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Impact of Socio-Economic Factors on Flower Cultivation Area and Production in Tamil Nadu

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Abstract

In India, even as flower cultivation activity moved from dormancy to infancy, a conducive policy and support from the Government concurrently resulted in commercialization. The country is bestowed with ideal temperature conditions for commercial floriculture throughout the year in some or other part. This has helped entrepreneurs and growers recognize diversification into floriculture as a commercial value. Flower cultivation in India is estimated to cover an area of 2.55 lakh ha with a production of 17,54,000 MT of loose flowers and 5.43 lakh MT (NHB, 2015). In Tamil Nadu, loose flowers are produced in an area of about 32,400 hectares with the production of 3,13,535 MT (jasmine, chrysanthemum, marigold, rose, crossandra and nerium) and cut flowers are produced in an area of 700 ha with a production of 12,900 MT of cut stems per annum. In this, cut rose is grown in 600 ha area with a production of 795 lakh stems (NHB, 2013). The Indian Floriculture market was worth INR 157 Billion in 2018. The market is further projected to reach INR 472 Billion by 2024, growing at a CAGR of 20.1% during 2019-2024. Tamil Nadu ranks first among the flower producing states of India. It occupies 25 % of the country's flower production. Cut flowers are cultivated in Hosur, Nilgiris, Kodaikanal (both upper and lower palani hills) and Yercaud of Shevroyan hills. The objectives of the present study are as : To study the area and production of the selected flowers in the TamilNadu under district-wise. To evaluate the marketing practices followed by the growers of the selected flowers. To examine the various problems faced by the flower growers in TamilNadu. To offer suggestions based on the findings of the study for the prospects of flower growers. The researcher has identified the following problems: problems relating saplings and seeds, problems relating to agricultural loan by the banks, problems relating to labour in flowers cultivation, problems relating to payment of flowers , problems relating to the cultivation of flowers, problems relating to the marketing of flowers and problems associated with the department of agriculture. The study revealed that the area and production of flowers cultivation in Tamilnadu remains constant throughout of the study period but there is a fluctuation in the cultivation of flowers. Considering the current scenario of the agri-industry, it has to maintain its comparative attractiveness like others in India to grow and develop as a major industry. This would mean that the rewards to the growers should commensurate with the efforts required of them.

Key words: area under cultivation, marketing, labour problems, price fixation, awareness of growers.

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Introduction

In India, even as flower cultivation activity moved from dormancy to infancy, a conducive policy and support from the Government concurrently resulted in commercialization. The country is bestowed with ideal temperature conditions for commercial floriculture throughout the year in some or other part. This has helped entrepreneurs and growers recognize diversification into floriculture as a commercial value. The Indian culture has traditionally seen the use of flowers in ceremonial activities and divine worship apart from decoration. With growth in floriculture production in the country, the domestic market has also expanded several folds.

Flower cultivation has emerged as an important sub-sector of agriculture as a source of income for small and marginal farmers. Flower cultivation in India is estimated to cover an area of 2.55 lakh ha with a production of 17,54,000 MT of loose flowers and 5.43 lakh MT (NHB, 2015). The Trade of Indian flowers worth Rs. 37,000 crores/ annum. Nearly 77% of area under floricultural crops is concentrated in seven states comprising Tamil Nadu, Karnataka, Andhra Pradesh, West Bengal, Maharastra, Haryana, Uttar Pradesh and Delhi. Among different states, Tamil Nadu ranks first in area followed by Karnataka, West Bengal and Andhra Pradesh.

Global trade in cut flowers is estimated at 40 billion US dollars. Indian floriculture industry is growing at a compounded annual growth rate (CGAR) of 24 per cent over the past decade. Indian flower export markets are estimated at 11 billion US dollars at present and expected to grow up to 20 billion US dollars by 2020. The culture of exchanging flower bouquets, flower arrangements, growing affluence of middle class to changing life styles, western culture mix, mall culture and the concept of "saying it with flowers" has revolutionized the domestic cut flower market by increase in per capita consumption of flowers in India. The awareness on the usage of cut flowers for various occasions has raised the demand for flowers in the market. The production of cut flowers has gone up to 7673.2 million stems during 2012-13 from 3717.5 million stems in 2006-07 and this is due to the improvement in the standard of living and quality of life which ultimately increases the growth of domestic and export markets.

