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Analysis of Growth Trends in Oil Palm in Tamil Nadu

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Abstract: ***Oil palm is one of the important commercial crop and the study was conducted to analyse the growth trends in oil palm in Tamil Nadu. The area under oil palm cultivation has been stagnant for the past decade (2005-06 to 2015-16) in Tamil Nadu and there is slow progress in area under oil palm cultivation. The area under NMOOP increased from 1106 ha during 2014-15 to 1348 had during 2015-16. The productivity of palm oil increased from 4697 kgha^{-1}during 2011-12 to 7810 kgha^{-1}during 2015-16. The productivity of the oil increased to 40 percent over the five years. The area expansion under the scheme increased from four districts during 1993-94 to 25 districts during 2015-16. Villupuram is the leading district, followed by Cuddalore, Vellore and Thanjavur. It implies that the increase in the area expansion was because of the subsidies provided by the government and private companies which worked intensively in the area. On the other hand, Sivagangai, Thiruvallore, Krishnagiri, Pudukottai and Virudhunagar districts have lowest area under oil palm in Tamil Nadu during 2015-16.***

1. Introduction

In India, the share of oil palm in the global consumption increased from 13 percent during 2007 to 15 percent during 2012. The growth trend is significant. Nearly 90 percent is imported from foreign countries. It is used for domestic food consumption. Palm oil is main among the vegetable oils. The change in consumption pattern, availability, pricing and policy changes of imports is the main determining factor for the economy. The oil is consumed in the country in refined form in the food industry (World Wide Report, 2013). During 2013, India imported 83, 42,285 million tonnes of palm oil. The total demand for edible vegetable oils is 17.5 million metric tonnes in 2012-13. It is estimated to increase at the rate of 3 to 4 percent per annum to 26.78 million metric tonnes in 2025 (The Solvent Extractors Association of India, 2013). We are mainly depending upon the imports of edible and palm oil to meet domestic demand. Andhra Pradesh is leading in contribution of palm oil production in India. It accounts for 86 percent and Kerala, Karnataka contributes 10 percent, 2 percent, respectively. Some of the States such asOrissa, Tamil Nadu, Goa and Gujarat also contribute at a meagre level (Chadhar, 2006).

The Department of Agriculture, Government of Tamil Nadu introduced oil palm crop as alternative crop during 1993-94. The interested farmers got involved in the oil palm cultivation. The farmers were seeking profits from the alternative crops. In Tamil Nadu, the plantation process started in Thanjavur district during 1997. Large size of plantations of oil palm was done at Aduthurai and Sirugamani Research Station of the Tamil Nadu Agricultural University. The Government of Tamil Nadu has identified 10 districts as potential for commercial cultivation of oilpalm. Tamil Nadu Government has contracted with companies such as Ruchi Soya Industries (Chennai), Foods and Fats (Hyderabad), Vaidehi Properties (Kolkata), Godrej Agrovet (Mumbai) and Cauvery Oil Palm (Trichy). These companies were establishing the contract farming with the farmers for cultivation of oilpalm. The cultivation of oil palm under this scheme was 45,000 ha up to 12th Five Year Plan Period (Seasonal Crop Reports, 2017, Department of Economics and Statistics, Government of Tamil Nadu).

The distribution of planting material is one of the subsidies provided by the Government. The Govt. of Tamil Nadu is providing 85 percent subsidy for cultivating the oil palm. In terms of rupees it is Rs.10, 000 per ha During the first year, the government is providing 50 percent (Rs. 6000/ha) subsidy for assistance of cost of cultivation during gestation period. During second year, they also provide maintenance cost at 50 percent (Rs. 3500/ha). Under the scheme, the farmers are providing 50 percent subsidy for irrigation uses. And they are get Rs. 15,000/ha at maximum. The farmers are provided with 50 percent subsidy for diesel or electric pump set for drip irrigation with 10 HP. They are get maximum at Rs. 10, 000 per pump set. They are provided with 50 percent subsidy for inter-cropping inputs in oil palm fields with a maximum of Rs.10, 000/ha

The scheme is being implemented in districts such as Cuddalore, Villupuram, Vellore, Tiruchirapalli, Karur, Perambalur, Ariyalur, Thanjavur, Tiruvarur, Nagapattinam, Theni and Tirunelveli. During 2014-15, oil palm cultivation was taken up in an area of 398 hectares besides providing maintenance support for older plantations. Planting material for intercropping in oil palm fields was provided at subsidized cost. All these activities were carried out at a cost of Rs.1.62 crore. During the year 2015-16 the scheme was proposed to be implemented with the outlay of Rs.4.40 crore (Policy Note 2015-16, Government of Tamil Nadu). With these in view, the study was conducted to analyse the growth trends in oil palm in Tamil Nadu during 2016-17.

