D2**

**District wise Number Of Flower Cultivators According To Livelihood**

Sl. No	District	Agriculture	Agriculture Labour	Government/ Quasi Government employee	Employment in Private firm/ Establishment.	Self Employment
1	Kasargod	9	4	1		9
2	Kannur	6	2			4
3	Wayanad	34	1		3	6
4	Kozhikkode	8		1	1	14
5	Malappuram	20		1		6
6	Palakkad	187	13	14	12	54
7	Thrissur	114	7	15	18	96
8	Ernakulam	239	55	77	144	361
9	Idukki	20		1	1	5
10	Kottayam	28	1	1	4	8
11	Alappuzha	26	2	7	2	31
12	Pathanamthitta	10		4	2	7
13	Kollam	22			2	5
14	Thiruvananthapuram	106	13	11	1	28
<b>Total</b>		<b>829</b>	<b>98</b>	<b>133</b>	<b>190</b>	<b>634</b>

**Table-D2(contd...)**

Sl. No	District	Other Labour	Foreign Remittance	Others including pensioners, Rentiers etc.	Total
1	Kasargod			5	28
2	Kannur			2	14
3	Wayanad			13	57
4	Kozhikkode			21	45
5	Malappuram		1	12	40
6	Palakkad	11	1	124	416
7	Thrissur	3	19	174	446
8	Ernakulam	45	44	464	1429
9	Idukki			4	31
10	Kottayam		1	17	60
11	Alappuzha	1	3	35	107
12	Pathanamthitta		2	9	34
13	Kollam	1	1	10	41
14	Thiruvananthapuram	8	2	28	197
<b>Total</b>		<b>69</b>	<b>74</b>	<b>918</b>	<b>2945</b>

Table-D3

## Annual Production Of Flowers

Sl. No	District	In Numbers			
		Orchids	Anthoorium	Lotus	Total
1	Kasargod	0			0
2	Kannur	400	1110		1510
3	Wayanad	12861	15577		28438
4	Kozhikkode	21633	27905		49538
5	Malappuram	10000	3980	434000	447980
6	Palakkad	1002	1197	15637	17836
7	Thrissur	86820	107407	48321	242548
8	Ernakulam	200841	442830	145	643816
9	Idukki	530	4352		4882
10	Kottayam	3515	82834	25061	111410
11	Alappuzha	2404	8965	190	11559
12	Pathanamthitta	1366	5438		6804
13	Kollam	5994	11365		17359
14	Thiruvananthapuram	85636	22735		108371
<b>Total</b>		<b>433002</b>	<b>735695</b>	<b>523354</b>	<b>1692051</b>

Table-D3(contd....)

Sl. No	District	In Kilograms										Total	
		Banathi	Cut Flower	Ixora	Jasmin	Lilly	Marigold	Vada-mulla	Other Flowers	Total			
1	Kasargod				3021					1110			4131
2	Kannur		1730	280	600	2000	2260	190		19282			26342
3	Wayanad	998	2964	1086	1852		4902			76125			87927
4	Kozhikkode	1945	657	5750	2282	197	2201	263		23966			37261
5	Malappuram		342	600	2312	0	0	250		25850			29354
6	Palakkad	5396	787	971	216288	690	13706	3881		32918			274637
7	Thrissur	9732	61488	37388	144521	339	29814	4750		256536			544568
8	Ernakulam	4045	931	1425	336411	6939	1050	927		47042			398770
9	Idukki	1970	2200	390	2455	1380	1150	15		18118			27678
10	Kottayam	2948	305	1413	5840	264	244	2745		191539			205298
11	Alappuzha	3406	1710	274	79598	364	105	1570		31264			118291
12	Pathanamthitta	428	175	150	609		245	78		2545			4230
13	Kollam	47	2104	3934	9511	2428	2126	2179		24997			47326
14	Thiruvananthapuram	5628	6114	39786	138274	14046	36801	5846		883786			1130281
	<b>Total</b>	<b>36543</b>	<b>81507</b>	<b>93447</b>	<b>943574</b>	<b>28647</b>	<b>94604</b>	<b>22694</b>		<b>1635078</b>			<b>2936094</b>

Table-D4

## Annual Production Of Flowers (In Rupees)

Sl. No	District	Orchids	Anthoorium	Lotus	Banthe	Cut Flower	Ixora
1	Kasargod						
2	Kannur	2175	5920			91650	17600
3	Wayanad	86740	57684	0	21019	158888	54506
4	Kozhikkode	114437	154246		40086	37457	243537
5	Malappuram	64000	25400	968875		18280	33261
6	Palakkad	6051	12817	35915	125754	43029	57644
7	Thrissur	514952	466534	96529	259107	3475855	2277935
8	Ernakulam	1207167	2953924	290	104259	48891	74700
9	Idukki	3650	28262		43460	124150	25850
10	Kottayam	22026	617299	53727	77567	17283	78970
11	Alappuzha	15376	68546	360	78350	87070	14230
12	Pathanamthitta	9305	27997		9493	8017	9600
13	Kollam	40984	72306		1187	120842	261817
14	Thiruvananthapuram	514073	139492		126048	335381	2387511
<b>Total</b>		<b>2600936</b>	<b>4630427</b>	<b>1155696</b>	<b>886330</b>	<b>4566793</b>	<b>5537161</b>

Table-D4(contd...)

Sl. No	District	Jasmin	Lilly	Marigold	Vadamulla	Other Flowers	Total
1	Kasargod	131760				26130	157890
2	Kannur	28180	60875	55750	3500	587730	853380
3	Wayanad	88706		99038		2347566	2914147
4	Kozhikkode	107771	6309	52151	4731	736973	1497698
5	Malappuram	106105	0	0	4875	684450	1905246
6	Palakkad	9165078	22971	299801	73900	1042648	10885608
7	Thrissur	6201457	10751	702735	83346	9075125	23164326
8	Ernakulam	14710901	191704	21689	16851	1456369	20786745
9	Idukki	118860	39700	26250	310	567560	978052
10	Kottayam	257191	8642	5795	53111	5792169	6983780
11	Alappuzha	3677795	9185	2540	25745	1044910	5024107
12	Pathanamthitta	23765		5835	1427	97551	192990
13	Kollam	429405	80004	47420	42618	818847	1915430
14	Thiruvananthapuram	6657788	439696	847122	110833	28022127	39580071
<b>Total</b>		<b>41704762</b>	<b>869837</b>	<b>2166126</b>	<b>421247</b>	<b>52300155</b>	<b>116839470</b>

**Table-D5**

**Area And Production Of Flowers**

Sl. No	District	Area in Cents				Production	
		Irrigated	Un Irrigated	Total	Planned for Next Year	Numbers	Kilograms
1	Kasargod	469	0	469	245	0	4131
2	Kannur	159	0	159	133	1510	26342
3	Wayanad	1887	0	1887	1324	28438	87927
4	Kozhikkode	627	26	653	858	49538	37261
5	Malappuram	2384	1133	3517	3944	447980	29354
6	Palakkad	10851	1747	12598	8072	17836	274637
7	Thrissur	10153	1159	11312	9128	242548	544568
8	Ernakulam	14876	115	14991	39723	643816	398770
9	Idukki	446	0	446	428	4882	27678
10	Kottayam	5010	9	5020	2952	111410	205298
11	Alappuzha	1380	59	1439	578	11559	118291
12	Pathanamthitta	632	17	649	660	6804	4230
13	Kollam	1153	382	1535	1094	17359	47326
14	Thiruvananthapuram	12012	71	12082	5568	108371	1130281
<b>Total</b>		<b>62039</b>	<b>4718</b>	<b>66757</b>	<b>74707</b>	<b>1692051</b>	<b>2936094</b>