In Tamil Nadu, loose flowers are produced in an area of about 32,400 hectares with the

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production of 3,13,535 MT (jasmine, chrysanthemum, marigold, rose, crossandra and nerium) and cut flowers are produced in an area of 700 ha with a production of 12,900 MT of cut stems per annum. In this, cut rose is grown in 600 ha area with a production of 795 lakh stems (NHB, 2013). Jasmines, which cover an area of 15,584 ha with a production of 1,42,397 tonnes contributes a major share to the floriculture trade. Tamil Nadu ranks first among the flower producing states of India. It occupies 25 % of the country's flower production. Cut flowers are cultivated in Hosur, Nilgiris, Kodaikanal (both upper and lower palani hills) and Yercaud of Shevroyan hills.

Flower markets in Tamil Nadu

i. Madurai: Madurai has one of the biggest flower markets in India. The major flowers traded in this market include varieties of jasmine, rose, Crossandra, tuberose, Nerium, etc. The flowers arriving at this market are generally produced within a radius of 25km from the city.
ii. Chennai: The flower market in Chennai is located in the Central Market at Parrys corner. This is the only wholesale market in Chennai. The flowers sold in this market are Crossandra, tuberose, jasmine, rose, marigold, Nerium, etc. The flowers come to this market from nearby production areas such as Dharmapuri, Panrutti, Tambaram, and Poonamalei districts. The flowers are also supplied from Madurai and Bengaluru markets. About one half of the produce comes from local areas and the rest from Bengaluru and Madurai. The flowers are transported to this market by buses, trucks and air.

Floriculture Scenario in India and Tamil Nadu

Indian Floriculture Market: Industry Trends, Share, Size, Growth, Opportunity and Forecast 2019-2024.

The Indian Floriculture market was worth INR 157 Billion in 2018. The market is further projected to reach INR 472 Billion by 2024, growing at a CAGR of 20.1% during 2019-2024. Floriculture also known as flower farming refers to the cultivation of flowering and ornamental plants. Although flowers have been an integral part of the Indian society and were cultivated for various purposes ranging from aesthetic to social and religious purposes, the commercial floriculture industry has been of recent origin. A strong increase in the demand for cut and loose flowers has made floriculture as one of the important commercial trades in Indian agriculture. While exports remain a key motivator for cultivators, the domestic demand for flowers is also

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increasing exponentially, especially in the metros and larger cities. Modernization and growing western cultural influences have driven consumers to buy flowers on a number of occasions like valentine's day, marriages, anniversaries, birthdays, friendship day, Mother's Day, Father's Day etc. Large scale consumption of flowers is also carried out throughout the country during religious festivals. The metros and the larger Indian cities currently represent major consumers of flowers in the country. As a result of increasing urbanization and influence of western cultures, "saying it with flowers" is becoming quite popular on a number of occasions such as Valentine's Day, birthdays, festivals, anniversaries, marriages, farewell parties, religious ceremonies, etc. We expect the consumption of flowers to increase further as trends of urbanization and influence of western culture is expected to increase further in the coming years.