2. Material and Methods

The research study was conducted at Agro Economic Research Centre, University of Madras. The study is based on secondary sources in Government of Tamil Nadu. Data was obtained from Seasonal Crop Reports (Various Issues and Years), Government of Tamil Nadu and Directorate of Agriculture, Government of Tamil Nadu, Chennai relating to area, production and yield at state and district level in Tamil Nadu. The compound growth rates, simple percentage and triennium ending analysis were applied.

3. Result and Discussion

The area under oilseeds had increased from 6.95 lakhs ha in 2003-04 to 7.09 lakhs ha in 2005-06. The oilseeds (groundnut, gingerly, castor and sunflower) production increased from 9.64 lakh tonnes to 11.52 lakh tonnes due to increase in production from 1387 kg/ha to 1527 kg/ha in the same period. Among the oilseeds, groundnut is one of the important crops, whose production performance had shown negative growth in majority of the districts. A positive trend in growth of area, production and productivity in groundnut was observed in three, four and five districts respectively. Therefore, before reaching an alarming situation of decline, strategy planning must aim at increasing growth trend, especially in cultivable area and production. A positive growth rate in area, production and productivity of groundnut was observed in the district of Thiruvarur only. Similarly negative growth rate of cultivable area, production and productivity was observed in Salem, Coimbatore, Karur and Virudhunagar districts. The positive growth rate of productivity in groundnut was more pronounced in Theni district (7.66 percent) as compared to other districts (State Agriculture Plan, Tamil Nadu Agricultural University, Tamil Nadu, 2009).

Area under oil palm development programme in Tamil Nadu is presented in Table 1. The area under oil palm gradually increased over a period in Tamil Nadu. The area under Integrated Scheme of Oilseeds, Pulses, Oil Palm and Maize increased from 1907 ha in 2004-05 to 2053 ha in 2010-11. After 2011-12, the scheme was divided into ISOPOM and NADP in Tamil Nadu. During 2014-15, National Mission for Oilseeds and Oil Palm was started. The area under NMOOP increased from 1106 ha in 2014-15 to 1348 ha in 2015-16. The productivity of palm oil increased from 4697 kg/ha in 2011-12 to 7810 kg/ha in 2015-16. The productivity of the oil increased to 40 percent over the five years in Tamil Nadu. There is significant growth in productivity in Tamil Nadu (Directorate of Agriculture, Government of Tamil Nadu, 2017).

Table 1: Area under Oil Palm Development Programme in Tamil Nadu

Year	Scheme	Expenditure (in crore)	Area in Ha	Productivity (Prn/Area)
2004-05	ISOPOM	212.64	1907	
2005-06	ISOPOM	312.13	2291	
2006-07	ISOPOM	355.84	1746	
2007-08	ISOPOM	440.64	1805	
2008-09	ISOPOM	349.30	1937	
2009-10	ISOPOM	315.43	1380	
2010-11	ISOPOM	398.17	2053	
2011-12	ISOPOM NADP	123.87 709.53	2133	4697
2012-13	ISOPOM NADP	113.50 343.32	1084	5221
2013-14	ISOPOM NADP	89.90 555.71	927	5463
2014-15	NMOOP	161.84	1106	6568
2015-16	NMOOP	175.48	1348	7810

Source: Directorate of Agriculture, Government of Tamil Nadu, Chennai-05

The major crops cultivated in the state cover food and non-food crops. The food crops like paddy,millets, pulses and oilseeds and non-food crops like cotton and sugarcane. Paddy is cultivated in almost all the districts of the state. The growth rate of area during 1970-2006 was positive only in two districts namely Tiruvannamalai and Virudhunagar. In all other 27 districts the trend was negative. The growth rate of productivity was found to be positive in 21 districts and negative in eight districts. Similarly, the production trend was positive in eight districts of Thiruvannamalai, Dharmapuri, Pudukottai, Sivaganagi, Virudhunagar, Kanyakumari, Tirunelveli and Thoothukudi. The strategy must be to increase production through productivity increase in all thedistricts of Tamil Nadu (State Agriculture Plan, Tamil Nadu Agricultural University, Tamil Nadu, 2009).