**Table-D6**

**Total Income And Per Cent Of Income From Flower Cultivation**

Sl. No	District	Net Cultivated Area (cents)	Gross Cultivated Area (cents)	Total Income (Rs.)	Total Expenditure (Rs)	Net Income (Rs)	Income Per Cent (Rs.)
1	Kasargod	437	469	157890	96190	61700	361
2	Kannur	159	159	853380	66418	786962	5367
3	Wayanad	1730	1887	2914147	371542	2542605	1684
4	Kozhikkode	647	653	1497698	313413	1184285	2315
5	Malappuram	2868	3517	1905246	829302	1075944	664
6	Palakkad	12019	12598	10885608	1201433	9684175	906
7	Thrissur	9820	11312	23164326	2446840	20717486	2359
8	Ernakulam	14578	14991	20786745	3790372	16996373	1426
9	Idukki	446	446	978052	170013	808039	2193
10	Kottayam	5009	5020	6983780	1007631	5976149	1394
11	Alappuzha	1432	1439	5024107	221328	4802779	3508
12	Pathanamthitta	587	649	192990	82556	110434	329
13	Kollam	1490	1535	1915430	389147	1526283	1286
14	Thiruvananthapuram	8975	12082	39580071	2351135	37228936	4410
<b>Total</b>		<b>60197</b>	<b>66757</b>	<b>116839470</b>	<b>13337320</b>	<b>103502150</b>	<b>1941</b>

**Table-D7**

**Sale Particulars Of Flowers (In Rupees)**

Sl. No	District	On farm sale to consumers	Sales to agents	Market Sale		Total
				Within the state	Out side the state	
1	Kasargod	6780	19000	132110		157890
2	Kannur	251730	193300	408350		853380
3	Wayanad	1949208	357347	607592		2914147
4	Kozhikkode	995271	301381	201046		1497698
5	Malappuram	390771	809975	454500	250000	1905246
6	Palakkad	2110681	3515656	3931300	1327971	10885608
7	Thrissur	16855228	5305081	998359	5658	23164326
8	Ernakulam	7413719	9491385	3322808	558833	20786745
9	Idukki	435927	432975	109150		978052
10	Kottayam	3287054	3674232	22494		6983780
11	Alappuzha	890400	3813382	320325		5024107
12	Pathanamthitta	76180	108410	8400		192990
13	Kollam	502558	616586	721083	75203	1915430
14	Thiruvananthapuram	8054703	13585229	13586850	4353289	39580071
<b>Total</b>		<b>43220210</b>	<b>42223939</b>	<b>24824367</b>	<b>6570954</b>	<b>116839470</b>

**Table-D8**

**Cost Of Flower Cultivation -Item Wise (In Rupees)**

Sl. No	District	Seed	Manure	Fertiliser	Pesticides	Organic Manures	Hormone
1	Kasargod	11300	10430	4220	1320	1320	250
2	Kannur	13475	7601	1583	945	2669	0
3	Wayanad	46539	21099	15169	5180	4740	499
4	Kozhikkode	53127	44786	11053	6080	16488	2937
5	Malappuram	162105	10430	3844	8286	7820	200
6	Palakkad	151336	160789	127465	67487	79130	5749
7	Thrissur	244787	223318	125574	115956	120341	15349
8	Ernakulam	330469	329586	351743	283203	290012	17498
9	Idukki	22165	10795	15975	5435	9325	1480
10	Kottayam	102635	65657	61089	27643	33901	7894
11	Alappuzha	30195	40050	7550	9899	12530	40
12	Pathanamthitta	12053	9978	7729	3814	4645	0
13	Kollam	18034	4574	15310	8583	14241	539
14	Thiruvananthapuram	232950	140098	101779	56445	15952	489
<b>Total</b>		<b>1431170</b>	<b>1079191</b>	<b>850083</b>	<b>600276</b>	<b>613114</b>	<b>52924</b>

**Table-D8 (contd...)**

Sl. No	District	Transportation	Irrigation	Rent	Labour	Other Expenses	Total
1	Kasargod	6150	3590	0	56710	900	96190
2	Kannur	5610	739	0	26396	7400	66418
3	Wayanad	31756	13523	3208	223196	6633	371542
4	Kozhikkode	11475	35830	0	109316	22321	313413
5	Malappuram	8675	13053	5350	605013	4526	829302
6	Palakkad	94066	85125	2589	361315	66382	1201433
7	Thrissur	41347	119900	3983	1297572	138713	2446840
8	Ernakulam	268301	361628	7097	1352015	198820	3790372
9	Idukki	8355	9630	0	78998	7855	170013
10	Kottayam	65888	46055	234	580391	16244	1007631
11	Alappuzha	13987	17350	2	79525	10200	221328
12	Pathanamthitta	230	10417	0	30340	3350	82556
13	Kollam	12106	15030	3129	291246	6355	389147
14	Thiruvananthapuram	74776	70322	19289	1579735	59300	2351135
<b>Total</b>		<b>642722</b>	<b>802192</b>	<b>44881</b>	<b>6671768</b>	<b>548999</b>	<b>13337320</b>

**Table-D9**

**Man days -Floriculture**

Sl No	District	Man days		
		Hired	House Hold	Total
1	Kasaragode	504	983	1487
2	Kannur	289	830	1119
3	Wayanad	2833	3974	6807
4	Kozhikkode	1126	27467	28593
5	Malappuram	7773	4845	12618
6	Palakkad	4222	22988	27210
7	Thrissur	11169	98436	109605
8	Eranakulam	11426	182185	193611
9	Idukki	798	4111	4909
10	Kottayam	5293	7423	12716
11	Alappuzha	701	10105	10806
12	Pathanamthitta	225	1039	1264
13	Kollam	2105	9755	11860
14	Thiruvananthapuram	15450	39752	55202
<b>Total</b>		<b>63914</b>	<b>413893</b>	<b>477807</b>

Table-D10

## Assistance From Government For Flower Cultivation

Sl. No	District	Number of cultivators				
		Total	Technical assistance	Seed supplied	Received Subsidies	Having Insurance
1	Kasargod	28	25	9	6	0
2	Kannur	14	9	0	2	0
3	Wayanad	57	37	0	4	0
4	Kozhikkode	45	35	1	3	3
5	Malappuram	40	14	2	2	1
6	Palakkad	416	117	47	49	2
7	Thrissur	446	282	65	78	3
8	Ernakulam	1429	407	144	312	91
9	Idukki	31	13	2	6	1
10	Kottayam	60	56	0	3	3
11	Alappuzha	107	45	6	14	0
12	Pathanamthitta	34	22	0	4	4
13	Kollam	41	41	1	4	0
14	Thiruvananthapuram	197	34	10	28	9
<b>Total</b>		<b>2945</b>	<b>1137</b>	<b>287</b>	<b>515</b>	<b>117</b>

Table-D11

## Loans And Subsidies For Flower Cultivation (In Rupees)

Sl. No	District	Loan Amount		Repayment outstanding		Subsidies Received
		Taken	Utilised	Principal	Interest	
1	Kasargod	200000	20000	10000		2000
2	Kannur	100000	10000			
3	Wayanad	142500	0	7125	3562	71250
4	Kozhikkode	335143	26286	151143	8543	
5	Malappuram	80000	6210	55000		49000
6	Palakkad	880299	296295	222809	24376	131743
7	Thrissur	2636734	392551	1856276	76971	163923
8	Ernakulam	7669450	819680	3243105	130997	1104642
9	Idukki	350000	3500	14000	100	3000
10	Kottayam	533750	10675	55917	5338	
11	Alappuzha	185000	18500	101000	27000	
12	Pathanamthitta	540553	1618	174789	21579	
13	Kollam	4166250	93932	1764321	97173	41250
14	Thiruvananthapuram	4166250	93932	1764321	97173	41250
<b>Total</b>		<b>21985929</b>	<b>1793179</b>	<b>9419806</b>	<b>492812</b>	<b>1608058</b>



## **Chapter VI**

### **Trade of Flower**

As per the survey, it is estimated that about 628 people have engaged in the trade of flowers in the state. The important flowers traded in our state are Banthi, Jasmine, Lilly, Lotus, Marigold, Vadamulla, Anthooriyam, Orchids etc. Anthoorium, Orchids, Cut flowers, Rose etc are used for many purposes here. Out of the 61389 quintals of flowers traded in the state, 5.07% is Banthi, 1.74% is Cut flowers, 0.8% is Ixora, 22.84% is Jasmine, 2.67% Lilly, 15.18% Marigold, 3.99% is Vadamulla and 47.65% is other flowers. The trade of flowers like Anthooriyam Orchid and Lotus are done in numbers. Out of the 1573430 flowers traded, 26.25% are Orchids, 14.12% are Anthooriyam and 59.61% is Lotus. The production of Lotus is comparatively higher in Malappuram and Thiruvananthapuram districts.

