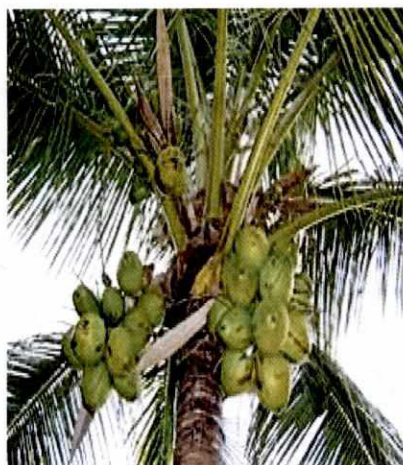


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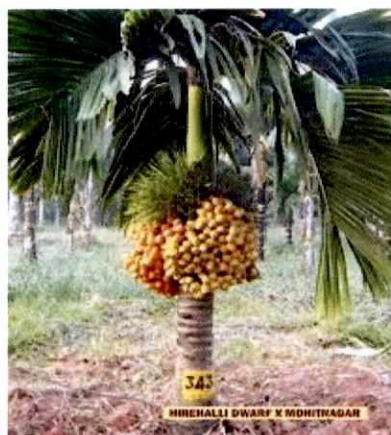
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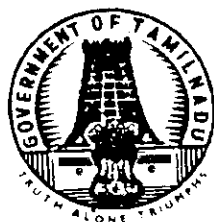
REPORT ON COCONUT AND ARECANUT

FASLI - 1424

(2014 - 2015)



DEPARTMENT OF ECONOMICS AND STATISTICS
CHENNAI-600 006



SURVEY REPORT
ON
COCONUT AND ARECANUT
TAMIL NADU

Department of Economics and Statistics
Chennai – 600 006.

PREFACE

The Department of Economics and Statistics is conducting sample survey every year for estimating yield and production of Coconut and Arecanut in Tamil Nadu. Apart from yield and production total number of Coconut , Arecanut Palms average number of bearing and non – bearing palms per hectare are estimated. The report contains the results of the survey conducted during the year 2014-15.

This report is classified into four parts. Part I deals with the objectives coverage, sampling design and sample size, survey period. data collection and supervision, Part –II covers the Concepts and definitions, Part III incorporates the Survey results and finally Part IV comprises Comparative statement on the findings of survey for the years 2014-15 and 2013-14.

It is hoped that this report will be useful to the Administrators, Planners and Research Scholars for evolving new policies and programmes for augmenting the production of Coconut and Arecanut in Tamil Nadu.

Place: Chennai-6 .
Date: 15.04.2016

(Sd)P.Balasubramanian.
for Principal Secretary/Commissioner.

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PART - I

1.1 INTRODUCTION

Farming Guide for Coconut Plantation:

Scientific name : *Cocos nucifera* Family: Arecaceae (palm family)

The Coconut palm is a very useful palm variety. Every part of the tree is useful to human life in one form or the other. Hence, the coconut palm is endearingly called 'kalpavriksha' meaning the tree of heaven. The copra obtained by drying the kernel of coconut is the richest source of vegetable oil containing 65 to 70 per cent oil.

Coconut tree, a tree of greatest importance to all, play a vital role in the rural economy considering the multiple uses of coconut products, for building houses, decors and even medicine that can be produced from its roots or coconut water. Products of coconut tree from its parts are detailed below:

- Raw nut and edible oil;
- Oil extracted from desiccated or copra in cooking and manufacturing of soaps and other cosmetics;
- Tender coconuts to quench the thirst; of human beings
- Husk used in coir matting;
- Thatched and kutcha houses made of matured trunks;
- Conversion of coconut shell into charcoal for cooking
- Making leaves as thatches for houses;
- Conversion of coconut shell and husks into valuable articles in cottage industry.
- Coconut roots can be used for beverage, dye stuff, and medicine purposes.

Currently, Tamilnadu is the second largest coconut producing State in India next only to Kerala and shares one-fourth of the total production in the country. Cultivation of coconut registered a significant growth during the last decade in Tamilnadu. There were an estimated 871.23 lakh coconut (garden) palms in Tamil Nadu during 2014-15.

'Arecanut crop' is known as 'Areaca catechu' in botanical terminology. Coconut and arecanut trees are hydrophilic perennial trees. They are being cultivated both under irrigated and rain fed conditions. In the wake of the new thrust given under various horticultural schemes, new coconut trees are being raised under rain fed conditions using micro irrigation facilities such as drip and sprinkler irrigation system to a great degree.

In view of the multiple uses of coconut trees and significant contribution to the GSDP there is an urgent need to have precise measure of area production and yield on coconut. These pieces of information are critical for location specific planning and formulation of scheme and programmes.

1.2. Funding Pattern

A Scheme for the Estimation of Area and Yield of Coconut and Arecanut was launched in 1959-60 and is being continued since then. Originally, the scheme was introduced to cater to the needs of the Central Coconut Committee and the Indian Central Arecanut Committee upto 1963-64 and the expenditure towards this scheme was shared by the above two bodies on 50:50 basis. Subsequently, upto the end of the Third Five Year Plan, the expenditure under the scheme was borne by the Government of India and the State Government on 50:50 basis. Currently, the expenditure towards the scheme is being fully borne by the State Government and it has become a regular scheme of the State Government.

1.3 Objectives

The objectives of the survey are:

- i. To estimate the total number of palms of coconut and arecanut for the districts and for the State;
- ii. To estimate the average number of bearing and non-bearing palms of coconut/arecanut per hectare for the districts and State;
- iii. To estimate the average yield per palm of coconut/arecanut and total production per year for the districts and State; and
- iv. To collect additional information on agricultural practices like manuring, pest control irrigation, disposal of produce etc., of the crops.

1.4. Coverage

During 2014-15, 380 villages from 31 districts were covered for conducting the Survey.

1.5. Sampling design

The broad plan for the survey was determined by the Statistical Adviser, Indian Agricultural Statistics Research Institute, New Delhi. The sampling design adopted was a stratified random sampling technique.

1.6. Stratifications

The villages were stratified into the following three strata.

- i. Villages reported to be growing coconut only.
- ii. Villages reported to be growing both coconut and arecanut.
- iii. Villages reported to be growing arecanut only.

1.7. Area Enumeration

In the selected village, the fields wherein coconut is being raised are numbered Survey/Sub-division number wise. Then it is being categorized into two, each consists of 50 per cent arranged by sub division number.

If the village is newly selected one, the two fields have been selected from the first category and if old one, the fields are selected from the second category by applying the random sampling technique.

1.8. Yield Estimation

In the selected village, two coconut / arecanut gardens are selected at random. The selected gardens must have a minimum of 25 trees in 3 rows atleast one bearing trees in the sampling garden. The total number of bearing trees and its yield are taken for estimation.

1.9. Sample size

The sample size for stratum I in case of villages growing coconut only is fixed at the rate of one village in each of the developmental blocks in the State except the following 5 blocks where neither coconut nor Arecanut garden as per specification is not available.

1. Kollimalai in Namakkal district.
2. Ooty in The Nilgiris district.
3. Kothagiri in The Nilgiris district
4. Yercaud in Salem district.
5. Kodaikanal in Dindigul District

Hence 380 villages at the rate of one village per block are selected for the survey on coconut. Out of these 380 villages, arecanut survey is also being carried out along with coconut survey wherever the crop is available.

