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An Economic Analysis of Jasmine Cultivation in Madurai District, Tamilnadu

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Abstract

Jasmine is one of the oldest fragrant flowers cultivated by man. The flower is used for various purposes viz., making garlands, bouquet, decorating hair of women, religious offering etc. More than 80 jasmine species are found in India, of which only three species are used for commercial cultivation. Its flowers are used for making garlands, adorning hairs of women, in religious and ceremonial functions, and for producing perfumery oil. Its commercial cultivation is confined to Coimbatore, Madurai, (Tamil Nadu); The dry land of the sample farmers is 89.75 acres, and the total wet land is 145.7 acres, cultivated land is 105.45 acres and the remaining on uncultivated land is 78.25 acres in these 4 Blocks, Thirumangalam has 165.4 acres and Solvanthan has 108.5 acres of landholdings. These two Blocks have more than 60 per cent landholdings of the sample farmers. Owing to great diversity climate and other environmental conditions in different parts of the country, the varieties of jasmine cultivated vary from place to place. The Malli, Pitchi and Mullai varieties are mainly cultivated in Madurai District. The reduction in productivity is the highest Thirumangalam and lowest in Melur.

Keywords: *Jasmine, Cultivation, Area Productivity.*

Introduction

Jasmine is one of the oldest fragrant flowers cultivated by man. The flower is used for various purposes viz., making garlands, bouquet, decorating hair of women, religious offering etc. It is also used for production of Jasmine concrete which is used in cosmetic and perfumery industries. More than 80 jasmine species are found in India, of which only three species are used for commercial cultivation. They are *Jasminum sambac* (Gundumalli / Madurai Malli), *J. auriculatum* (Mullai) and *J. grandiflorum* (Jathimalli / Pitchi). The first two species are mainly cultivated for selling as fresh flowers whereas the last one is cultivated for concrete extraction. Tamil Nadu is the leading producer of jasmine in the country with an annual production of 77247 from the cultivated area of 9360 ha. The flowers produced in the state are being exported to the neighbouring countries viz., Sri Lanka, Singapore, Malaysia and Middle East countries. The major jasmine producing districts of Tamil Nadu are Dindigul, Salem, Madurai, Tirunelveli, Virudhunagar, Trichy, etc.¹ Since the crop requires lots

of manpower for harvesting and other operations, only small farmers are cultivating the crop. It is an ideal crop for small farmers whose land holdings are less than 1 acre.

Jasmine: Production Practices

Jasmine (*Jasminum* species) is one of the leading traditional flowers of India. Its flowers are used for making garlands, adorning hairs of women, in religious and ceremonial functions, and for producing perfumery oil. Its commercial cultivation is confined to Coimbatore, Madurai, Dindigul, Athoor, Nilakottai, Tirumangalam, Kallupalli and Thiruparankundrum (Tamil Nadu); Bangalore, Ballary, Mysore and Kolar (Karnataka); Pune, Aurangabad and Ahmednagar (Maharashtra); Ahmedabad, Anand and Vadodara (Gujarat); Ambala, Gurgaon and Faridabad (Haryana); Kannauj, Jaunpur and Gazipur (Uttar Pradesh); Delhi; Ludhiana, Jalandhar, Patiala and Amritsar (Punjab); Ranaghat, Kolaghat, Panskura and 24-Parganas (West Bengal); Udaipur, Ajmer, Jaipur and Kota (Rajasthan); Hoja, Jorhat, Alnugarh (Assam). However, largest chunk

of areas under jasmine flower production is in Tamil Nadu and Karnataka.² The annual production of flowers is worth more than Rs 120 million. Apart from internal trade, fresh flowers of jasmine are exported to Malaysia, Singapore and Sri Lanka.

Review of Literature

Edwin Desai B (1969)³ in his study examined that the level and pattern of investment in Agriculture, described capital in terms of durables and non durables. The non-durable capital included capital invested on major farm equipments, irrigation structure, cattle sheds and farm buildings. The non-durable capital included working capital spend on seeds fertilizers, farm yard manures, pesticides, irrigation and hired human labour.

Paul Samuelson (1973)⁴ reveals that the total cost of production includes fixed and variable cost. The fixed cost comprise of expense made on permanent human and animal labour, depreciation of farm implements and machineries, land revenue, rental value of land and interest on permanent investment other than land. The variable cost covers wage paid to hired human labour, cost of seeds, manures and fertilizers, irrigation charges, betterment levy, and miscellaneous cost such as protection charges, cost of gunny bags and interest on variable costs.