Market Summary

Based on the flower type, the market has been segmented as cut and loose flowers. On the basis of sector, the market has been segmented as retail sector and institutional sector. On the basis of distribution channel, the market has been segmented as unorganised retail, supermarkets and hypermarkets, florists, online and others. Unorganised retail currently accounts for the highest share of the market. On the basis of application, aesthetic and decorative applications currently account for the highest share. Other applications include flavours and fragrances, natural colours, medicines and others. The regional segmentation of the market has been provided both in terms of production and consumption. Tamil Nadu is currently the largest producer of flowers in India. The competitive landscape of the market has also been examined in the report and the profiles of key players have also been provided. This report provides a deep insight into the India floriculture market covering all its essential aspects. This ranges from macro overview of the market to micro details of the industry performance, recent trends, key market drivers and challenges, SWOT analysis, Porter's five forces analysis, value chain analysis, etc. This report is a must-read for entrepreneurs, investors, researchers, consultants, business strategists, and all those who have any kind of stake or are planning to foray into the Indian floriculture market in any manner.

The floral garlands of India

Garlands are not only used to decorate gods and individuals but also roads, houses, palaces, and even cities. During auspicious occasions, the frame of the entrance, which marks the

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threshold of a house, is decorated with *torana* (garlands made of flowers and leaves) as a symbol of welcome. As per Indian customs, the initiation of a new activity—be it a passage of rite, or acquisition of new possessions such as a vehicle or a home, etc.—is graced with the usage of garlands. On the festival of Dussehra, people use garlands to decorate their tools or vehicle on which they depend for their livelihood, recalling the worship of weapons in the Ramayana. Family members embarking on or returning from long journeys are also bedecked with garlands as a sign of good luck and welcome respectively. Welcoming guests with a high degree of hospitality is ingrained in the Indian culture. Considering that the tradition of welcoming guests is based on the ancient Indian dictum *Atithi Devo bhava* that translates to "may the guest be a god unto you"; it is only apt that, like the gods, the guests are also welcomed with garlands as a symbol of good will and honour.

Area and Production of Flowers by District-wise in Tamil Nadu for the Year 2017-18.

Sl. No	District	Rose		Marigold		Mullai		Jasmine	
		Area (Ha)	Prdn (Tonnes)	Area (Ha)	Prdn (Tonnes)	Area (Ha)	Prdn (Tonnes)	Area (Ha)	Prdn (Tonnes)
1	Ariyalur	0	0	23	386.4	15	168.15	54	544.32
2	Coimbatore	26	240.24	13	218.4	138	1546.98	190	1915.2
3	Cuddalore	35	323.4	2	33.6	250	2802.5	144	1451.52
4	Dharmapuri	100	924	97	1629.6	58	650.18	135	1360.8
5	Dindigul	204	1884.96	94	1579.2	716	8026.36	667	6723.36
6	Erode	7	64.68	266	4468.8	89	997.69	1265	12751.2
7	Kancheepuram	21	194.04	18	302.4	20	224.2	134	1350.72
8	Kanyakumari	5	46.2	38	638.4	0	0	35	352.8
9	Karur	29	267.96	2	33.6	12	134.52	212	2136.96
10	Krishnagiri	442	4084.08	5	84	146	1636.66	813	8195.04
11	Madurai	156	1441.44	421	7072.8	1	11.21	1381	13920.48
12	Nagapattinam	3	27.72	0	0	13	145.73	307	3094.56
13	Namakkal	14	129.36	24	403.2	0	0	74	745.92
14	Perambalur	1	9.24	53	890.4	0	0	29	292.32
15	Pudukkottai	36	332.64	52	873.6	36	403.56	204	2056.32
16	Ramanadhapuram	0	0	0	0	0	0	98	987.84
17	Salem	64	591.36	49	823.2	0	0	528	5322.24
18	Sivagangai	0	0	14	235.2	0	0	14	141.12
19	Thanjavur	88	813.12	5	84	40	448.4	88	887.04
20	Theni	30	277.2	9	151.2	3	33.63	228	2298.24
21	The Nilgiris	11	101.64	0	0	0	0	0	0