1.10. Period of the Survey

The period of the survey is one full Fasli Year starting from July 2014 to June 2015

1.11. Collection of Data

Data for the survey were collected by the field workers viz. Block Statistical Inspectors and recorded in the pre-designed schedule. Soon after the receipt of the list of the selected villages, the field staff visit selected villages and choose two coconut/arecanut gardens from the selected villages and undertake enumeration.

The field staff visit the selected village on the dates of harvest record the number of nuts actually harvested in the selected garden. If the harvest was carried out without intimation, yield is ascertained through personal enquiry and recorded in the respective schedules. Besides yield estimation, data on cultivation practices and other peripheral information are also collected

1.12. Supervision

The Principal Secretary and Commissioner of Economics and Statistics, Tamil Nadu is in charge of the overall organization and conduct of the survey. Planning of the survey monitoring, receipt of schedules, scrutiny and analysis of the data collected and preparation of the report of the survey are undertaken at the Headquarters. The field staff are imparted trained properly in the conduct of the survey before the commencement of the field work. The field staff are under the control of the Deputy Director of Statistics of the districts concerned. The Village Administrative Officer of the selected villages render necessary assistance in securing the co-operation of the cultivators. The field work is supervised at various levels by the respective Regional Joint Director, Deputy Director of Statistics and Divisional Assistant Directors.

1.13. Response

The survey was conducted in all the 380 villages selected for 2014-15. The results of the survey implies that yield rate per tree has subsequently increased over the years. The yield per tree is 63 coconut during 2014-15 compared to 54 coconuts per tree during 2013-14.

PART - II

CONCEPTS AND DEFINITIONS

2.1. Garden

For the purpose of the survey, a coconut / arecanut garden is defined as a distinct patch or portion of land growing a minimum of twenty five and above in 3 or more rows which is demarcated on all sides by means of a bund or a channel of a narrow strip of uncultivated land or by means of a crop different from coconut / arecanut. Generally, coconut or arecanut palms are grown in gardens along with other perennial crops like mango, guava, etc. In certain villages, crops like paddy, groundnuts are raised in the space between the palms in coconut / arecanut gardens. When the coconut / arecanut palms are grown in gardens along with perennial crops, these gardens should be classified as pure or mixed garden.

Pure Garden

A coconut / arecanut garden is considered as a pure garden if 90% or more of the garden is grown with coconut / arecanut palms.

Mixed Garden

A coconut / arecanut garden is considered as mixed if more than 10% but less than 90% of the garden is grown with other perennial crops in the same garden.

Bearing Palms

All Coconut palms which shows flowers and nuts at the time of enumeration are classified as bearing palms.

Non-Bearing Palms

Young Coconut palms which do not show flowers and nuts or those which have reached bearing stage but not bearing due to reasons like sterility, disease, old age etc. are classified as non-bearing palms.

PART III
RESULTS OF THE SURVEY
SECTION A – COCONUT

Estimated Number of Coconut Palms

It is estimated that there were 871.23 lakh coconut (garden) palms in TamilNadu during 2014-15 against 880.36 lakh in 2013-14 showing a decrease of 1 percent over the previous year. Out of the total of 871.23 lakh palms, 753.74 lakh (87%) palms are bearing and 117.49 lakh (13%) are non-bearing palms. The ratio between bearing and non-bearing palms for 2014-15 is 87:13 as against 86:14 during 2013-14.

District-wise number of bearing and non-bearing palms estimated for the year 2014-15 is presented below.

Table - 1
Estimated Number of Coconut (Garden) palms (in '000)

Sl. No.	District	Estimated number of Palms 2014-15			Sampling Error %	Estimated No. of palms 2013-14	% Variation over last year
		Bearing	Non- Bearing	Total			
1	2	3	4	5	6	7	8
1.	Kancheepuram	439	43	482	5.18	653	-26.19
2.	Thiruvallur	136	7	143	10.4	156	-8.33
3.	Cuddalore	195	92	287	3.77	335	-14.33
4.	Villupuram	300	30	330	6.26	390	-15.38
5.	Veilore	2836	291	3127	0.35	2667	17.25
6.	Thiruvannamalai	70	5	75	11.44	117	-35.90
7.	Salem	2562	132	2694	0.21	2487	8.32
8.	Namakkal	1842	368	2210	0.47	1621	36.34
9.	Dharmapuri	758	59	817	0.66	865	-5.55
10.	Coimbatore	15066	1834	16900	0.05	16399	3.06
11.	Erode	1939	350	2289	0.18	2663	-14.04
12.	Tiruchirappalli	1175	119	1294	0.09	1537	-15.81
13.	Karur	873	197	1070	0.61	1069	0.09
14.	Perambalur	85	7	92	1.66	129	-28.68
15.	Thanjavur	6512	1647	8159	0.62	8105	0.67
16.	Thiruvallur	898	211	1109	0.79	1436	-22.77
17.	Nagapattinam	859	316	1175	0.89	1043	12.66
18.	Pudukottai	1292	87	1379	1.92	1766	-21.91
19.	Madurai	2329	374	2703	0.46	3007	-10.11
20.	Theni	4148	824	4972	0.11	4758	4.50
21.	Dindigul	5862	983	6845	0.11	5516	24.09
22.	Ramanathapuram	1659	177	1836	0.32	1741	5.46
23.	Virudhunagar	1661	196	1857	0.47	2259	-17.80
24.	Sivagangai	885	392	1277	0.67	1461	-12.59
25.	Tirunelveli	2724	390	3114	0.41	2961	5.17
26.	Thoothukudi	896	332	1228	0.79	988	24.29
27.	Kanyakumari	6383	912	7295	0.07	6482	12.54
28.	The Nilgiris	10	2	12	0.14	15	-20.00
29.	Krishnagiri	2323	248	2571	0.25	3251	-20.92
30.	Ariyalur	73	11	84	6.89	71	18.31
31.	Tirupur	8584	1113	9697	0.05	12088	-19.78
	TOTAL	75374	11749	87123	3.25	88036	-1.04

As per the estimates of 2014-15, Coimbatore district stood first with 150.66 lakh coconut bearing palms, followed by Tirupur district with 85.84 lakh palms. The Nilgiris district had the least number with 10 lakh palms.