Table 2: Average Annual Growth Rate in Area and Yield of Horticultural Crops at Districts in Tamil Nadu:TE 2005-06 to TE 2015-16 (%)

Name of the Districts	Rice		Coarse cereals		Pulses		Foodgrains		Oilseeds
	Area	Prodn.	Area	Prodn.	Area	Prodn.	Area	Prodn.	Area
Kancheepuram	-0.06	0.01	-0.06	0.01	0.23	0.64	-0.06	0.01	-0.04
Thiruvallur	0.00	0.07	0.005	0.07	0.07	0.20	0.01	0.07	-0.06
Cuddallore	0.02	0.19	0.03	0.22	0.14	0.39	0.05	0.22	0.00
Villupuram	0.01	0.09	0.04	0.14	0.23	0.68	0.06	0.15	-0.01
Vellore	-0.04	0.03	-0.02	0.07	0.06	0.28	-0.001	0.08	0.01
Thiruvannamalai	-0.04	0.02	-0.03	0.03	0.22	0.40	-0.01	0.04	0.00
Salem	-0.01	0.06	0.07	0.21	0.26	0.46	0.10	0.22	0.03
Namakkal	-0.01	0.08	0.21	0.26	0.18	0.33	0.19	0.26	-0.01
Dharmapuri	0.04	0.12	0.08	0.27	0.24	0.39	0.10	0.26	0.04
Krishnagiri	0.02	0.11	0.00	0.16	0.09	0.30	0.03	0.16	0.06
Coimbatore	-0.10	-0.03	-0.02	0.29	-0.08	0.01	-0.03	0.26	0.62
Thiruppur	3.23	0.63	0.19	0.51	0.01	0.12	0.14	0.06	1.76
Erode	0.31	0.41	0.06	0.18	-0.06	0.13	0.04	0.18	0.02
Tiruchirapalli	-0.04	0.05	-0.02	0.10	0.33	0.97	-0.01	0.10	0.02
Karur	-0.02	0.10	0.03	0.15	0.20	0.49	0.05	0.16	0.28
Perambalur	-0.12	-0.05	-0.05	0.33	0.30	1.32	-0.05	0.33	0.46
Ariyalur	0.18	0.51	0.09	0.80	0.17	0.41	0.10	0.19	0.08
Pudukkottai	-0.04	0.13	-0.03	0.11	0.24	0.58	-0.03	0.11	-0.03
Thanjavur	0.02	0.14	0.02	0.14	0.16	0.43	0.03	0.14	0.56
Thiruvarur	0.03	0.65	0.03	0.60	0.35	1.17	0.06	0.63	0.56

Nagapatinam	0.00	0.62	0.005	0.62	0.06	0.92	0.02	0.62	0.17
Madurai	0.06	0.15	0.04	0.17	0.03	0.13	0.03	0.16	0.22
Theni	0.00	0.04	-0.01	0.10	0.09	0.25	0.01	0.10	1.06
Dindigul	0.07	0.14	0.00	0.20	0.02	0.18	0.01	0.20	0.22
Ramanathapuram	-0.01	1.77	-0.01	1.40	0.05	0.56	-0.01	1.37	0.10
Virudhunagar	0.09	0.05	0.004	0.24	-0.04	0.33	-0.01	0.24	0.14
Sivagangai	0.12	0.51	-0.03	0.42	0.10	0.44	-0.03	0.41	0.14
Thirunelveli	0.03	0.19	0.02	0.13	0.03	0.59	0.02	0.14	0.57
Thoothukudi	0.06	0.15	0.03	0.24	0.07	0.79	0.04	0.25	0.64
The Nilgiris	6.53	8.29	-0.17	-0.14	-0.30	-0.30	-0.17	-0.14	7.17
Kanniyakumari	9.48	13.16	-0.05	-0.01	0.14	0.82	-0.04	-0.01	123.56
Tamil Nadu	-0.01	0.10	0.003	0.14	0.08	0.33	0.02	0.15	0.06

The area and production of major crops at districts level in Tamil Nadu (TE 2015-16) (area in lakh hectares, production in lakh tones) is furnished in Table 2. The area under oilseeds and production in Tamil Nadu is 8.49 lakh ha and 10.34 lakh tonnes during 2015-16. The comparative analysis between 2005-06 and 2015-16 showed that the area has increased to 2 lakh ha however, the production level remained the same as compared to the previous decade. The area has increased substantially due to the efforts of the government of Tamil Nadu. There was hot season without much rainfall in all these districts in Tamil Nadu. All these districts are affected with heavy water failure as well as lack plantation. Among the districts, Coimbatore, Thiruvannamalai and Vellore districts are the leading districts in area cultivation as well as production. The production in Coimbatore is very meagre due to very dry conditions. Perambalur, Nagapattinam and Thiruvallur districts have also recorded lowest area under cultivation as well as production level.

During 2015-16, the total area under foodgrains and production was 36.06 lakh ha and 127.95 lakh tones, respectively. There is small increase in area under cultivation leading to substantial increases in production in the state due to the effective implementation of schemes like NFSM, NMOOP. Among the districts, Tiruvarur, Villupuram, Nagapattinam, Cudallore, Thanjavur and Salem are leading districts in area under foodgrains and production. These six districts have occupied the largest area and production in Tamil Nadu. On the contrary, Nilgiris and Kanniyakumari are lowest area under cultivation and production. The area under cereals and production level is seen s 27.22 lakh ha and 120.28 lakh tonnes in the period. Vilupuram, Thiruvarur, Thanjavur and Nagapattinam districts are leading producers in the state in area cultivation and production of cereals.