Major portion of the trade is going on in Eranakulam (17.52%) and Thiruvananthapuram, is in the 2<sup>nd</sup> position with 12.61%. The least trade in this is noticed in Wayanad district.

Jasmine is the highest selling flower in the state. Jasmine for Rs.84043080/- (28.29%) is traded in the state during the reference year. An average sale of 2.30 lakhs per day was seen in the sale of Jasmine.

Out of the total sale of Rs.296979149, 88.80% was purchased by consumers. 2.53% was purchased by different institutions and 8.66% was purchased by other traders.

Traders purchased the flowers from different places inside and outside the state. About 96% of flowers was distributed by agents. 33.18% was from different places inside the state and 66.82% was from outside the state.

**Table-E1****Quantity of Flowers Traded**

Sl. No	District	In Numbers			
		Orchids	Anthoorium	Lotus	Total
1	Kasargod	0	700		700
2	Kannur		4950	6500	11450
3	Wayanad				0
4	Kozhikkode	1500	1000	4810	7310
5	Malappuram	20932		241520	262452
6	Palakkad	108800	6480	59595	174875
7	Thrissur	157035	23065	13140	193240
8	Ernakulam	29575	15769	95832	141176
9	Idukki		3304		3304
10	Kottayam	37074	69182	4748	111004
11	Alappuzha	36500	50732	79312	166544
12	Pathanamthitta	3120	1740	2044	6904
13	Kollam	17676	24816	15389	57881
14	Thiruvananthapuram	900	20550	415140	436590
<b>Total</b>		<b>413112</b>	<b>222288</b>	<b>938030</b>	<b>1573430</b>

Table -E1 (contd...)

Sl. No	District	In Kilograms										Total
		Banathi	Cut Flower	Ixora	Jasmin	Lilly	Margold	Vadamulla	Other Flowers			
1	Kasargod	0	1200		8550		39890	6000	20360		76000	
2	Kannur	0			260200	1000	26000	320	297090		584610	
3	Wayanad	2000			21650	960	1350		848		26808	
4	Kozhikkode	2780	629	2650	33110	5090	25945	37705	63445		171354	
5	Malappuram	5174		1300	111685	19256	190107	7065	379203		713790	
6	Palakkad	57350	3100	300	158400	17200	81297	33790	68081		419518	
7	Thrissur	46426	32710	10680	107575	26450	86055	33510	172184		515590	
8	Ernakulam	58792		1679	242147	20922	47777	22638	676791		1070746	
9	Idukki	12176			10871	2245	12229	3452	52121		93094	
10	Kottayam	10022	5935	1899	31857	885	15651	13377	114343		193969	
11	Alappuzha	63750	33395	28188	179315	26688	232212	22510	212845		798903	
12	Pathanamthitta	13942	14432		35002	1350	17781	5084	42825		130416	
13	Kollam	32684	11368	3397	140272	31734	97877	27589	268157		613078	
14	Thiruvananthapuram	6240	4350	882	61904	10460	57672	32217	557100		730825	
	<b>Total</b>	<b>311336</b>	<b>107119</b>	<b>50975</b>	<b>1402538</b>	<b>164240</b>	<b>931843</b>	<b>245257</b>	<b>2925393</b>		<b>6138701</b>	

Table-E2

## Quantity of Flowers Traded in Rupees

Sl. No	District	Orchids	Anthoorium	Lotus	Banthi	Cut Flower	Ixora
1	Kasargod		4400			90000	
2	Kannur		30700	21500			
3	Wayanad				69000		
4	Kozhikkode	3000	7000	15555	96200	49625	237150
5	Malappuram	21840		758052	158590		112700
6	Palakkad	142200	41500	190230	1689850	236100	24500
7	Thrissur	234228	195205	42930	1361265	2292545	963820
8	Ernakulam	56359	118157	326690	1711528		157083
9	Idukki		21939		365718		
10	Kottayam	59355	429667	17755	363716	433032	182895
11	Alappuzha	69188	427650	251788	2015812	2349150	2179375
12	Pathanamthitta	6850	11440	6184	519222	1046670	
13	Kollam	64965	154718	49632	984769	816430	336886
14	Thiruvananthapuram	1700	155000	1429612	183100	313250	78850
	<b>Total</b>	<b>659685</b>	<b>1597376</b>	<b>3109928</b>	<b>9518770</b>	<b>7626802</b>	<b>4273259</b>

Table -E2 (contd...)

Sl. No	District	Jasmin	Lilly	Marigold	Vadamulla	Other Flowers	Total
1	Kasargod	501600		1179000	150000	984333	2909333
2	Kannur	15425700	40000	778000	9000	14921130	31226030
3	Wayanad	1283300	37600	44000		44500	1478400
4	Kozhikkode	2029400	216500	828810	988775	3263925	7735940
5	Malappuram	6147745	764250	5603170	180925	18812522	32559794
6	Palakkad	10274600	707900	2673560	893865	3781938	20656243
7	Thrissur	5956700	1144490	2587200	889434	8591467	24259284
8	Ernakulam	14468466	859915	1436927	611953	32281751	52028829
9	Idukki	650663	91271	366935	94024	2683789	4274339
10	Kottayam	1880128	36335	497831	348335	5584893	9833942
11	Alappuzha	11270300	1086125	7003345	593175	10072300	37318208
12	Pathanamthitta	2057490	56000	571550	130622	2168671	6574699
13	Kollam	8242209	1347199	3174565	756955	12728828	28657156
14	Thiruvananthapuram	3854779	440500	1729318	851543	28429300	37466952
	<b>Total</b>	<b>84043080</b>	<b>6828085</b>	<b>28474211</b>	<b>6498606</b>	<b>144349347</b>	<b>296979149</b>

**Table-E3**  
**Quantity of Flowers traded (in Rupees)**

Sl. No	District	Individual Consumers	Institutions	Traders	Export	Total
1	Kasargod	2807833		101500		2909333
2	Kannur	31168630	57400			31226030
3	Wayanad	1478400				1478400
4	Kozhikkode	5938540		1797400		7735940
5	Malappuram	31924794		635000		32559794
6	Palakkad	5535078	1641600	13479565		20656243
7	Thrissur	20786404	2697880	775000		24259284
8	Ernakulam	49167987	313925	2546917		52028829
9	Idukki	4274339				4274339
10	Kottayam	9833942				9833942
11	Alappuzha	30673095	2335738	4309375		37318208
12	Pathanamthitta	6574699				6574699
13	Kollam	26577611		2079545		28657156
14	Thiruvananthapuram	36992152	474800			37466952
	<b>Total</b>	<b>263733504</b>	<b>7521343</b>	<b>25724302</b>	<b>0</b>	<b>296979149</b>

**Table-E4**  
**Quantity of Flowers Purchased (in Rupees)**

Sl. No	District	Directly from farmers		From Agents			Total
		In the state	Outside the state	Local items	With in the state	Out Side the State	
1	Kasargod	274000		18300		1230390	1522690
2	Kannur	4500			222750	16280800	16508050
3	Wayanad					915025	915025
4	Kozhikkode	33000		6650	266360	5208998	5515008
5	Malappuram				7468100	14304478	21772578
6	Palakkad	489930	93875	466000	653165	13048235	14751205
7	Thrissur	1431100		558080	2367540	9232300	13589020
8	Ernakulam	3419311		327620	10123210	14660118	28530259
9	Idukki				1029833	1795447	2825280
10	Kottayam	67458		52026	43665	7009847	7172996
11	Alappuzha	374500		700750	5829138	12155375	19059763
12	Pathanamthitta				2444892	1719900	4164792
13	Kollam				2829984	14814876	17644860
14	Thiruvananthapuram	24575		1228250	16126670	6101762	23481257
	<b>Total</b>	<b>6118374</b>	<b>93875</b>	<b>3357676</b>	<b>49405307</b>	<b>118477551</b>	<b>177452783</b>