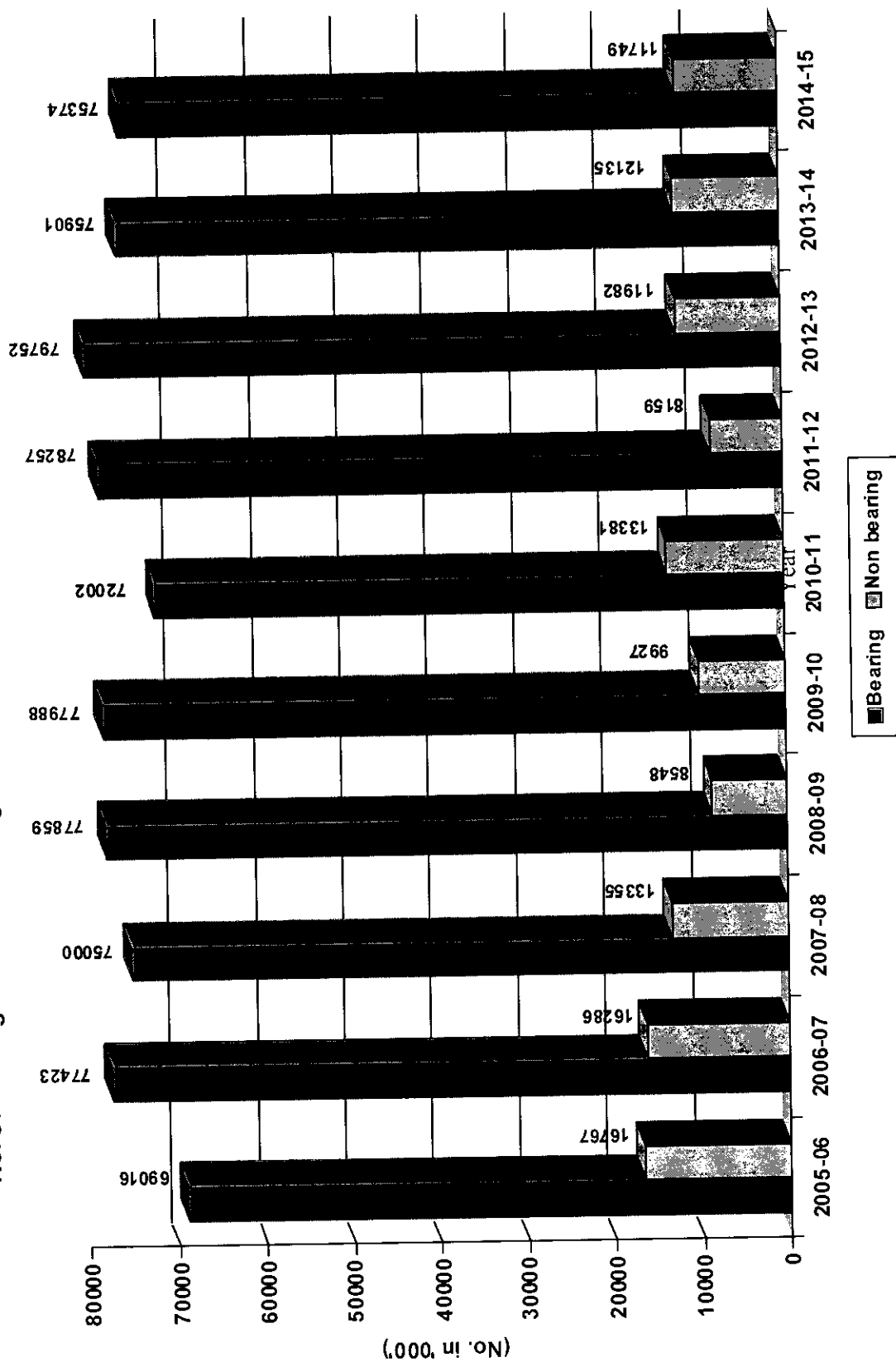
The time series data from 2005 - 2006 to 2014-2015 on estimated number of coconut palms in the State with details of bearing and non-bearing are presented below.

Table - 2
Estimated Number of Coconut Palms

(in '000')			
Year	Bearing	Non-Bearing	Total
2005-06	69016	16767	85783
2006-07	77423	16286	93709
2007-08	75000	13355	88355
2008-09	77859	8548	86407
2009-10	77988	9927	87915
2010-11	72002	13381	85383
2011-12	78257	8159	86416
2012-13	79752	11982	91734
2013-14	75901	12135	88036
2014-15	75374	11749	87123

The total number of coconut palms increased from 857.83 lakh in 2005-06 to 871.23 lakhs in 2014-15, showing an increase of 1.6 per cent. The total number of bearing palms for 2014-15 is 753.74 lakhs as against 690.16 lakhs during 2005-06. The total number of non-bearing went down from 167.67 during 2005-06 to 117.49 during 2014-2015. The bearing coconut palms rose by 9 per cent and non bearing palms decreased by 30 per cent. It is a good sign of improvement during the period under reference.

No. of Bearing and Non-Bearing Coconut Garden Palms from 2005-06 to 2014-15 (in "000")



The details of estimated number of coconut palms and average number of palms per hectare derived from the survey results are shown below.

Table – 3

Estimated Average Number of Coconut Palms per Hec – 2014-15

Sl. No.	District	Area under Coconut Palms as per Season and Crop Report (in hec.)	Estimated No. of Coconut palms in 'Lakh'	Average no. of Coconut Palms per hec
1	2	3	4	5
1.	Kancheepuram	2968	4.82	162
2.	Thiruvallur	931	1.43	153
3.	Cuddalore	1772	2.87	162
4.	Villupuram	1731	3.3	191
5.	Vellore	21328	31.27	147
6.	Thiruvannamalai	442	0.75	170
7.	Salem	13929	26.94	193
8.	Namakkal	8237	22.1	274
9.	Dharmapuri	6774	8.17	121
10.	Coimbatore	83789	169	202
11.	Erode	12808	22.89	179
12.	Tiruchirappalli	6241	12.94	206
13.	Karur	6557	10.7	163
14.	Perambalur	675	0.92	136
15.	Thanjavur	35726	81.59	228
16.	Thiruvarur	4773	11.09	232
17.	Nagapattinam	3919	11.75	282
18.	Pudukottai	9426	13.79	267
19.	Madurai	11139	27.03	243
20.	Theni	20068	49.72	248
21.	Dindigul	30515	68.45	224
22.	Ramanathapuram	8267	18.36	222
23.	Virudhunagar	10026	18.57	185
24.	Sivagangai	6984	12.77	183
25.	Tirunelveli	15758	31.14	198
26.	Thoothukudi	6079	12.28	202
27.	Kanyakumari	24232	72.95	301
28.	The Nilgiris	83	0.12	150
29.	Krishnagiri	15526	25.71	166
30.	Ariyalur	331	0.84	254
31.	Tiruppur	56808	96.97	171
	TOTAL	427842	871.23	200

On an average, there were 200 coconut palms per ha. at the State level. Kanyakumari district recorded the maximum of 301 coconut palms per hectare, followed by 282 palms in Nagapatinam district. Dharmapuri district had the least number of 121 palms per hectare as against the State average of 200 palms per hectare.

4.2. Area under Coconut

The area under coconut was 427842 ha. during 2014-15 as against 428538 ha. during 2013-14 showing a decrease of 0.16 per cent. The district wise estimated average yield per palm and production of coconut are presented below.