Table 3: District-wise Area covered under Oil Palm in Tamil Nadu (Area in ha)

Name of the District	1993-94	1997-98	2002-03	2005-06	2012-13	2013-14	2015-16
Thanjavur	425	774	5	330	470	431	615
Thiruvarur	304			210	550	298	232
Nagapattinam	502	212		270	116	80	206
Ariyalur					86	102	206
Perambalur		335	461	363	73	88	226
Tiruchirapalli	744	358	102	113	97	95	184
Karur		90	2	15	36	78	148
Cuddalore					220	256	1394
Villupuram					520	477	1772
Tirunelveli					149	154	241
Virudhunagar					0	13	26
Pudukkottai					1	18	20
Sivaganagai					0	4	10
Dindugal					2	7	51
Erode					0	13	68
Namakkal					0	2	18
Salem					1	39	97
Theni					191	167	130
Tiruppur					0	7	55
Coimbatore					4	0	65
Vellore					69	37	801
Thiruvannamalai					0	22	170
Kanchipuram					0	3	42
Thiruvallur					0	3	17
Krishnagiri					3	0	17
Dharmapuri					0	19	30
Total	1672	2073	570	1301	2588	2416	6841

Source: Directorate of Agriculture, Government of Tamil Nadu, Chennai-05

District-wise area covered under oil palm in Tamil Nadu is presented in Table 3. During 1993-94, four districts were cultivating the oil palm in Tamil Nadu. Districts like Trichirapalli (744 ha), Nagapattinam (502 ha), Thanjavur (425 ha) and Tiruvarur (304 ha) cultivated the crop. During 2012-13, 17 districts were cultivating the crop. The area expansion under the scheme has resulted in an increase from 4districtsduring 1993-94 to 25 districts during 2015-16. Villupuram is the district which is highest in area expansion. Cuddalore is second and Vellore district is third.Thanjavur is the fourth highest district in area expansion. It implies that the area expansion was because of the subsidy provided by the government and private companies. On the other hand, Sivagangai, Thiruvallore, Krishnagiri, Pudukottai and Virudhunagar districts have occupied the lowest sizable area in Tamil Nadu during 2015-16. In these districts farmers are not interested in cultivating the oil palm crop because of regular cultivation of other crops in their farm field even though, Government of Tamil Nadu, and other private companies are involved in the area expansion of oil palm.

Table 4: District-wise Area under Oil Palm in Tamil Nadu (2015-16)

Name of the District	Area in Ha	Potential Area Identified
Thanjavur	614.68	25000
Thiruvarur	232.35	15000
Nagapattinam	206.30	10000
Ariyalur	205.72	
Perambalur	225.51	8000
Tiruchirapalli	183.38	2500
Karur	147.92	1000
Cuddalore	1393.65	25000
Villupuram	1771.76	20000
Tirunelveli	241.29	25000
Virudhunagar	25.50	
Pudukkottai	20.30	
Sivaganagai	9.80	
Dindugal	51.0	
Erode	68.0	
Namakkal	17.59	
Salem	97.0	
Theni	130.0	25000
Tiruppur	55.0	
Coimbatore	65.0	
Vellore	800.95	11000
Thiruvannamalai	170.0	
Kanchipuram	42.20	
Thiruvallur	17.0	15000
Krishnagiri	16.50	
Dharmapuri	29.50	
Total	6837.90	182500

Source: Directorate of Agriculture, Government of Tamil Nadu, Chennai-05

District-wise area under oil palm in Tamil Nadu during 2015-16 is given in Table 4. The Government of Tamil Nadu have been identified few pockets of area as potential (1, 82,500 ha) that can be used for cultivation oil palm in Tamil Nadu. The Government of Tamil Nadu has identified some of the districts like Thanjavur, Cuddalore, Tirunelveli and Theni. These districts have a high potential for area expansion upto 25, 000 ha These districts were followed by Villupuram district with a potential area of 20,000 ha On the other hand, Karur and Trichirapalli districts are occupying lowest potential forarea expansion.

4. Conclusion

Government of Tamil Nadu has identified districts like Thanjavur, Cuddalore, Tirunelveli and Theni. These districts are potentials for area expansion of upto 25,000 hafollowed by Villupuram district (20,000 ha). On the other hand, Karur and Trichirapalli districts have the lowest potentials for area expansion. Some of the districts such as Virudhunagar, Pudukottai, Sivaganagai, Dindugal, Erode, Namakkal, Salem, Thirupur, Coimbatore, Thiruvannamalai, Kanchipuram, Krishnagiri and Dharmapuri have not been identified as potential areas(Vijay Paul Sharma, 2014).

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