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22	Tiruvallur	127	1173.48	107	1797.6	72	807.12	786	7922.88
23	Tiruvannamalai	42	388.08	434	7291.2	260	2914.6	369	3719.52
24	Thiruvarur	9	83.16	0	0	0	0	8	80.64
25	Thoothukudi	11	101.64	38	638.4	2	22.42	274	2761.92
26	Tirupur	1	9.24	9	151.2	3	33.63	12	120.96
27	Trichy	38	351.12	79	1327.2	10	112.1	500	5040
28	Tirunelveli	30	277.2	14	235.2	9	100.89	1085	10936.8
29	Vellore	49	452.76	40	672	494	5537.74	535	5392.8
30	Villupuram	15	138.6	18	302.4	79	885.59	228	2298.24
31	Virudhunagar	16	147.84	9	151.2	10	112.1	476	4798.08
Total	**State Total**	**1610**	**14876.4**	**1933**	**32474.4**	**2476**	**27755.96**	**10873**	**109599.8**

Source: Department of Economics & Statistics, Chennai. Season & Crop Report 2017-2018.

The perishable nature of a garland is indicative of the fragility of human sentiments. Nonetheless, despite their short-lived lifespan, garlands remain a medium to express sentiments of purity, honour, goodwill, love, and beauty.

Area, Production & Productivity of Total Flowers by District-wise in Tamil Nadu for the Year 2017-18

Sl. No	District	Area (Ha)	Production (Tonnes)	Productivity (Tonnes/Ha)
1	Ariyalur	121	1383	11.43
2	Coimbatore	650	7989	12.29
3	Cuddalore	511	5295	10.36
4	Dharmapuri	1045	14745	14.11
5	Dindigul	3015	45434	15.07
6	Erode	1759	20499	11.65
7	Kancheepuram	210	2253	10.73
8	Kanyakumari	187	2979	15.93
9	Karur	361	4671	12.94
10	Krishnagiri	2510	28022	11.16
11	Madurai	2075	24319	11.72
12	Nagapattinam	323	3268	10.12
13	Namakkal	208	3576	17.19
14	Perambalur	148	2269	15.33
15	Pudukkottai	410	4832	11.79
16	Ramanadhapuram	107	1034	9.66
17	Salem	2441	34014	13.93
18	Sivagangai	30	399	13.3
19	Thanjavur	241	2512	10.42

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20	Theni	424	5046	11.9
21	The Nilgiris	109	1792	16.44
22	Tiruvallur	1217	13278	10.91
23	Tiruvannamalai	1539	20901	13.58
24	Thiruvarur	22	261	11.86
25	Thoothukudi	398	5136	12.91
26	Tirupur	41	595	14.52
27	Trichy	889	11533	12.97
28	Tirunelveli	1420	17076	12.03
29	Vellore	1322	14466	10.94
30	Villupuram	382	3977	10.41
31	Virudhunagar	624	7218	11.57
Total	**State Total**	**24739**	**310772**	**12.56**

Source: Department of Economics & Statistics, Chennai.
Season & Crop Report 2017-2018.

Tamil Nadu continues to take the first place in the production of loose flowers in the Country, the production being 4.29 Lakh MT during the year 2017-18. Tamil Nadu takes the third place in regard to area, by cultivating the flowers in an area of 34,227 Ha and Dharmapuri, Salem, Dindigul, Krishnagiri, and Tiruvannamalai districts play a major role in achieving the target. Assistance is extended for cultivation of loose flowers, bulbous flowers and cut flowers. Quality planting materials are being produced in State Horticulture Farms and distributed to farmers in subsidized cost to encourage flower cultivation.

Flower Cultivation is the art and knowledge of growing flowers to perfection. This type of crops cultivation deals with the cultivation of flowers and ornamental crops from the time of planting to the time of harvesting. It also includes production of planting materials through seeds, cuttings, budding, grafting and marketing of flowers and flower produces. It includes cultivation of flowering and ornamental plants for sales or for use as raw materials in cosmetics, Perfume industry and also Pharmaceutical sector. India is bestowed with several agro-climatic zones conducive for production of sensitive and delicate floriculture products. This era has seen a dynamic shift from sustenance production to commercial production.