Table - 4
Estimated yield Rate and Production – 2014-15

Sl. No.	District	Estimated yield rate per ha. (in nos.)		% Variation	Estimated Production (Nuts in Lakhs)		% Variation	Average no. of nuts per tree		% Variation
		2014-15	2013-14		2014-15	2013-14		2014-15	2013-14	
1	Kancheepuram	5728	10946	-47.67	170	339	-49.85	39	54	-27.78
2	Thiruvallur	6874	7724	-11.00	64	75	-14.67	47	49	-4.08
3	Cuddalore	8634	8081	6.84	153	152	0.66	78	50	56.00
4	Villupuram	9879	10730	-7.93	171	191	-10.47	57	56	1.79
5	Vellore	9017	10831	-16.75	1923	2330	-17.47	68	89	-23.60
6	Thiruvannamalai	10407	8013	29.88	46	50	-8	66	44	50.00
7	Salem	9534	4275	123.02	1328	618	114.89	52	28	85.71
8	Namakkal	15843	8674	82.65	1305	676	93.05	71	53	33.96
9	Dharmapuri	8946	6469	38.29	606	354	71.19	80	42	90.48
10	Coimbatore	10261	14338	-28.43	8598	12120	-29.06	57	84	-32.14
11	Erode	10345	7705	34.26	1325	1006	31.71	68	49	38.78
12	Thiruchy	14613	8818	65.72	912	572	59.44	77	45	71.11
13	Karur	6207	4382	41.65	407	291	39.86	47	28	67.86
14	Perambalur	10074	6294	60.06	68	45	51.11	80	36	122.22
15	Thanjavur	17542	15770	11.24	6267	5557	12.78	96	79	21.52
16	Thiruvarur	17096	14310	19.47	816	685	19.12	91	96	-5.21
17	Nagapattanam	10309	12444	-17.16	404	446	-9.42	47	49	-4.08
18	Pudukkottai	9813	13761	-28.69	925	1266	26.94	73	69	5.80
19	Madurai	15019	13958	7.60	1673	1578	6.02	72	56	28.57
20	Theni	9637	13900	-30.67	1934	2767	-30.1	47	66	-28.79
21	Dindigul	9297	5014	85.42	2837	1608	76.43	48	34	41.18
22	Ramanathapuram	9229	7293	26.55	763	599	27.38	46	37	24.32
23	Virudhunagar	15889	11712	35.66	1593	1176	35.46	96	58	65.52
24	Sivagangai	6042	10256	-41.09	422	700	-39.71	48	58	-17.24
25	Thirunelveli	10344	10040	3.03	1630	1573	3.62	60	57	5.26
26	Thoothukudi	8110	9542	-15.01	493	558	-11.65	55	61	-9.84
27	Kanniyakumari	23213	12004	93.38	5625	2871	95.92	88	51	72.55
28	The Nilgiris	1205	1818	-33.72	1	1	0	9	29	-68.97
29	Krishnagiri	13861	18034	-23.14	2152	2846	-24.39	93	92	1.09
30	Ariyalur	9970	5136	94.12	33	17	94.12	45	29	55.17
31	Tiruppur	9191	6397	43.68	5221	3613	44.51	61	39	56.41
	STATE	11655	9634	20.98	49865	46680	6.82	63	54	16.67

Ten years trend

The area under coconut estimated yield rate per tree / ha. and production for the past 10 years are furnished below.

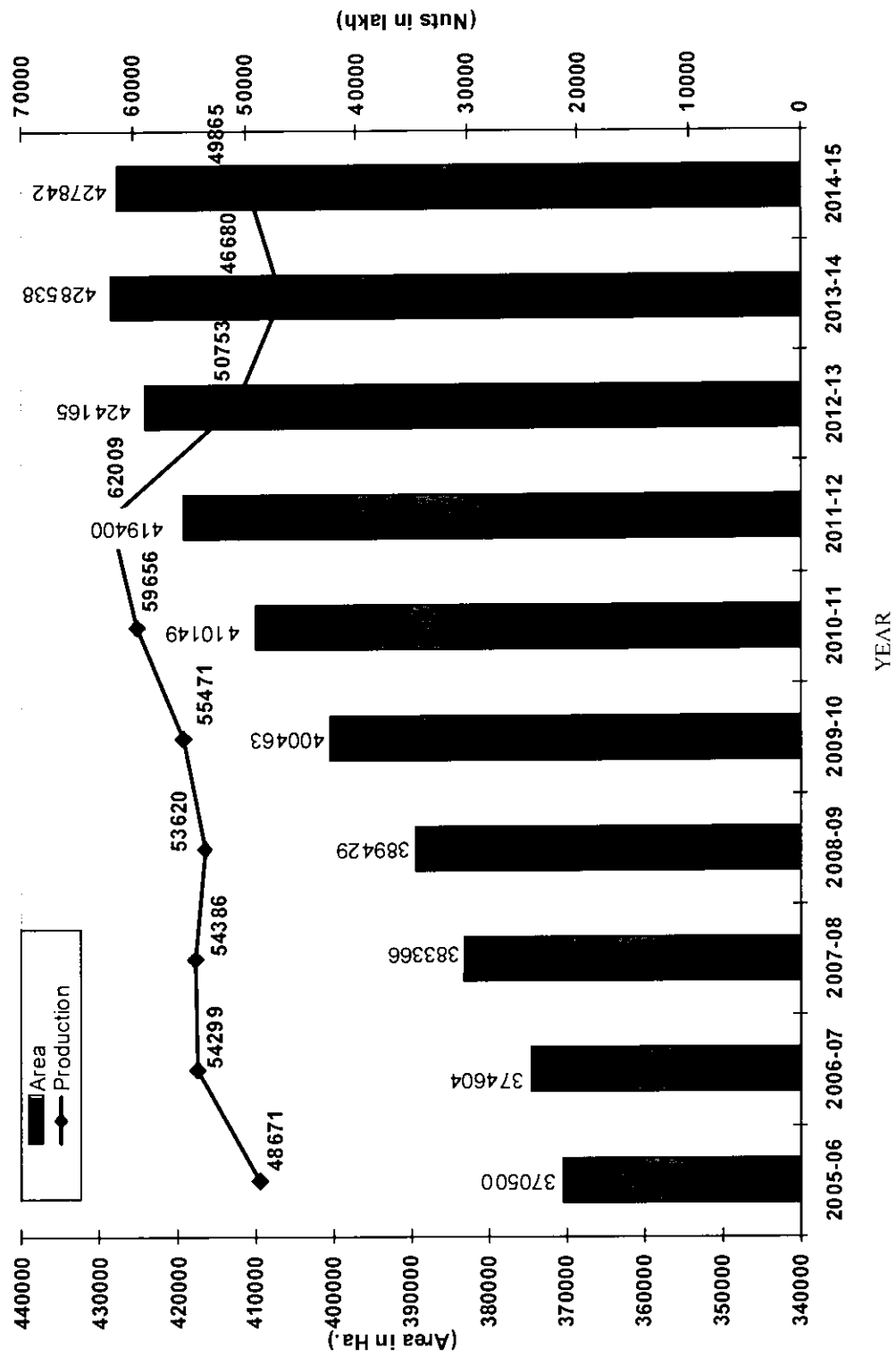
Table – 5

Yearwise Area and Estimated Yield rate and Production

Year	Area under Coconut (in ha.)	Yield rate per hectare Nuts (in Nos)	Production (nuts in lakh)
2005 - 06	370515	13782	48671
2006 - 07	374604	14495	54299
2007 - 08	383366	14186	54386
2008 - 09	389429	13769	53620
2009 -10	400463	13851	55471
2010 -11	410149	14545	59656
2011-12	419400	14799	62009
2012-13	424165	10833	50753
2013-14	428538	9634	46680
2014-15	427842	11655	49865

It is gratifying to note that the yield rate (nuts) comes down from 13782 in 2005-06 to 11655 (nuts) showing a decrease of 15 percent. in yield rate during 2014-15. The increase was 15 per cent with respect to area and 2 percent In regard to production between 2005-06 and 2014-15. Coconut production is moving in tandem with rising population and changing consumption pattern.