**Table-E5****Employment in the Trade of Flower**

Sl. No	District	Number of Employees		
		Household Member	Paid employee	Total
1	Kasargod	11	2	13
2	Kannur	21	6	27
3	Wayanad	5	1	6
4	Kozhikkode	46	33	79
5	Malappuram	42	27	69
6	Palakkad	35	31	66
7	Thrissur	76	47	123
8	Ernakulam	110	74	184
9	Idukki	25	5	30
10	Kottayam	39	6	45
11	Alappuzha	118	55	173
12	Pathanamthitta	14	15	29
13	Kollam	62	82	144
14	Thiruvananthapuram	110	124	234
<b>Total</b>		<b>714</b>	<b>508</b>	<b>1222</b>

**Table-E6****Annual Income and Expenditure of Flower trade(in Rupees)**

Sl. No	District	Total Expenditure	Net Income
1	Kasargod	160280	502500
2	Kannur	992844	7756590
3	Wayanad	5070	75275
4	Kozhikkode	239640	1749430
5	Malappuram	822611	5944090
6	Palakkad	2866211	6746042
7	Thrissur	1378403	11898839
8	Ernakulam	2729631	12359724
9	Idukki	741013	918016
10	Kottayam	317683	1251906
11	Alappuzha	1649415	9424238
12	Pathanamthitta	650036	777651
13	Kollam	2008543	9937891
14	Thiruvananthapuram	2185267	13320791
<b>Total</b>		<b>16746647</b>	<b>82662983</b>

## **Chapter VII**

### **Cultivation of Medicinal Crop**

Our state is immensely graced with the Medicinal and Aromatic plants due to its diverse climatic conditions. They are the chief ingredients of Ayurveda, which is the mascot of our state. A resurgence in the study and usage of this system has been observed in recent years. We have good opportunities in developing the cultivation of medicinal plants. A growth in the production, consumption and trade are seen now. A slight shift to Ayurveda treatment is noticed in the state. Many foreigners are coming to our state for Ayurvedic treatment. These are encouraging factors for the increased production of medicinal herbs. After a dull period for Ayurveda, a resurgence in the trade and consumption of Ayurvedic medicines is seen at present. It has regained its dignity in the world in the name Indian system of Medicines. Many foreigners are coming here to get this treatment and to study and make research on this system.

But there are many constraints in the growth and expansion of the medicinal crops like absence of systematic collection, unorganized trade, manipulative and exploitive practices etc. Our industry focuses more on primary processing. There is limited research and clinical trails.

Since there is a tremendous demand both internally and internationally, more attention is required for increasing the quantum of medicinal herbs/plants.

The main medicinal plants grown in our state are Adalodakom, Asokam, Brahmi, Kattarvazha, Kurumthotti, Neem, Thulasi etc. Majority of the medicinal plants are naturally grown and some of them are commercially cultivated. In Kerala commercial cultivation of these plants has started recently. The main Medicinal plant growers are Ayurvedic institutions like Kottakkal Aryavaidyasala, Pankajakasthuri etc. Except this, the cultivation of these items are sporadic in nature. There are many positive factors for the cultivation of these in Kerala. These plants require less labour, less fertilizers and less personal attention. These are not generally prone to pests or diseases. The main medicinal plants commercially cultivated are Kurumthotti, Kattarvazha, Sathavary, etc.

In our state, it is found that only 84668 cents of land are utilized for the cultivation of medicinal plants out of the 287155 cents of agricultural land possessed by these cultivators. They utilize 29.48% of the total agricultural land possessed by them for medicinal plant cultivation. From this an income of Rs.293.33 lakhs was obtained last year (2004).

The major herb producing district is Malappuram and the 2<sup>nd</sup> place goes to Thrissur. 8651 quintals Medicinal plants produced in our state during the years 2004. Kasaragod is the least producing district.

From the 84668 cents of medicinal plants cultivated an income of Rs.293.33/- lakhs was generated. Thulasi fetched an income of Rs.1816451 and Karuka Rs.1324003/- There are numerous medicinal plants in our state and it is very difficult to classify each of them. Hence 18 numbers of herbs are classified separately and all the others are classified as other herbs and hence its quantity and prices have been recorded high. Its value amounts to 74.43% of the total production. Of the total quantity produced through the cultivation of herbal medicines (668 quintals) 7.72% was given as gifts or own use. 33.06% was sold as farm sale. 34.86% was sold to agents 23.77% sold in the markets inside the state and 0.56% out side the state.

### **Expenditure**

The amount spent by the cultivators of the medicinal crops, for seed, manure, fertilizers, pesticides, organic manures, hormones, labour cost, rent for land etc constitute the cost of cultivation. In the case of Herbal plants these costs are much less compared to the other crops. The cost of cultivation of medicinal crop was found as Rs.16772284. It is found that the cultivation of medicinal plants is in the initial stage in many areas and thus the earning from this crop cannot be ascertained properly at this stage.



**Table-F1**

**District wise Utilisation Of Area Of Medicinal Crops Cultivation**

Sl. No	District	Area in Cents			
		Agriculture Land Area	Non Agriculture Land Area	Total Area	Net Cultivated Area
1	Kasargod	1899	153	2052	564
2	Kannur	10308	484	10792	1258
3	Wayanad	54603	3361	57964	3858
4	Kozhikkode	14220	714	14934	1772
5	Malappuram	40224	2245	42469	11265
6	Palakkad	50854	3782	54636	20586
7	Thrissur	14269	1050	15319	20611
8	Ernakulam	27071	2177	29248	3626
9	Idukki	20182	1346	21528	2789
10	Kottayam	8438	2034	10472	4451
11	Alappuzha	2486	332	2818	587
12	Pathanamthitta	6291	520	6811	1780
13	Kollam	16556	2796	19352	5154
14	Thiruvananthapuram	19754	5312	25066	6367
<b>Total</b>		<b>287155</b>	<b>26306</b>	<b>313461</b>	<b>84668</b>

**Table-F2**

**District wise Number Of Medicinal Crops Cultivators According To Livelihood**

Sl. No	District	Agriculture	Agriculture Labour	Government/ Quasi Government employee	Employment in Private firm/ Establishment.	Self Employment
1	Kasargod	2			1	2
2	Kannur	10	1	1		4
3	Wayanad	60	3	3	1	3
4	Kozhikkode	18	1		1	17
5	Malappuram	67	43	2	6	21
6	Palakkad	39	6	1	3	4
7	Thrissur	39	4	3	6	10
8	Ernakulam	30	4	3	6	19
9	Idukki	49	3	1	2	7
10	Kottayam	15	1		2	3
11	Alappuzha	4	2	2	3	7
12	Pathanamthitta	29	4			17
13	Kollam	30		5	9	28
14	Thiruvananthapuram	77	54	4	1	17
<b>Total</b>		<b>475</b>	<b>126</b>	<b>25</b>	<b>41</b>	<b>159</b>

Table-F2 (contd...)

Sl. No	District	Other Labour	Foreign Remittance	Others including pensioners, Rentiers etc.	Total
1	Kasargod			2	7
2	Kannur	1		10	27
3	Wayanad			34	110
4	Kozhikkode			18	55
5	Malappuram	4	1	36	180
6	Palakkad			17	70
7	Thrissur			19	81
8	Ernakulam			30	92
9	Idukki	7	1	22	92
10	Kottayam		1	30	52
11	Alappuzha			17	35
12	Pathanamthitta			4	54
13	Kollam	5		33	110
14	Thiruvananthapuram	5	1	81	238
	<b>Total</b>	<b>20</b>	<b>4</b>	<b>353</b>	<b>1203</b>

Table-F3

## Annual Production Of Medicinal Crops In Kilograms

Sl. No	District	Adalodakam	Ashokam	Brahmi	Chittamrith	Drumstick
1	Kasargod	3		0		0
2	Kannur	329	9	110	100	162
3	Wayanad	1084	532	2575	377	1084
4	Kozhikkode	531	35	15	211	56
5	Malappuram	7983	112	233	144	84
6	Palakkad	1772	261	648	407	568
7	Thrissur	311	152	1755	759	1264
8	Ernakulam	233	545	45	5	5
9	Idukki	657	874	1056	592	1447
10	Kottayam	1621	628	10705	4110	1609
11	Alappuzha	100	9	41	222	200
12	Pathanamthitta	150	174	42	424	141
13	Kollam	1039	857	236	356	1336
14	Thiruvananthapuram	2712	2902	1421	102	633
	<b>Total</b>	<b>18525</b>	<b>7090</b>	<b>18882</b>	<b>7909</b>	<b>8589</b>

Table-F3 (contd...)