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Area, production and productivity & Major Flower cultivating districts (Advance Estimates-2017-18)

Sl.no	Name of the Crop	Area (Ha)	Production (M.T)	Productivity (M.T/ha)	Major Flower Growing Districts
1	Jasmine	13,610	1,20591	8.86	Madurai, Dindigul, Erode, Tiruvallur and Tirunelveli
2	Chrysanthemum	5,836	1,40864	17.97	Dharmapuri, Salem, Krishnagiri, Dindigul and Tiruvannamalai
3	Tube Rose	4,979	65,969	13.25	Dharmapuri, Madurai, Salem, Tiruvallur and Dindigul
4	Marigold	2,761	72,389	26.22	Krishnagiri, Dharmapuri, Tiruchirappalli and Cuddalore
5	Rose	2,088	66,971	32.07	Dharmapuri, Krishnagiri, Dindigul, Thanjavur and Tiruvallur

Source: Tamil Nadu Horticulture Development Agency (TANHODA), Chennai .December 2019.

In such a large and diverse nation that India is, many differences occur with regard to the use of garlands. Some differences are highly local, whereas others, broadly regional. However, the symbolism imparted by flower garlands in ancient Indian culture holds true even today.

The Scope of Flower Cultivation in Tamil Nadu

In earlier days the cultivation of flowering plants was limited to landscape gardening and these were not grown as cash crop. Due to high margin of profit in flower cultivation now a days floriculture business is flourishing. Today, floriculture is sermonized as most remunerative profession with much higher potential returns per unit area than that of some other horticultural crops. There is an increasing demand of flowers all over the world. Flowers are placed their importance in our social system. Flowers are extensively used for decoration, making essential oils, perfumes and medicines, etc. In India, marigold ranks first among the loose flowers followed by chrysanthemum, jasmine, tuberose, crossandra and barleria. It is a common grown flower of India. It is very important flower, as it extensively used on religious and social function. Also it is used as trap crop. As it is short duration crop with low investment, it becomes popular crop of India. Marigold flowers are attractive in shape and color.

No annual is more cheerful or easier to grow than marigolds. These flowers are the spendthrifts among annuals, bringing a wealth of gold, copper, and brass into our summer and autumn gardens. The flower's popularity probably derives in part from its ability to bloom brightly all summer long. Marigolds may have daisy-like or carnation-like flower heads that are produced singly or in clusters. They also protect the eye from long term damage by light which

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can lead to a progressive condition known as age related macular degeneration. Therefore, marigold oil is being used on commercial scale for formulation of insect repellent.

The cultivation of flowers has now become popular in many states in India due to fast changing of social scenario. Marigold is cultivated all over in India. Marigold flowers are used to make garlands and also used to decorate the religious places. Yellow dye has also been extracted from the flower. Pigments of the Marigold are used for the colorings. Marigold such is most important commercial crop. In order to serve better in Domestic and International markets, our endeavor is to utilize our team's full potential to innovate new agrochemical which will open new paradigm in agrochemical industry.

The scope of flower cultivation is next only to the Information Technology Industry all over the world and this is growing by leaps and bounds. Flower cultivation is not just a business but is also a perennial source of income. Flower cultivation is very dynamic marketing trend in present time. All private banks, Big Hospitals, corporate houses, event management companies are using flowers in their offices. In addition that weddings ceremonies big or small scale, filmmakers, political parties, exhibition and conference organisers are procuring more and consuming flowers for decoration. Tamil Nadu is one of the leading flower cultivation States in India contributing 7.7 percent to the National Horticultural Production with 5.7 percent of the national level area. Tamil Nadu has been blessed with diversified agro-climatic conditions, suitable for a wide range of horticulture crops like fruits, Flowers, spices, plantation crops, flowers and medicinal plants. A large extent of wastelands and under – utilised lands are available in the state for horticulture development. Tamil Nadu has a long coastal belt of 1000 Km. suitable for crops like cashew, coconut, tropical orchids etc. The southern part of Tamil Nadu has the potential for growing off – season mangoes and grapes. A lot of awareness has been created among the growers of Tamil Nadu about the cultivation of high-value horticulture crops. It is aimed to achieve 8 percent annual growth rate during XI five – Year Plan in the horticultural sector. In Tamil Nadu, out of the total area of cultivation under Horticulture and Plantation crops of 922005 ha, the flowers occupy 25610 ha. Dindigul, Krishnagiri, Dharmapuri, Salem, Vellore, Madurai, Tiruvannamalai, Tirunelveli, Pudukkottai and Erode are the major flowers growing districts in our State. The major flowers grown are Jasmine, Mullai, Rose,