AREA AND PRODUCTION OF COCONUT (2005-06 TO 2014-15)



Coconut harvested

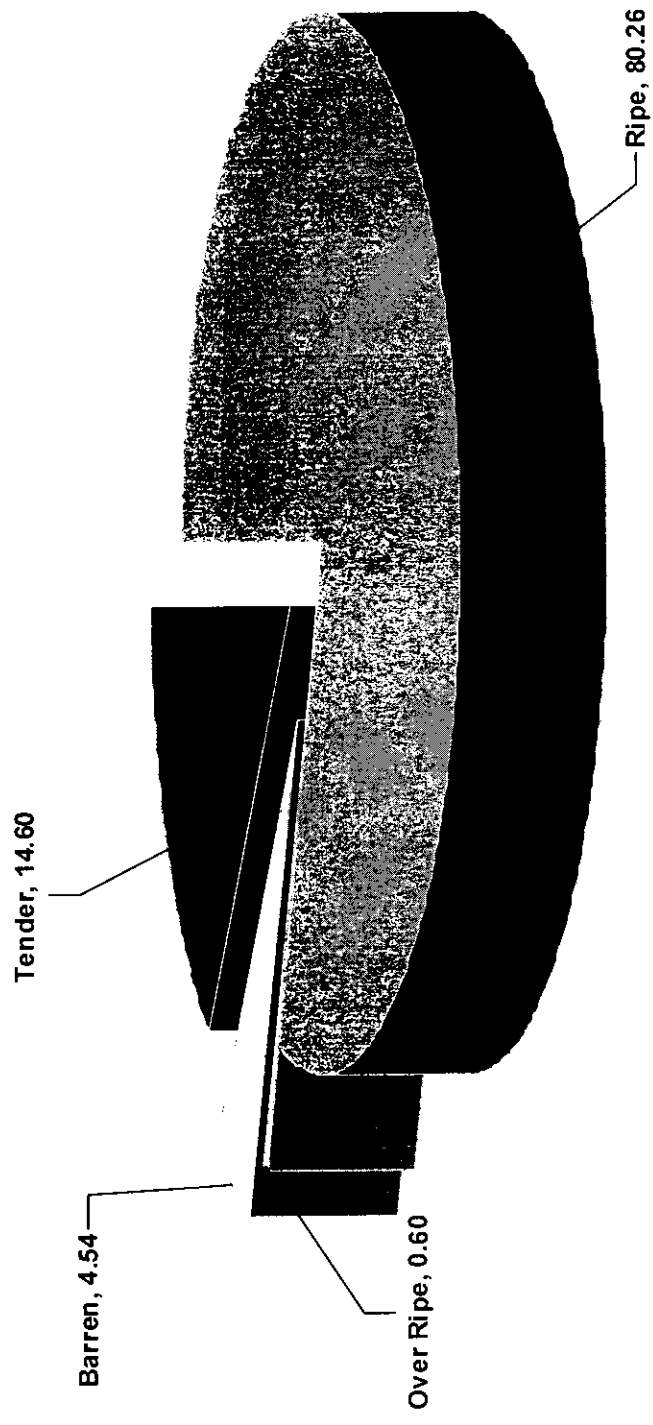
The nuts harvested are classified into four categories viz., tender, ripe, over-ripe and barren. The following table shows the district wise details of the pattern of harvest in terms of percentage.

Table – 6
Coconut Harvested at various Stages - 2014-15

Sl. No.	District	Percentage of Nuts Harvested			
		Tender	Ripe	Over Ripe	Barren
1.	Kancheepuram	75.00	19.25	2.25	3.50
2.	Thiruvallur	56.25	36.25	1.84	5.66
3.	Cuddalore	21.10	77.35	0.00	1.55
4.	Villupuram	32.35	65.35	0.50	1.80
5.	Vellore	16.09	82.21	1.60	0.10
6.	Thiruvannamalai	10.92	88.95	0.00	0.13
7.	Salem	1.60	97.60	0.00	0.80
8.	Namakkal	2.92	96.40	0.00	0.68
9.	Dharmapuri	0.80	95.50	0.00	3.70
10.	Coimbatore	1.70	95.35	0.00	2.95
11.	Erode	0.45	95.75	0.00	3.80
12.	Tiruchirappalli	1.50	97.60	0.00	0.90
13.	Karur	1.40	93.80	0.00	4.80
14.	Perambalur	0.50	89.70	0.00	9.80
15.	Thanjavur	1.89	97.51	0.00	0.60
16.	Thiruvarur	0.70	98.50	0.00	0.80
17.	Nagapattinam	14.25	83.15	0.00	2.60
18.	Pudukottai	2.80	91.50	0.80	4.90
19.	Madurai	3.37	90.80	0.00	5.83
20.	Theni	15.80	80.50	0.00	3.70
21.	Dindigul	0.40	97.00	0.00	2.60
22.	Ramanathapuram	1.56	94.41	0.00	4.03
23.	Virudhunagar	1.80	94.40	0.00	3.80
24.	Sivagangai	3.60	90.25	3.80	2.35
25.	Thirunelveli	0.50	97.60	0.00	1.90
26.	Thoothukudi	3.85	95.35	0.00	0.70
27.	Kanyakumari	2.50	96.80	0.00	0.70
28.	The Nilgiris	1.30	91.80	0.00	6.90
29.	Krishnagiri	23.15	73.25	0.00	3.60
30.	Ariyalur	44.20	52.35	2.65	0.80
31.	Tiruppur	0.50	95.80	0.00	3.70
	TOTAL	14.60	80.26	0.60	4.54

Coconut harvest usually takes place at irregular intervals. The number of harvests varied from four to six harvests in a year, from district to district and also from palm to palm due to the fertility of the soil, variety of seedlings, application of manures and farm practices adopted by the cultivators. Generally, January-June is the peak season and July to December is the lean season for harvest.

HARVESTING OF COCONUT BY STAGES



About 14.60 per cent of the nuts had been harvested during 2014-15 as tender Coconut. The percentage of nuts harvested in tender stage is more in Kancheepuram, Thiruvallur, Thiruvannamalai districts where the need for tender coconut for consumption is high particularly during summer season and it also fetches higher price in Chennai and its surrounding areas.

Nuts harvested as ripe nuts during the year 2014-15 worked out to 80.26 per cent. More than 90% of the nuts have been harvested as ripe in 20 districts. The ripe nuts are mainly used for domestic consumption and for extraction of oil 4.54 per cent of nuts are found to be barren which is mainly due to inadequate water, pest attack, soil condition etc. Only 0.60 per cent of nuts have been harvested at the over-ripe stage.

Size of Coconut Gardens

The frequency distribution of coconut gardens according to size is shown in the table below.

Table - 7
Frequency Distribution of size of Coconut Gardens to the sampled Village 2014-15

Sl. No.	Size of Gardens (In hec.)	No. of Gardens	Area	% to Total Area
1	Less than 0.25	17	0.136	4.47
2	0.25 To 0.50	51	5.89	13.42
3	0.50 To 0.75	49	3.506	12.89
4	0.75 To 1.0	48	6.324	12.63
5	1.0 To 1.25	37	6.641	9.74
6	1.25 To 1.50	28	6.598	7.37
7	1.50 To 1.75	17	10.507	4.47
8	1.75 To 2.0	25	10.082	6.58
9	2.0 To 2.25	19	9.455	5
10	2.25 To 2.50	12	15.539	3.16
11	2.50 To 2.75	15	15.139	3.95
12	2.75 To 3.0	8	25.702	2.11
13	3.0 To 3.25	5	44.87	1.32
14	3.25 To 3.50	8	24.469	2.11
15	3.50 & Above	41	9.58	10.78
	TOTAL	380	194.438	100.00

Irrigation

Coconut is grown both under Irrigated and un-irrigated conditions. However, availability of water is the determining factor in the production of nuts. The source of irrigation is detailed below in percentage. According to the survey, about 97.50 per cent of garden palms are irrigated by wells.