Sl. No	District	Karuka	Kattavazha	Koovalam	Kudangal	Kurumthotty
1	Kasargod		0			
2	Kannur	160	475	269	0	68
3	Wayanad	360	639	177	228	390
4	Kozhikkode	433	343	452	14	158
5	Malappuram	0	1503	788	15	29
6	Palakkad	387	334	199	129	120
7	Thrissur	21494	663	707	189	219
8	Ernakulam	1	32	397		20
9	Idukki	212	1526	2311		155
10	Kottayam	4510	15203	1413	605	266
11	Alappuzha	122	131	12	140	74
12	Pathanamthitta	21	48	0	6	280
13	Kollam	2350	866	346	2	868
14	Thiruvananthapuram	133	2941	501	101	131
<b>Total</b>		<b>30183</b>	<b>24704</b>	<b>7572</b>	<b>1429</b>	<b>2778</b>

Table-F3 (contd...)

Sl. No	District	Naruneedi	Neem	Mathalam	Puliyarila	Sathavari
1	Kasargod		600			0
2	Kannur		238	80	195	573
3	Wayanad		701	564	412	521
4	Kozhikkode		1189	73	13	57
5	Malappuram		866	37	2024	896
6	Palakkad	2654	313	157	60	658
7	Thrissur		239	70	166	800
8	Ernakulam		487		1	31
9	Idukki		1014	1204	1	1224
10	Kottayam	5100	1065	6606	3120	1134
11	Alappuzha	100	25	4	130	48
12	Pathanamthitta	5934	139	0	0	143
13	Kollam	0	6230	136		2502
14	Thiruvananthapuram	235	1402	265		2704
<b>Total</b>		<b>14023</b>	<b>14508</b>	<b>9196</b>	<b>6122</b>	<b>11291</b>

Table-F3 (contd...)

Sl. No	District	Thazhuthama	Thulasi	Vayambu	Other Herbs	Total
1	Kasargod	0	550		660	1813
2	Kannur	59	338	15	4458	7638
3	Wayanad	3	2038	214	15051	26950
4	Kozhikkode	36	501	406	24409	29032
5	Malappuram	34	218	112	155544	170622
6	Palakkad	104	1694	75	85110	95650
7	Thrissur	562	4783	383	104715	139231
8	Ernakulam	0	4339	6	86382	92529
9	Idukki	583	1608	1003	31443	46910
10	Kottayam	86	469	5495	15208	78953
11	Alappuzha	224	72	193	2206	4053
12	Pathanamthitta	39	4713	15	4706	16975
13	Kollam	2	2586	2471	45102	67285
14	Thiruvananthapuram	16	22198	407	48710	87514
<b>Total</b>		<b>1748</b>	<b>46107</b>	<b>10795</b>	<b>623704</b>	<b>865155</b>

Table-F4

## Annual Production Of Medicinal Crops In Rupees

Sl. No	District	Adalodakam	Ashokam	Brahmi	Chittamrith	Drumstick
1	Kasargod	75		0		0
2	Kannur	7400	240	2295	1590	2325
3	Wayanad	25719	14039	51232	7095	17820
4	Kozhikkode	11606	1011	245	6006	1008
5	Malappuram	193814	3260	5396	2518	1147
6	Palakkad	41582	7481	13007	7418	8201
7	Thrissur	6990	4135	26777	11986	21042
8	Ernakulam	5325	14600	945	90	86
9	Idukki	16390	24150	22320	12570	25290
10	Kottayam	35846	17345	216216	87391	25171
11	Alappuzha	2490	240	750	3600	3700
12	Pathanamthitta	3531	4777	872	8277	2202
13	Kollam	22468	23697	5149	7021	21719
14	Thiruvananthapuram	65627	83071	32797	1922	10331
<b>Total</b>		<b>438863</b>	<b>198046</b>	<b>378001</b>	<b>157484</b>	<b>140042</b>

Table-F4 (contd...)

Sl. No	District	Karuka	Kattavazha	Koovalam	Kudangal	Kurumthotty
1	Kasargod		0			
2	Kannur	7975	5280	6900	0	2190
3	Wayanad	15400	8711	4771	6531	12119
4	Kozhikkode	18480	4788	12908	392	4410
5	Malappuram	13828	22507	21180	416	843
6	Palakkad	0	4701	4493	3657	3657
7	Thrissur	924552	9152	17949	6074	5568
8	Ernakulam	0	400	8960		520
9	Idukki	10200	18340	66810		3960
10	Kottayam	220450	196208	40010	17100	8875
11	Alappuzha	5300	1590	330	4000	2160
12	Pathanamthitta	0	561	0	0	7269
13	Kollam	102300	12147	9338	0	25089
14	Thiruvananthapuram	5518	42643	13508	2615	3648
<b>Total</b>		<b>1324003</b>	<b>327028</b>	<b>207157</b>	<b>40785</b>	<b>80308</b>

Table-F4 (contd...)

Sl. No	District	Naruneedi	Neem	Mathalam	Puliyarila	Sathavari
1	Kasargod		17800			0
2	Kannur		6600	3280	4300	15720
3	Wayanad		18948	23100	9075	14561
4	Kozhikkode		33250	2884	252	1578
5	Malappuram		24030	1490	39573	23440
6	Palakkad	148985	8191	6269	1149	17657
7	Thrissur		6570	2835	3391	21006
8	Ernakulam		13740		0	880
9	Idukki		29390	47550	20	35320
10	Kottayam	302300	27100	260870	63625	29885
11	Alappuzha	5440	700	160	2500	1340
12	Pathanamthitta	325454	4413	0	0	4069
13	Kollam	0	169868	5547		69522
14	Thiruvananthapuram	13600	34902	10843		75425
<b>Total</b>		<b>795779</b>	<b>395502</b>	<b>364828</b>	<b>123885</b>	<b>310403</b>

Table-F4 (contd...)

Sl. No	District	Thazhuthama	Thulasi	Vayambu	Other Herbs	Total
1	Kasargod	0	22500		24060	64435
2	Kannur	1910	13884	0	119610	201499
3	Wayanad	0	83997	7782	500060	820960
4	Kozhikkode	1148	19768	13482	809123	942339
5	Malappuram	1237	8851	3626	5492753	5859909
6	Palakkad	0	67746	2382	3060631	3407207
7	Thrissur	18222	193912	12351	3793690	5086202
8	Ernakulam	0	170350	200	3167015	3383111
9	Idukki	18640	68760	34100	1138932	1572742
10	Kottayam	2640	18710	176391	559277	2305410
11	Alappuzha	7055	2995	5980	70175	120505
12	Pathanamthitta	1200	195110	519	150562	708816
13	Kollam	0	104863	76766	1353255	2008749
14	Thiruvananthapuram	458	845005	13731	1595927	2851571
<b>Total</b>		<b>52510</b>	<b>1816451</b>	<b>347310</b>	<b>21835070</b>	<b>29333455</b>

Table-F5

## Area And Production Of Medicinal Crops

Sl. No	District	Area in Cents				Production (Kg)
		Irrigated	Un Irrigated	Total	Planned for Next Year	
1	Kasargod	564	0	564	790	1813
2	Kannur	895	417	1312	1049	7638
3	Wayanad	5064	864	5928	4912	26950
4	Kozhikkode	1638	515	2153	1456	29032
5	Malappuram	6918	4402	11320	6552	170622
6	Palakkad	10146	7176	17322	19069	95650
7	Thrissur	16511	4421	20932	5196	139231
8	Ernakulam	3216	463	3679	2682	92529
9	Idukki	1529	1260	2789	2857	46910
10	Kottayam	4167	306	4473	3540	78953
11	Alappuzha	579	8	587	470	4053
12	Pathanamthitta	1298	638	1936	2008	16975
13	Kollam	2713	3059	5772	4786	67285
14	Thiruvananthapuram	5573	2319	7892	4797	87514
<b>Total</b>		<b>60811</b>	<b>25848</b>	<b>86659</b>	<b>60164</b>	<b>865155</b>