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Crossandra, Chrysanthemum, Marigold, Tuber Rose, Arali, Kozhipoo etc. The Area, Production and Productivity of the major flower crops grown in Tamil Nadu are given in above tables.

Statement of the Problem

Agriculture plays a vital role in Indian economy. More than 75 percent of the people in our country tie-up with either directly agriculture or indirectly. The natural resources such as soil, water, weather, fertilisers and pesticides make India be one of the greatest agricultural countries in the world. The status of the landholders comes under three divisions – small, medium and large based on the size of land holding. Those who are high in financial position use modern technology and earn more income with profit. The remaining is unable to come up with them for not using the latest new technology due to the deficiency in finance. Natural calamities such as heavy rainfall, drought and cyclone are specific problems faced by all the producers irrespective of financial status. Lack of adequate education is another problem for the producers. They are unable to find a suitable cultivate soil and cultivable seed. Preservation of the flowers is a problem since flowers are liable to sell in a short span. The scarcity of accessories to preserve the flower sends the growers to seek a appropriate market for their produce. The grower faces many problems in marketing such as quality maintenance packaging, cold storage, time and price fixing. The high price fixing boosts the level of income of the flower grower, but in marketing. They do not have a chance to fix the price of their products. The merchants and middlemen are responsible for it. The cost of package, transport, the lapse in time and competitor reduce the profit of the flower growers. The production and marketing of all flowers, no effort has been made so far to introduce new technologies like shade-net cultivation and the green house technology that have been used effectively in foreign countries.

Objectives of the Study

The main objectives of the study are to find out the various problems faced by the flower growers and to identify the factors influencing the satisfaction of flowers growers. Under these main objectives have been framed for the present study.

1. To study the area and production of the selected flowers in the TamilNadu under district-wise.
2. To evaluate the marketing practices followed by the growers of the selected flowers.
3. To examine the various problems faced by the flower growers in TamilNadu.

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4. To offer suggestions based on the findings of the study for the prospects of flower growers.

Methodology

The designing suitable methodology is important for analysing the data gathered for the study. The present study is based on primary and secondary data. The secondary data relating to the study of the flowers cultivation area, production and yield in Tamilnadu and in all district are obtained from various published and unpublished records, annual reports, bulletins, booklets, journals, magazines, etc., After the collection of data a master table is prepared, to sum up, all the information. With the help of the master table, classification tables are prepared and they are taken directly for analysis.

Sampling Design

The present study is proposed to cover the cultivation area and production of flowers in Tamil Nadu under district-wise. As census method is not feasible, the researcher has proposed to follow sampling. It is decided to select the important flowers which are cultivated in more than 5 acres in each district. The present study selected 4 flowers namely rose, cut-rose , mullai and jasmine cultivated in the state of Tamil Nadu. These flowers are mainly cultivated in all major district of the state. Tiruchirappalli District consists of fourteen blocks. For the field work Tiruchirappalli district Andhanallur block has been selected on the basis of the area under cultivation of flowers. Ettarai, Kuzhumani, Seerathoppu, Vayalur and Karuppur villages were randomly selected viz., more cultivated area of flowers for conducting field study. Among these five villages there were 350 flowers growers were identified and 125 flower growers were randomly selected on a simple random basis each farmer's land holding.