Table - 8
Percentage of Garden Palms by Source of Irrigation

Sl. No.	District	Percentage of Area Irrigated by			
		Wells	Canals	Tanks	Other Source
1	2	3	4	5	6
1.	Kancheepuram	94.00	0	0	6.00
2.	Thiruvallur	100.00	0	0	0.00
3.	Cuddalore	65.00	0	0	35.00
4.	Villupuram	100.00	0	0	00.00
5.	Vellore	100.00	0	0	00.00
6.	Thiruvannamalai	100.00	0	0	00.00
7.	Salem	98.00	0	0	2.00
8.	Namakkal	100.00	0	0	00.0
9.	Dharmapuri	100.00	0	0	00.0
10.	Coimbatore	95.00	0	0	5.00
11.	Erode	100.00	0	0	00.0
12.	Tiruchirappalli	85.50	0	0	14.50
13.	Karur	100.00	0	0	0
14.	Perambalur	75.00	0	0	25.00
15.	Thanjavur	100.00	0	0	00.0
16.	Thiruvavur	50.00	0	0	50.00
17.	Nagapattinam	82.35	0	0	17.65
18.	Pudukottai	55.00	0	0	45.00
19.	Madurai	80.50	0	0	19.50
20.	Theni	100.00	0	0	0
21.	Dindigul	100.00	0	0	0
22.	Ramanathapuram	50.00	0	0	50.00
23.	Virudhunagar	100.00	0	0	0
24.	Sivagangai	63.75	0	0	36.25
25.	Tirunelveli	96.60	0	0	3.40
26.	Thoothukudi	100.00	0	0	0
27.	Kanyakumari	100.00	0	0	0
28.	The Nilgiris	94.00	0	0	6.00
29.	Krishnagiri	100.00	0	0	0
30.	Ariyalur	75.00	0	0	25.00
31.	Tiruppur	100.00	0	0	0
	TOTAL	97.50	0	0	2.50

Consumption Pattern

With a view to have an idea on the pattern of consumption of coconut, data on number of nuts consumed by coconut growers and their dependents, number of nuts sold etc., presented below.

Table – 9

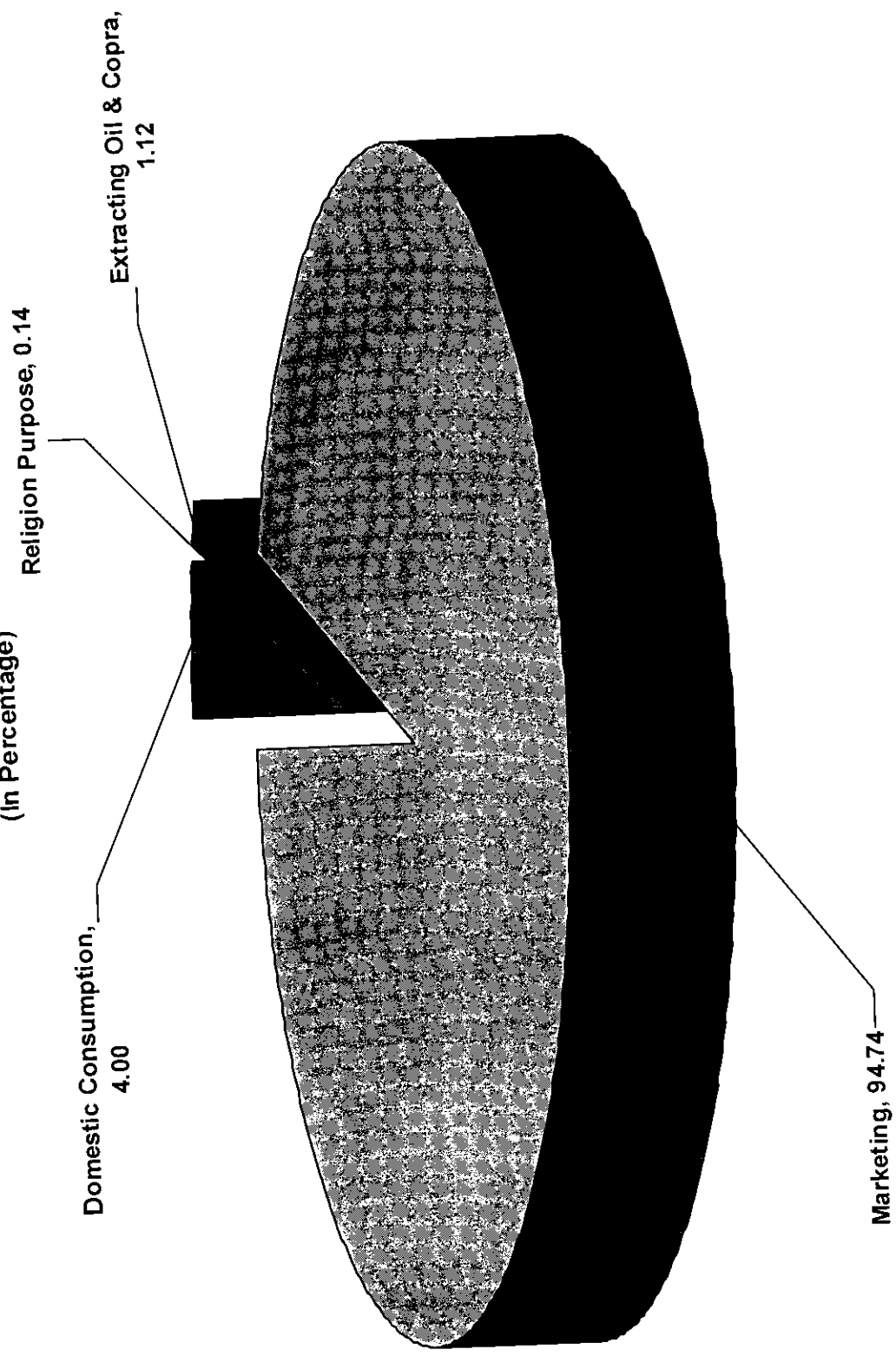
Percentage of Consumption of Coconut – 2014-15

Sl. No.	District	Domestic Consumption	Religious purpose	Extracting Oil	Marketing
1	2	3	4	5	6
1.	Kancheepuram	1.00	0.00	0.00	99.00
2.	Thiruvallur	3.20	0.05	1.20	95.55
3.	Cuddalore	0.89	2.48	7.29	89.34
4.	Villupuram	0.94	7.43	5.04	86.59
5.	Vellore	1.72	3.72	9.86	84.70
6.	Thiruvannamalai	1.72	16.48	18.00	63.80
7.	Salem	1.98	0.94	0.58	96.50
8.	Namakkal	1.39	0.00	6.61	92.00
9.	Dharmapuri	1.49	0.00	1.50	97.01
10.	Coimbatore	4.01	0.05	1.85	94.09
11.	Erode	39.57	0.20	1.51	58.72
12.	Thiruchirappalli	1.64	0.43	1.93	96.00
13.	Karur	0.49	1.78	0.90	96.83
14.	Perambalur	0.24	3.96	1.20	94.60
15.	Thanjavur	25.08	2.64	3.18	69.10
16.	Thiruvarur	1.51	9.31	4.73	84.45
17.	Nagapattinam	0.62	0.81	0.00	98.57
18.	Pudukottai	0.96	4.71	1.89	92.44
19.	Madurai	2.43	1.73	13.96	81.88
20.	Theni	0.52	0.00	0.00	99.48
21.	Dindigul	1.00	0.00	0.00	99.00
22.	Ramanathapuram	0.63	0.00	0.00	99.37
23.	Virudhunagar	1.40	0.00	0.00	98.60
24.	Sivagangai	0.81	4.65	1.21	93.33
25.	Thirunelveli	1.73	0.60	4.87	92.80
26.	Thoothukudi	0.61	0.00	0.00	99.39
27.	Kanyakumari	1.40	0.91	0.00	97.69
28.	The Nilgiris	0.01	0.00	0.10	99.89
29.	Krishnagiri	1.07	11.54	6.01	81.38
30.	Ariyalur	1.17	0.00	0.00	98.83
31.	Tiruppur	1.64	1.87	6.98	89.51
STATE		4.00	0.14	1.12	94.74

It may be noted that about 94.74 per cent of the coconuts harvested were marketed and the domestic consumption of produce accounted for only 4.00 per cent. Estimated usage of coconut for extracting oil and for other religious puposes are very negligible with 1.12 per cent and 0.14 per cent respectively.