**Table-F6****Total Income And Per Cent Of Income From Medicinal Crops**

Sl. No	District	Net Area (cents)	Gross Area Cultivated (cents)	Total Income (Rs.)	Total Expenditure (Rs)	Net Income (Rs)	Income Per Cent (Rs.)
1	Kasargod	564	564	64435	148510	-84075	114
2	Kannur	1258	1312	201499	258148	-56649	160
3	Wayanad	3858	5928	820960	528411	292549	213
4	Kozhikkode	1772	2153	942339	123460	818879	532
5	Malappuram	11265	11320	5859909	2178989	3680920	520
6	Palakkad	20586	17322	3407207	707921	2699286	166
7	Thrissur	20611	20932	5086202	1541893	3544309	247
8	Ernakulam	3626	3679	3383111	733985	2649126	933
9	Idukki	2789	2789	1572742	738499	834243	564
10	Kottayam	4451	4473	2305410	1105952	1199458	518
11	Alappuzha	587	587	120505	754490	-633985	205
12	Pathanamthitta	1780	1936	708816	642100	66716	398
13	Kollam	5154	5772	2008749	3929380	-1920631	390
14	Thiruvananthapuram	6367	7892	2851571	3380546	-528975	448
<b>Total</b>		<b>84668</b>	<b>86659</b>	<b>29333455</b>	<b>16772284</b>	<b>12561171</b>	<b>346</b>

**Table-F7****Consumption Of Medicinal Crops In Kilograms**

Sl. No	District	Own consumption/ Gifts	On farm sale to consumers	Sales to agents	Market Sale		Total
					Within the state	Out side the state	
1	Kasargod	0	513	50	100	1150	1813
2	Kannur	3003	1861	717	1907	150	7638
3	Wayanad	2705	19906	3908	417	14	26950
4	Kozhikkode	3031	23834	164	2003		29032
5	Malappuram	2966	8212	128730	29140	1574	170622
6	Palakkad	17124	17790	33817	24892	2027	95650
7	Thrissur	12540	14775	53313	58603		139231
8	Ernakulam	4215	83805	321	4173	15	92529
9	Idukki	3410	13955	8381	21164		46910
10	Kottayam	895	67022	6100	4936		78953
11	Alappuzha	622	93	213	3125		4053
12	Pathanamthitta	781	4860	4538	6796		16975
13	Kollam	13087	11267	18314	24617		67285
14	Thiruvananthapuram	2434	18176	43088	23816		87514
<b>Total</b>		<b>66813</b>	<b>286069</b>	<b>301654</b>	<b>205689</b>	<b>4930</b>	<b>865155</b>

**Table-F8**

**Consumption Of Medicinal Crops In Rupees**

Sl. No	District	On farm sale to consumers	Sales to agents	Market Sale		Total
				Within the state	Out side the state	
1	Kasargod	11935	2500	9000	41000	64435
2	Kannur	97189	47305	49105	7900	201499
3	Wayanad	544306	207888	27516	41250	820960
4	Kozhikkode	735322	7573	199444		942339
5	Malappuram	253173	4614856	897670	94210	5859909
6	Palakkad	599043	1881202	809843	117119	3407207
7	Thrissur	3490307	971357	624538		5086202
8	Ernakulam	3176111	29045	177355	600	3383111
9	Idukki	608672	646470	317600		1572742
10	Kottayam	1941930	328575	34905		2305410
11	Alappuzha	7150	58200	55155		120505
12	Pathanamthitta	188834	243519	276463		708816
13	Kollam	331533	373906	1303310		2008749
14	Thiruvananthapuram	1105233	1285587	460751		2851571
<b>Total</b>		<b>13090738</b>	<b>10697983</b>	<b>5242655</b>	<b>302079</b>	<b>29333455</b>

**Table-F9**

**Expenditure Of Medicinal Crops Cultivation -Item Wise (In Rupees)**

Sl. No	District	Seed	Manure	Fertiliser	Pesticides	Organic Manures	Hormone
1	Kasargod	7760	500	4700	160	7800	0
2	Kannur	30600	5448	810	2200	10690	0
3	Wayanad	52012	10316	12746	825	19786	1045
4	Kozhikkode	5163	3395	147	56	3353	0
5	Malappuram	161847	26006	136177	28196	81843	0
6	Palakkad	52160	17873	49794	2121	89725	0
7	Thrissur	99053	16081	78983	19143	44563	0
8	Ernakulam	55060	8955	13150	6650	40170	400
9	Idukki	77990	3979	12800	1780	51100	500
10	Kottayam	120470	17502	15440	8920	5710	1000
11	Alappuzha	40740	1060	2360	8320	31220	0
12	Pathanamthitta	17008	5899	17612	8225	18630	0
13	Kollam	120915	10761	110761	52332	189153	749
14	Thiruvananthapuram	87183	17187	65215	33961	21865	0
<b>Total</b>		<b>927961</b>	<b>144962</b>	<b>520695</b>	<b>172889</b>	<b>615608</b>	<b>3694</b>



**Table-F9 (contd...)**

Sl. No	District	Transportation	Irrigation	Rent	Labour	Other Expenses	Total
1	Kasargod	26500	57000	0	43990	100	148510
2	Kannur	30700	91700	0	86000	0	258148
3	Wayanad	82225	88275	0	260906	275	528411
4	Kozhikkode	8036	12586	0	30524	60200	123460
5	Malappuram	492410	338616	81057	728621	104216	2178989
6	Palakkad	164970	139060	5433	186472	313	707921
7	Thrissur	277788	475802	12958	447771	69751	1541893
8	Ernakulam	85900	127700	3200	390000	2800	733985
9	Idukki	79800	142300	0	332750	35500	738499
10	Kottayam	239800	263900	10000	368710	54500	1105952
11	Alappuzha	187400	172700	0	280690	30000	754490
12	Pathanamthitta	48185	245700	74769	167649	38423	642100
13	Kollam	850745	458957	124511	1446453	564043	3929380
14	Thiruvananthapuram	607031	487377	461092	1168358	431277	3380546
<b>Total</b>		<b>3181490</b>	<b>3101673</b>	<b>773020</b>	<b>5938894</b>	<b>1391398</b>	<b>16772284</b>

**Table-F10**

**Man days -Medicinal Crops Cultivation**

Sl No	District	Man days		
		Hired	House Hold	Total
1	Kasaragode	384	536	920
2	Kannur	796	1260	2056
3	Wayanad	2232	2388	4620
4	Kozhikkode	248	918	1166
5	Malappuram	7238	3519	10757
6	Palakkad	1611	1599	3210
7	Thrissur	3527	3456	6983
8	Eranakulam	3541	2282	5823
9	Idukki	2557	12467	15024
10	Kottayam	3509	6963	10472
11	Alappuzha	2778	1612	4390
12	Pathanamthitta	1294	887	2181
13	Kollam	12500	20720	33220
14	Thiruvananthapuram	9117	15410	24527
<b>Total</b>		<b>51332</b>	<b>74017</b>	<b>125349</b>

Table-F11

## Assistance From Government For Medicinal Crops Cultivation

Sl. No	District	Number of Cultivators				
		Total Cultivators	Visited by Officers	Seed supplied	Received Subsidies	Having Insurance
1	Kasargod	7	9	2	0	0
2	Kannur	27	30	1	9	0
3	Wayanad	110	88	8	11	0
4	Kozhikkode	55	26	3	4	0
5	Malappuram	180	118	2	31	0
6	Palakkad	69	33	1	5	0
7	Thrissur	81	56	5	5	7
8	Ernakulam	92	24	10	2	0
9	Idukki	92	78	32	5	3
10	Kottayam	52	40	2	3	1
11	Alappuzha	35	24	11	7	0
12	Pathanamthitta	54	23	8	4	0
13	Kollam	110	59	0	2	0
14	Thiruvananthapuram	238	27	13	26	1
<b>Total</b>		<b>1202</b>	<b>635</b>	<b>98</b>	<b>114</b>	<b>12</b>