Period of the Study

In order to achieve the objectives of the study both the primary and secondary data have been used. Primary data have been collected from flowers growers during the period from August 2018 to October 2018. Required secondary data have been collected for the period from 2017-2018.

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Statistical Analysis and Interpretation

In order to analyse the problems faced by the growers of flowers, the researcher has used Garrett's ranking method to rank the important problems faced by the growers in flowers cultivation. The variables like region, landholdings, variety of flowers planted and awareness of the growers are tested with the above said problems relating to flower grower's by using the well known statistical tool of Chi-Square test. The researcher has identified the following problems. They are as followed: 1.Problems relating saplings and seeds , 2. Problems relating to agricultural loan by the banks , 3.Problems relating to labour in flowers cultivation , 4. Problems relating to payment of flowers , 5. Problems relating to the cultivation of flowers, 6. Problems relating to the marketing of flowers and 7. Problems associated with the department of agriculture.

Results of the Statistics Application

The calculated value is more than the table value. It implies that the hypothesis there is a significant relationship between irrigation and problems relating to saplings and seeds holds good. This confirms statistically that there is a significant relationship between irrigation and problems relating to saplings and seeds. It implies that the hypothesis there is a significant relationship between irrigation and problems relating to agricultural loan does not hold good. This reveals statistically that there is no significant relation and problems relating to the agricultural loan. It implies that the hypothesis there is a significant relationship between irrigation and problems relating to payment for flowers does not hold good. This reveals statistically that there is no significant relationship between irrigation and problems relating to payment for flowers. It implies that the hypothesis there is a significant relationship between irrigation and problems relating to the cultivation of flowers does not hold good. This confirms statistically that there is no significant relationship between irrigation and problems relating to the cultivation of flowers'does not hold good. This confirms statistically that there is no significant relationship between irrigation and problems relating to cultivation of flowers.

The calculated value is less than the table value. It implies that the hypothesis there is a significant relationship between irrigation and problems relating to the marketing of flowers does

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not hold good. This confirms statistically that there is no significant relationship between irrigation and problems relating to the marketing of flowers. On the other hand the calculated value is greater than the table value. It implies that the hypothesis there is a significant relationship between Irrigation and problems relating to labour' holds good. This confirms statistically that there is a significant relationship between irrigation and problems relating to labour. Further , it implies that the hypothesis there is a significant relationship between irrigation and problems associated with Department of Agriculture holds good. This confirms statistically that there is a significant relationship between irrigation and problems associated with Department of Agriculture.

Testing of Demographic Profile Flower Grower's of Correlation Co-efficient

The testing of correlation was a significant relationship between the cultivation and marketing of flowers are community, education, size of the family, timing of sales and awareness of the flowers grower's in Tiruchirappalli district. The testing of correlation is not significant relationship flowers growers such as age, gender, marital status, type of family, landholdings, annual income, and indebtedness of flower growers.

Demographic Factors of Analysis of Variance (Cultivation and Marketing of Flower Grower's)

The results reveals that the average satisfaction of each group is found to be statistically significant as the calculated value (9.65) is higher than the table value (3.03). As the difference in the averages of age between the groups is significant. It is observed that the average satisfaction scores of the male and the female flowers growers are found to be statistically significant as the calculated value (11.65) is more than the table value (3.87). The average satisfaction score differences of the various levels of education is found to be statistically significant, as the calculated value (3.92) is higher than the table value. The average satisfaction scores of two groups are found to be statistically not significant as the calculated value (0.14) is lower than the table value (3.87). The distribution of growers by type of family and satisfaction. This study also reveals that the average satisfaction score of the various levels of indebtedness is found to be statistically significant as the calculated value (3.58) is higher than the table value

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(3.03). Therefore as the differences in the averages between the indebtedness groups are significant.