DISPOSAL OF COCONUTS PRODUCED IN 2014-15

(In Percentage)



Price

The price of coconut varies widely from market to market in accordance with the quality, size of nuts, etc., The table below shows the average price of tender and ripe coconut in four different harvest periods during the year 2014-15.

Table - 10
Prices of Nuts

(Rs. Per 100 Nuts)

Period of Harvest	Tender	Ripe
I - July to September	880	836
II - October to December	923	853
III- January to March	942	878
IV- April to June	979	890

As already reported in the earlier tables-6 only 14 per cent of the coconut were harvested as tender coconut.

Table - 11

Districtwise Average Farm Price

(Rs per 100 nuts)

Sl. No.	District	Harvest								Average Price	
		I		II		III		IV		Tender	Ripe
		Tender	Ripe	Tender	Ripe	Tender	Ripe	Tender	Ripe		
	1	2	3	4	5	6	7	8	9	10	11
1.	Kancheepuram	809	796	817	807	850	833	895	876	840	826
2.	Thiruvallur	659	711	709	765	731	778	746	791	712	761
3.	Cuddalore	484	539	492	550	485	549	495	561	489	550
4.	Villupuram	571	549	589	561	611	590	618	590	597	572
5.	Vellore	834	1044	880	1068	1000	1063	1200	1071	928	1059
6.	Thiruvannamalai	568	626	574	615	619	658	586	608	586	628
7.	Salem	800	640	816	662	835	683	1023	719	849	668
8.	Namakkal	878	798	922	838	969	853	966	843	934	833
9.	Dharmapuri	0	884	0	919	0	1081	0	1086	0	993
10.	Coimbatore	0	1328	0	1371	0	1422	0	1405	0	1381
11.	Erode	788	941	0	1004	900	1013	888	913	844	970
12.	Thiruchirappalli	1250	945	1225	964	1250	993	1356	994	1288	974
13.	Karur	0	604	0	608	0	656	0	645	0	626
14.	Perambalur	650	618	650	668	700	676	700	652	675	653
15.	Thanjavur	1200	989	1150	983	1000	959	1200	1310	1138	1060
16.	Thiruvarur	0	816	0	806	0	853	8	853	8	832
17.	Nagapattinam	900	757	1000	786	1000	809	900	793	933	786
18.	Pudukottai	810	746	814	821	953	942	964	954	886	864
19.	Madurai	893	724	913	741	921	771	954	782	920	754
20.	Theni	1200	1021	1200	1032	1300	1034	1300	990	1260	1019
21.	Dindigul	1056	883	1046	880	1120	952	1069	923	1073	910
22.	Ramanathapuram	1414	743	1436	755	1400	868	1473	805	1431	793
23.	Virudhunagar	544	639	563	667	565	652	559	636	558	649
24.	Sivagangai	805	691	1286	722	881	764	917	861	981	743
25.	Thirunelveli	725	874	769	917	813	852	815	878	782	880
26.	Thoothukudi	1436	798	1407	823	1439	867	1499	870	1445	839
27.	Kanyakumari	1900	1661	1929	1567	2000	1462	1835	1420	1912	1527
28.	The Nilgiris	700	600	700	600	700	600	700	600	700	600
29.	Krishnagiri	1190	1255	1190	1150	1165	1150	1221	1121	1189	1173
30.	Ariyalur	817	917	817	921	833	950	817	929	821	929
31.	Tiruppur	1500	995	1680	999	1763	1041	1947	978	1723	1003
	TOTAL	880	836	923	853	942	878	979	890	929	863

The average farm price of tender coconut was Rs.9.29 per nut at the State level during 2014-15, however, the price of ripe nut was Rs.8.63 for the same period.

SECTION-B

ARECANUT

Estimated Production of Arecanut

The district wise estimated yield rate and production of Green nuts and cured nuts are given below

Table – 12
Estimated yield and Production of Arecanut - 2014-15

Sl. No.	District	Estimated Average yield Kg./Ha Green nuts	Estimated Production (in Tonnes)	
			Green Nuts	Cured Nuts
1.	Villupuram	2238	137	54
2.	Vellore	3347	13	5
3.	Thiruvannamalai	3347	3	1
4.	Salem	1397	3171	1244
5.	Namakkal	8150	4572	1793
6.	Dharmapuri	17285	6033	2366
7.	Coimbatore	1121	2015	790
8.	Erode	3737	1592	624
9.	Thiruchirappalli	9305	679	266
10.	Karur	3347	3	1
11.	Perambalur	280	15	6
12.	Thanjavur	2954	133	52
13.	Thiruvarur	3347	7	3
14.	Theni	3691	118	46
15.	Dindigul	1125	71	28
16.	Virudhunagar	3347	3	1
17.	Thirunelveli	11	1	1
18.	Kanyakumari	3781	1323	519
19.	The Nilgiris	5244	2391	938
20.	Krishnagiri	7374	206	81
21.	Tiruppur	1277	46	18
	TOTAL	3347	22532	8837

The average yield rate of areca nut crop in terms of green nuts during 2014-15 was 3347 kg / hec. as against 3282 kg / hec. during 2013-14 showing a increase of 2 per cent.

Area under Arecanut:-

The district wise area and the estimated no.of arecanut palms are furnished below.

Table - 13

Area, Estimated number of Palms and average number of Palms 2014-15

Sl. No.	District	Area as per Season and Crop Report 2014-15 (In ha.)	Estimated yield rate (Kg/hect)Cured nuts	Estimated No. of Arecanut Palms in '000'		
				Bearing	Non-Bearing	Total
1.	Villupuram	61	878	117	0	117
2.	Vellore	4	1313	6	0	6
3.	Thiruvannamalai	1	1313	1	0	1
4.	Salem	2269	548	4461	11	4472
5.	Namakkal	561	3196	1229	8	1237
6.	Dharmapuri	349	6779	504	0	504
7.	Coimbatore	1798	439	1834	4	1838
8.	Erode	426	1466	504	25	529
9.	Thiruchirappalli	73	3650	55	0	55
10.	Karur	1	1313	1	0	1
11.	Perambalur	53	110	155	0	155
12.	Thanjavur	45	1159	107	18	125
13.	Thiruvarur	2	1313	3	0	3
14.	Theni	32	1448	16	0	16
15.	Dindigul	63	441	30	1	31
16.	Virudhunagar	1	1313	1	0	1
17.	Thirunelveli	123	4	2	0	2
18.	Kanyakumari	350	1483	119	0	119
19.	The Nilgiris	456	2057	493	50	543
20.	Krishnagiri	28	2892	15	0	15
21.	Tiruppur	36	501	25	0	25
	TOTAL	6732	1313	9678	117	9795