Sowmya Sankar B. (2008)⁵ explained that jasmine cultivation is one of the most remunerative farming enterprises in India. He focused on marketing costs, marketing margins and price spread in marketing of jasmine, and the producer share in a consumer rupee in jasmine marketing. He found that, the marketing

channel in which farmer sell their produce directly to the consumer and hence is no proper link between jasmine demand and supply in both the markets. He concluded that, involvement of growers in export promotion has been minimal in India. Region specific export facilitation centers could be developed considering the concentrations of production of grapes in Karnataka.

Statement of the Problem

Madurai district is one of the Agriculture oriented district of Tamil Nadu. The district is blessed with perennial river namely Vaigai and also their tributaries. Most of the people in this district are practicing traditional method of cultivation of cash and commercial crops.⁶ It is left to the farmer to seek financial assistance from external sources such as commercial banks, land development banks, co-operatives and governmental agencies, besides non-institutional bodies. This institutional credit plays a key role in Jasmine cultivation in the field of viticulture and to identify the constraints faced by the farmers in availing the institutional finance.

Objectives

1. To analyze the trend in area production and productivity of jasmine cultivation in Madurai District.
2. To study the relationship between farm size and productivity.

Tools of analysis

The statistical tools are used to analyse the collected data and to interpret the research.

Linear Growth Rate

Semi_log model

Analysis of the Study

Farmers And Landholdings - Landholdings differ from period to period and at different places.

Table: 1: Landholdings (in acres)

S. No.	Block Area	Dry land	Wet land	Cultivated land	Uncultivated land	Total
1.	Thirumangalam	38.8	51.55	31.0	44.05	165.4
2.	Melur	11.75	20.0	20.90	9.85	62.5
3.	Usilampatti	17.2	35.55	29.5	8.5	90.75
4.	Solavanthan	22.0	38.6	24.05	23.85	108.5
	Total	89.75	145.7	105.45	86.25	427.15

Source: Sample Survey.

Table – 1.shows that the landholdings of the farmers in four Blocks. The dry land of the sample farmers is 89.75 acres, and the total wet land is 145.7 acres, cultivated land is 105.45 acres and the remaining on uncultivated land is 78.25 acres in these 4 Blocks, Thirumangalam has 165.4 acres and Solvanthan has 108.5 acres of landholdings. These two Blocks have more than 60 per cent landholdings of the sample farmers.

Varieties Of Jasmine Cultivation

Owing to great diversity climate and other environmental conditions in different parts of the country, the varieties of jasmine cultivated vary from place to place. The Malli, Pitchi and Mullai varieties are

mainly cultivated in Madurai District.⁷

Table - 2: Varieties of jasmine cultivation

S. No.	Variety	No. of Farmers	% to total
1.	Malli	52	43.33
2.	Pitchi	40	33.33
3.	Mullai	28	23.34
	Total	120	100

Source: Sample Survey.

Table - 3: Holdings size of farm

Sl. No.	Size of Farm	Block 1	Block 2	Block 3	Block 4	Total	Per cent % (100)
1.	0 – 0.50	4	6	10	2	22	18.4
2.	0.51 – 1.0	16	10	6	16	48	40
3.	1.0 – 1.5	4	12	2	6	24	20
4.	1.6 – 2.0	4	-	6	4	14	11.6
5.	2.0 – 3.0	2	2	4	2	10	8.4
6.	Above 3	-	-	2	-	2	1.6
	Total	30	30	30	30	120	100

Source: Sample Survey.

Farmers and Area of Jasmine Cultivated Land

The Study has made an attempt to find out the area of jasmine cultivated land by the sample farmers. The table - 2 shows they are of land utilized by the farmers to cultivate Jasmine. It could be understood that almost all the respondents in the study area were variety of jasmine they cultivated. Out of the 120 respondents 52 (43.33 per cent) of Malli, 40 (33.33 per cent) of Pitchi and remaining 28 (23.34 per cent) of Mullai cultivation. It is clear from above table the majority of 43.33 per cent of Malli cultivated in the study area and the second place is 33.33 per cent of Pitchi cultivated in the study area.