Findings of the study

The study reveals that the satisfaction derived by the growers on flowers cultivation can be increased by imparting proper training related to various agricultural operations involved in flowers cultivation. This training aspect will surely increase their productivity which in turn would enhance their satisfaction level. In the light of the findings made in the research study, the following suggestions are offered to improve the cultivation of flowers in TamilNadu . Government of Tamilnadu should assist the flowers growers to establish the co-operative society for supplying the various inputs at the right price including seeds, fertilizer and pesticide at a subsidized rate and for providing marketing support to the growers. The growers must be trained in modern techniques of flowers cultivation so as to reach higher productivity. The agriculture department of must devise methods and provide new tools to improve labour efficiency, resulting in the reduction of production cost. Good access to technical assistance, inputs, credit, transportation and marketing information are critical for ensuring that growers get the best possible productivity. The interaction between the department of agriculture and the growers must be improved. Growers should be encouraged to Visit department of agriculture to meet the officials concerned in order to get advice for their problems in cultivation.

One of the main problems that affect the production and productivity of flowers is the high incidence of the attack of insects and pests and the wide prevalence of diseases. Some kinds affect only the plants themselves while some other kinds affect only the fruit- bearing capacity of the plants and thus reduce their productivity. It is suggested‘ that the agriculture department of should come forward to provide necessary facilities, guidance and information for the growers for protecting their plants from insects and pests. Organic cultivation is another method recommended for increasing per hectare income from flowers cultivation. There exists a high and increasing worldwide demand for organic products. Flowers produced without applying chemical fertilizers and pesticides fetches high prices in the world-market. An attempt in this regard would open new areas of operation for growers. The central and state Governments should give enough incentives to the growers in the growers in their perspective development

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plan this is highly necessary in view of the fact flowers cultivation has to be labour intensive and the workers have to continuously paid increasing wage rates to raise their stand of living.

The cost of production of flowers is escalating steadily in almost all the regions of the study area district. Reduction in the cost of production is possible only yielding resistant varieties would go a long way in increasing the productivity of flowers. Existing development agencies need to be technically updated by establishing a network of technology centers and opening a technical wing under the department of agriculture. This wing should have on-going and updating relationship with Universities, Colleges, Research and Development organizations in India and abroad. Growers' awareness regarding the activities of the agricultural department related to flowers cultivation enables the small growers to understand the quality the quality of seeds, application of freezers and ecocides etc. are found to exercise much influence them regarding on their satisfaction. Therefore efforts should be taken to educate them regarding the activities of agricultural department. This will enable the growers to understand the department is possible only by awareness. Financial assistance especially agricultural loan facilities must be made available in time to the growers of flowers to encourage them to involve in effective cultivation. Distress sale of flowers by growers is reported to be widely prevalent. Growers sell the output well in advance of the harvesting season at prices much lower than those prevailing in the market in order to tide over their financial difficulties with money lenders and commission agents. It is suggested that the financial assistance at moderate rate of interest to meet their financial requirements.

At the time of repayment of loan by the growers, the lending financial institutions should adopt a flexible approach in deciding the date of recovery of loan dues from the growers. By taking into account the time of harvesting and the nature of market. The lending institutions should adopt a flexible approach in collecting dues. The government of India need to design policies geared at making local markets work for growers. This involves creating strong, accountable and transparent regulatory bodies in this sector to provide marketing information and monitor competition among the supply chain. Moreover, technical assistance, better access to credit and inputs, investments in infrastructure and storage facilities are paramount to enable growers make a decent living and compete with others. The growers should come forward to pay wages higher than industrial operators and builders to avoid labour turnover. Emoluments and

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fringe benefits should also be given regularly to the workers in order to retain them in the cultivation.

Conclusion

India is the second largest producer of the flowers in the world. Tamilnadu gives more contribution in flowers cultivation. The study revealed that the area and production of flowers cultivation in Tamilnadu remains constant throughout of the study period but there is a fluctuation in the cultivation of flowers. Considering the current scenario of the agri-industry, it has to maintain its comparative attractiveness like others in India to grow and develop as a major industry. This would mean that the rewards to the growers should commensurate with the efforts required of them.

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