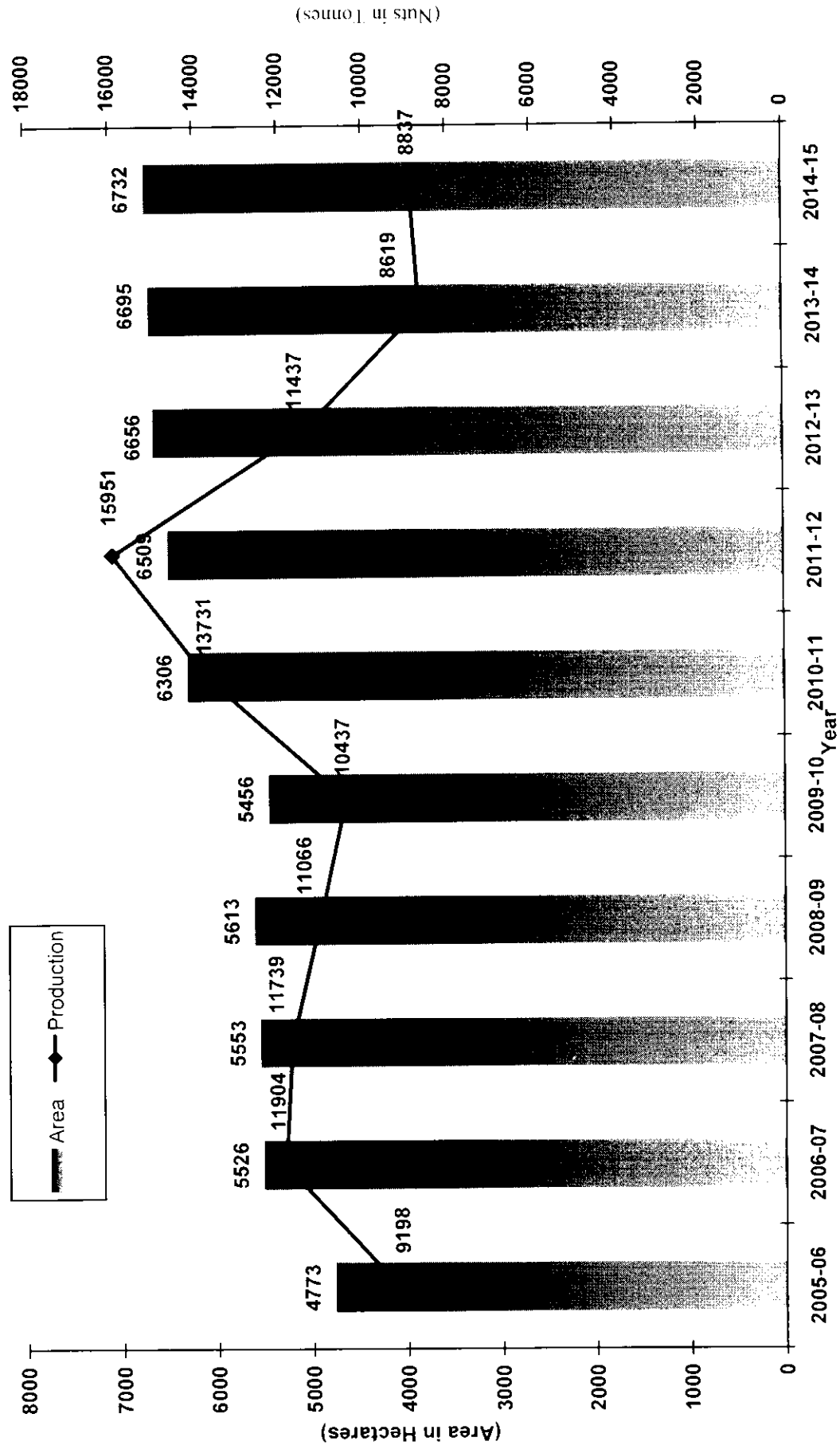
During 2014-15 the area under arecanut is 6732 ha. as against 6695 ha. In 2013-14 showing an increase of 0.55 percent. Salem and Coimbatore districts have the major share of area under arecanut. Vellore, Thiruvannamalai, Karur, Thiruvarur, , and Virudhunagar districts are having an area of less than 5 hectares.

The estimated number of palms comes down during 2014-15 is 97.95 lakhs as against 99.04 lakhs in 2013-14 showing a decrease of 1 per cent over the previous year

Table - 14
Yearwise Area and estimated Production of Arecanut
from 2005 – 06 to 2014-15

Sl. No.	Year	Area under Arecanut (in ha.)	Production Of Cured nuts in Tonnes (Nuts)	Yield rate of Cured nuts (Kg./hect.)
1.	2005 - 06	4773	9198	1927
2.	2006 - 07	5526	11904	2154
3.	2007 - 08	5553	11739	2114
4.	2008 - 09	5613	11066	1971
5.	2009-10	5456	10437	1913
6.	2010-11	6306	13731	2177
7.	2011-12	6509	15951	2451
8.	2012-13	6656	11437	1719
9.	2013-14	6695	8619	1312
10.	2014-15	6732	8837	1313

AREA AND PRODUCTION OF ARECANUT (2005-06 TO 2014-15)



The total production of Arecanut in terms of green nuts for the State as a whole worked out to 22532 tonnes with a 2.5 percent increase over the previous year production of 21973 tonnes.

Curing and Processing of Arecanuts

Curing is an essential process in the production of Arecanuts for marketing since the presence of large quantity of tanning in tender or immature nuts is injurious to health of the consumers. The different methods adopted for curing of Arecanuts are boiling, water curing and sun drying.

Boiling of Nuts

In this method, tender nuts are sliced, boiled, coloured and dried. This method is prevalent in Salem, Dharmapuri and Coimbatore districts. The main varieties produced in Tamil Nadu according to this method are given below.

- i. Kalipauk : Tender nuts are cut into pieces, boiled, coloured and dried.
- ii. Kottapauk : Tender nuts which are most matured but not fit for preparation of Kalipauk are cut into 3 or 4 pieces, boiled, coloured and dried.
- iii. Theppakaraunai : The end pieces of Kottapauk are cut into pieces, boiled, coloured and dried.

Water Curing

The cultivators in Kanniyakumari district usually use water and cure nuts during the off-season.

Sun-Drying

As soon as mature nuts are harvested they are cut into slices and dried in the hot sun during the off-season. This method is followed in Thanjavur district.

PART V

Table -15
Findings of the Survey – At a Glance

DETAILS			2014-15	2013-14	% variation
COCONUT					
1.	a)	Number of Bearing Palms ('000's)	75374	75901	- 0.7%
	b)	Number of Non-Bearing Palms ('000's)	11749	12135	-3.18%
2.	Area under cultivation of Coconut as per Season and Crop Report (in Ha.)		427842	428538	-0.16
3.	Average yield / Palms (in Nuts)		63	54	16.67%
4.	Average yield rate per Ha. (in Nuts)		11655	9634	20.9%
ARECANUT					
1.	a)	Number of Bearing Palms ('000's)	9678	8251	17.3%
	b)	Number of Non-Bearing Palms ('000's)	117	1653	-93%
2.	Area under cultivation of Arecanut as per Season and Crop Report (in Ha.)		6732	6695	0.6%
3.	Average Yield rate Green nuts (Kg/Ha.)		3347	3282	1.98%