Table-F12

## Loans And Subsidies For Medicinal Crops Cultivation (In Rupees)

Sl. No	District	Loan Amount		Repayment outstanding		Subsidies Recieved
		Taken	Utilised	Principal	Interest	
1	Kasargod	805000	90250	700000		
2	Kannur	0	0	0	0	0
3	Wayanad	9625	9625	9625	5500	
4	Kozhikkode	236600	25500	138600	3724	29400
5	Malappuram	637435	119393	516019		33727
6	Palakkad	264328	20896	15672		
7	Thrissur	482018	308741	68863	2919	1923
8	Ernakulam	20000	20000	20000	1500	2500
9	Idukki	15000	15000	4500	500	1200
10	Kottayam	25000	25000	25000	725	
11	Alappuzha	10000	7500	2500	300	
12	Pathanamthitta	0	0	0	0	0
13	Kollam	795745	93617	760638	18723	9362
14	Thiruvananthapuram	323000	296846	99908	14555	
<b>Total</b>		<b>3623751</b>	<b>1033468</b>	<b>2361325</b>	<b>48446</b>	<b>78112</b>

## **Chapter VIII**

### **Trade of Medicinal Crops**

As per the survey 494 numbers of traders are engaged in the trade of medicinal plants. 2731463 Kg of medicinal plants are traded in the state. The important items traded in the state are Adalodakam, Ashokam, Bhrahmi, Kurumthotti, Sathavari etc. Since there are a large number of medicinal herbs, it is not possible to list all of them. Hence few important items separately noted and other items are noted together as "other herbs". 202257 Kg of Kurumthotti, 101523 Kg of Neem, 106677 Kg Vayambu, 182447 Kgs of Sathavari, 71596 Kgs of Brahmi, 1140845 Kg unclassified herbs like Chukku, Thippali, Kadukka, Nellikka etc. have been produced.

Trade for worth Rs.121934470/-, was carried out in the state during 2004-05. Out of which 2.85% is Adalodakam, 7.81% is Sathavari 3.90% is Vayambu, 3.97% is drumstick, 2.74% is Brahmi, 3.29% neem, 7.29% kurumthotti etc.

Out of the total herbs trade (Rs.121934470/-) 85% was purchased by individual consumers, 2.56% was by institutions like Pharmacies and 14.22% is purchased by other traders. Ayurvedic Pharmaceuticals are the important consumers of these items. Most of them have their own nurseries or they are buying it directly from the cultivators or agents. Hence major portion of the medicines consumed could not be counted in this survey of trade. As per the survey out of the medicinal herbs purchased for Rs.84977719/-, 6.2% was purchased from inside the state, 7.33% was from the local cultivators, 65.24% was from places inside the state and 23.09% from outside the state through agents.

#### **Employment**

It can be seen that about 1000 people have got direct employment through the trade of medicinal herbs.

Table-G1

## Quantity of Medicinal Crops Traded (in Kilograms)

Sl. No	District	Adalodakam	Asokam	Brahmi	Chittamruthu	Drumstick
1	Kasargod	410		180	300	730
2	Kannur	12192	4940	992	3462	4856
3	Wayanad	1088	117		1622	3827
4	Kozhikkode	10183	8838	7679	12374	22714
5	Malappuram	12786	4565	4716	6156	11260
6	Palakkad	2134	1165	7225	13500	10830
7	Thrissur	15735	13647	40201	15131	26351
8	Ernakulam	6930	7731	13421	11017	19729
9	Idukki			680		
10	Kottayam	7636	12455	16102	6033	10811
11	Alappuzha	7739	3766	8253	4510	41443
12	Pathanamthitta	13740	4917	6029	6134	8554
13	Kollam	5790	2188	583	38493	5294
14	Thiruvananthapuram	1967	7267	6880	10460	17067
	<b>Total</b>	<b>98330</b>	<b>71596</b>	<b>112941</b>	<b>129192</b>	<b>183466</b>

Table-G1 (contd...)

Sl. No	District	Karuka	Kattarvazha	Koovalam	Kudangal	Kurumthotti
1	Kasargod	240		266		1025
2	Kannur		887	4381	63	13691
3	Wayanad		2876	303		2771
4	Kozhikkode	576	13712	5053	845	22471
5	Malappuram	3318	6464	3470	698	30319
6	Palakkad	795	5265	2310	638	11560
7	Thrissur	10975	33172	3973	4275	43320
8	Ernakulam	8557	17228	7284	1990	10023
9	Idukki		1225	625		
10	Kottayam	1849	14225	3044	1555	31162
11	Alappuzha	763	354	6410	2247	7378
12	Pathanamthitta	4472	413	5553	576	9582
13	Kollam	2371	1908	18331	525	17395
14	Thiruvananthapuram	5693	11400	207	800	1560
	<b>Total</b>	<b>39609</b>	<b>109129</b>	<b>61210</b>	<b>14212</b>	<b>202257</b>

**Table-G1 (contd...)**

Sl. No	District	Naruneendi	Neem	Mathalam	Puliyarila	Sathavari
1	Kasargod		405	180		610
2	Kannur		7141	248		8719
3	Wayanad	18	665			2077
4	Kozhikkode	900	13168	3702	50	23592
5	Malappuram	97	5081	4909	1046	7687
6	Palakkad		3150	2955	1245	16875
7	Thrissur	6550	15993	2525	5500	21894
8	Ernakulam	1340	3561	10228	1418	33216
9	Idukki		925			
10	Kottayam	382	14174	3349		14785
11	Alappuzha		6364	5732	19	12721
12	Pathanamthitta		17102	9248	312	14127
13	Kollam	1400	1954	1543	525	18317
14	Thiruvananthapuram		11840	6887	800	7827
<b>Total</b>		<b>10687</b>	<b>101523</b>	<b>51506</b>	<b>10915</b>	<b>182447</b>

**Table-G1 (contd...)**

Sl. No	District	Thazhuthama	Thulasi	Vayamb	Other Herbs	Total
1	Kasargod	360		120	18866	23692
2	Kannur	1277		6713	82423	151985
3	Wayanad	194		624	52824	69006
4	Kozhikkode	3926	1319	16344	77468	244914
5	Malappuram	1742	2527	5787	64881	177509
6	Palakkad	4500	895	1333	59671	146046
7	Thrissur	22661	3320	23299	113153	421675
8	Ernakulam	14469	6973	13740	168385	357240
9	Idukki			1630	28226	33311
10	Kottayam	17771	325	11033	73373	240064
11	Alappuzha	7211	64	5268	80352	200594
12	Pathanamthitta	9769	21	13799	32732	157080
13	Kollam	1947	2450	1254	283588	405856
14	Thiruvananthapuram	1200		5733	4903	102491
<b>Total</b>		<b>87027</b>	<b>17894</b>	<b>106677</b>	<b>1140845</b>	<b>2731463</b>

Table-G2

## Quantity of Medicinal Crops Traded (in Rupees)

Sl. No	District	Adalodakam	Asokam	Brahmi	Chittamruthu	Drumstick
1	Kasargod	15300		5500	7500	18250
2	Kannur	432408	211354	30083	92150	126456
3	Wayanad	37672	4667		41533	104032
4	Kozhikkode	565324	363778	229115	321196	581110
5	Malappuram	452994	200167	139151	153945	309596
6	Palakkad	72250	44995	219175	355850	275660
7	Thrissur	545973	552994	1167695	466583	693380
8	Ernakulam	257811	323945	407649	305677	534787
9	Idukki			20400		
10	Kottayam	273578	521371	480507	166800	286778
11	Alappuzha	271371	158121	240825	113175	1088421
12	Pathanamthitta	490920	196242	187807	153650	241052
13	Kollam	186798	86917	17208	1012229	142297
14	Thiruvananthapuram	74667	271867	200667	284133	439400
<b>Total</b>		<b>3477066</b>	<b>2936418</b>	<b>3345782</b>	<b>3414421</b>	<b>4841219</b>

Table-G2 (contd...)