Farmers and Yield Per Acre

The large profitability of agriculture increases with the size of holding, profitability being measured by the surplus of output over costs including the imputed value of labour. The table - 3 it is shows the yield per acre, that 40 per cent of the farmers have used land of the size of Jasmine cultivation 18.4 per cent of farmers cultivated 0-0.5 acre Jasmine cultivation and 20 per cent of farmers cultivated 1 to 1.5 acres remaining 11.6 per cent cultivated 1.5 to 2 acres and 8.4 per cent and 1.6 per

cent cultivated Jasmine in 2 to 3 acres and above 3 acres respectively.

Table - 4: Annual yield per acre

S. No.	Block Area	Landholdings (in acre)	Average Yield per acre (in tonne)
1.	Thirumangalam	25.00	3642.6
2	Melur	37.60	3066.3
3	Usilampatti	40.60	1802.0
4.	Solavanthan	36.00	2500.6

The table-4 shows that the size of land holdings in Thirumangalam Block 25 acres and average yield per acre 3642.6 kg of Jasmine cultivated. It's the high yield per acre of this area. Melur area cultivated land 37.60 acres, average yield per acre 3066.3 kg of Jasmine cultivation and Usilampatti area cultivated 40.6 acres average yield per acre 1802 kg of Jasmine. It's very low level of than the other Blocks and Solavanthan Block farmers cultivated land 18 acres average yield per acre 2500 kgs of jasmine cultivated.

Result Discussion

Table - 5. Regression analysis for farm size and productivity

S. No.	Block Area	Constant	Regression co-efficient	S.E. of b	R ²
1.	Thirumangalam	4471.52	-1007.74**	220.18	0.6244
2	Melur	3616.04	-162.29**	53.39	0.3705
3	Usilampatti	2743.37	-225.1*	110.39	0.1840
4.	Solvanthan	3703.08	-585.29**	123.56	0.6049

* Significant at 5 per cent level

** Significant at 1 per cent level

Table-5. Reveals that the regression analysis between farm size and productivity. The samples were taken by 60 farmers in 4 Blocks. The regression analysis suggests that an increasing Jasmine cultivated area by 1 acre will reduce the productivity by 1007 kg of Jasmine, in Thirumangalam. However, in Melur if Jasmine cultivated land is by 1 acre, productivity will come down by 162 kg of Jasmine. In the case of Usilampatti has the productivity will be reduced by 225 kg of Jasmine for every acre of land cultivated additional, in Solvanthan productivity will decline by 585 kg of Jasmine for every one acre of land cultivated additionally. In all the four Blocks in inverse relationship between land size and productivity exist. The reduction in productivity is the highest Thirumangalam and lowest in Melure. The regression co-efficient are significant are one per cent level in Thirumangalam, Melur and Solavanthan, only for Usilampatti Block, the regression co-efficient significant at 5 per cent level. Therefore, the declining of productivity area of farm size increases in the statistically significant.

Table - 6: Average yield per acre

S. No.	Landholdings (in acre)	V1	V2	V3	V4	Overall average per acre
1.	Below 1 acre	(10) 3689.9	(8) 3522.1	(8) 2651.1	(10) 3260.5	3304.8
2.	Above 1 acre	(5) 2878	(7) 3333.8	(7) 2196	(5) 2501.2	2733.5

The table-6 reveals that the classification of landholdings, below 1 acre having farmer's cultivated average yield per acre is 3304.8 and above 1 acre farmers cultivated average yield per acre is 2733.5. It was lower in the case of below 1 acre so as the farm size increases yield per acre decreases because irrigation facility low and soil condition differs.

Suggestions

Jasmine growers are to be motivated to form growers association at Micro Level and to meet periodically to discuss the issues relating to jasmine cultivation.

It is suggested that in every jasmine growing districts, in each block a grape growers committee consisting of representative from the Agricultural Department of Tamil Nadu Government, the horticultural board and growers may be formed.

Conclusion

Jasmine plays a vital role in offering significant employment opportunities to the rural people. Hence it deserves a planned and continuous attention. The Jasmine cultivators, traders, exporters, government, and the like would go along way in referring to the share of Indian Jasmine in both domestic and foreign markets. The present study has brought into focus the various issues relating to the cultivation aspects of Jasmine. The policy implications suggested, if properly implemented may result in increased revenue for the nation and for the people concerned.

Ethical Clearance: Completed

Source of Funding: Self

Conflict of Interest : Nil

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