Sl. No	District	Karuka	Kattarvazha	Koovalam	Kudangal	Kurumthotti
1	Kasargod	17300		9180		47675
2	Kannur		17322	160410	2639	570071
3	Wayanad		60608	10593		117658
4	Kozhikkode	41030	280310	191412	38300	965445
5	Malappuram	255548	144925	132532	29294	1282910
6	Palakkad	57025	110735	89345	26185	481565
7	Thrissur	645150	708050	144730	180655	1962855
8	Ernakulam	608047	390755	255571	90892	429085
9	Idukki		26950	23050		
10	Kottayam	141982	314324	108960	65978	1374202
11	Alappuzha	60536	6857	239790	101314	316287
12	Pathanamthitta	319280	7925	123148	24284	465591
13	Kollam	201250	43633	707146	21875	725623
14	Thiruvananthapuram	418667	243733	7667	33333	64120
<b>Total</b>		<b>2969815</b>	<b>2356127</b>	<b>2273534</b>	<b>614749</b>	<b>8803087</b>

**Table-G2 (contd...)**

Sl. No	District	Naruneendi	Neem	Mathalam	Puliyarila	Sathavari
1	Kasargod		17100	9940		31600
2	Kannur		272122	14345		479961
3	Wayanad	1254	26833			123667
4	Kozhikkode	66000	525940	215325	1600	1261282
5	Malappuram	7175	197277	287692	35306	404690
6	Palakkad		120150	170250	38400	847200
7	Thrissur	470500	637290	140620	158000	1154951
8	Ernakulam	84739	153675	631656	43032	1623918
9	Idukki		39050			
10	Kottayam	26700	571691	184653		773247
11	Alappuzha		248861	350511	536	686147
12	Pathanamthitta		640062	526733	9360	743029
13	Kollam	100917	74375	86392	15312	1002167
14	Thiruvananthapuram		490667	404667	24000	401500
<b>Total</b>		<b>757285</b>	<b>4015093</b>	<b>3022784</b>	<b>325546</b>	<b>9533359</b>

**Table-G2 (contd...)**

Sl. No	District	Thazhuthama	Thulasi	Vayamb	Other Herbs	Total
1	Kasargod	15440		5600	1033020	1233405
2	Kannur	57369		302909	4319270	7088869
3	Wayanad	8633		27592	2748264	3313006
4	Kozhikkode	170590	72902	731853	4313144	10735656
5	Malappuram	70694	124999	251945	3427451	7908291
6	Palakkad	197200	48340	60027	3096145	6310497
7	Thrissur	967340	168300	1024249	5788330	17721645
8	Ernakulam	594902	375458	595169	9192437	16899205
9	Idukki			72700	1599160	1781310
10	Kottayam	778745	15900	494753	3868925	10449094
11	Alappuzha	294846	3279	235259	4157731	8573867
12	Pathanamthitta	437568	1040	652657	1722866	7013214
13	Kollam	76016	124833	61396	14310443	18996827
14	Thiruvananthapuram	48000		248333	254163	3909584
<b>Total</b>		<b>3717343</b>	<b>935051</b>	<b>4764442</b>	<b>59831349</b>	<b>121934470</b>

**Table-G3**  
**Quantity of Medicinal Crops traded (in Rupees)**

Sl. No	District	Individual Consumers	Institutions	Traders	Export	Total
1	Kasargod	444405		789000		1233405
2	Kannur	3725526	187282	3176061		7088869
3	Wayanad	1858884	11667	1442455		3313006
4	Kozhikkode	9035701	84800	1615155		10735656
5	Malappuram	6077718	1476692	353881		7908291
6	Palakkad	5053142	556200	701155		6310497
7	Thrissur	16490405		1231240		17721645
8	Ernakulam	15669595	124497	1105113		16899205
9	Idukki	1781310				1781310
10	Kottayam	9359249	636589	453256		10449094
11	Alappuzha	5330599	47668	3195600		8573867
12	Pathanamthitta	6811537		201677		7013214
13	Kollam	15910702		3086125		18996827
14	Thiruvananthapuram	3909584				3909584
<b>Total</b>		<b>101458357</b>	<b>3125395</b>	<b>17350718</b>	<b>0</b>	<b>121934470</b>

**Table-G4**  
**Quantity of Medicinal Crops Purchased (in Rupees)**

Sl. No	District	Directly from farmers		From Agents				Total
		In the state	Outside the state	Local items	With in the state	Out Side the State	Im-ports	
1	Kasargod	38778		91000	299380	193040		622198
2	Kannur	1184691		239463	2647713	1240753		5312620
3	Wayanad	295342		824582	1168008	4317		2292249
4	Kozhikkode	126247	20150	80935	5005668	1085400		6318400
5	Malappuram	889905		141388	4212596	283153		5527042
6	Palakkad	34250		180715	2464185	310000		2989150
7	Thrissur			697558	8150420	261250		9109228
8	Ernakulam	2937501	114	711810	16566907	904345		21120677
9	Idukki				1229510			1229510
10	Kottayam	322451		435082	2321045	3389400		6467978
11	Alappuzha	43821	21000	172661	3000186	1611493		4849161
12	Pathanamthitta	5115		1960	2433519	1221414		3662008
13	Kollam	350977		52208	3024344	9121875		12549404
14	Thiruvananthapuram	4000		2667	2921427			2928094
<b>Total</b>		<b>6233078</b>	<b>41264</b>	<b>3632029</b>	<b>55444908</b>	<b>19626440</b>	<b>0</b>	<b>84977719</b>



**Table-G5**

**Employment in the Trade of Medicinal Crops**

Sl. No	District	Number of Employees		
		Household Member	Paid employee	Total
1	Kasargod	2	1	3
2	Kannur	23	12	35
3	Wayanad	16	16	32
4	Kozhikkode	56	53	109
5	Malappuram	49	26	75
6	Palakkad	26	134	160
7	Thrissur	59	69	128
8	Ernakulam	88	59	147
9	Idukki	8	5	13
10	Kottayam	44	32	76
11	Alappuzha	43	12	55
12	Pathanamthitta	26	16	42
13	Kollam	34	19	53
14	Thiruvananthapuram	17	23	40
<b>Total</b>		<b>491</b>	<b>477</b>	<b>968</b>

**Table-G6**

**Annual Income and Expenditure of Medicinal Crop Trade (in Rupees)**

Sl. No	District	Total Expenditure	Net Income
1	Kasargod	23159	86035
2	Kannur	528572	2087981
3	Wayanad	38255	369805
4	Kozhikkode	343411	2847983
5	Malappuram	528413	3580153
6	Palakkad	326191	872225
7	Thrissur	965448	11833676
8	Ernakulam	1972605	25102335
9	Idukki	152418	247870
10	Kottayam	515589	2376680
11	Alappuzha	906598	3025322
12	Pathanamthitta	366906	839923
13	Kollam	1391620	18853334
14	Thiruvananthapuram	243039	1258288
<b>Total</b>		<b>8302224</b>	<b>73381610</b>

## **Chapter IX**

### **Conclusion**

The new agriculture policy provided agriculture, the status of industry and this may increase the export of agriculture products, improve earnings by assured markets and establishment of agro-based industries. The best way to achieve this end is to implement diversification in agriculture and it is considered a desirable change to meet the ever-increasing demand of agricultural products. It is possible with our diverse climate and nature of the soil.

The scope for export of traditional as well as non-traditional agricultural products such as cut flowers and fruits is vast. Development of improved crop varieties with higher nutritional value should be given much attention through the application of biotechnology along with bio safety concerns. Giving value addition to agricultural products will make a resurgence in this sector and export oriented projects will make it a more attractive profession. The percentage loss of agricultural production such as vegetables, fruits, flowers, medicinal plants etc due to poor infrastructure and post harvest handling is very high and immediate measures to improve this condition have to be taken. Suitable storage system, immediate processing facilities, stable price, proper insurance protection etc should be ensured. Since this sector is the major employer of the common people in our country, due importance and proper encouragement should be given to this sector.

Organic farming is the attraction of this period and urgent steps for the improvement of this system should be taken. To make our state self sufficient in vegetables, fruits and flowers should be one of our ultimate goals.

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