Original Research Article

Level of Awareness, Adoption and Constraints of Jasmine Growers

Abstract

Tamil Nadu ranks first in area among seven states in the country that covers 25% of area under floriculture crops of 77 per cent total flower area in the country. In Tamil Nadu, loose flowers are produced in area of about 32, 400 hectares with a production of 3, 13, 535 MT. Jasmine which covers an area of 15,584 ha with a production of 1, 42, 397 tonnes contributes a major share to the floriculture trade. Trichy and Dindigul districts of Tamil Nadu state was purposively opted for the studywhat ?. From each district two blocks were selected and from each block two villageswere selectedwhy?.A total sample size of 160 (@ 20 jasmine growers per village). The research design adopted wasNon- Experimental, Post Facto Researchwhy?.The study revealed that, there was only medium level what? of awareness (71.88 %) and only medium level of adoption (58.75 %) of recommended technologies among the jasmine growers. The determinants or factors like educational level, extension agency contact,size of farm holding and scientific orientation and economic motivation which were positively correlated how so? to level of awareness and adoption of recommended technologies among the jasmine growers. The first three major production oriented constraints ranked by the jasmine growers were 1) labour shortage during peak flowering season…where the unemployed youths has gone?, 2) Lack of mechanization for plucking of flowers……plz show the evidences and flower buds and 3) climatic aberrations how? and monsoon setting how?. The first constraints ranked by the jasmine growers were 1) Price fluctuation and market riskhow?, 2) Lack of transparency in price fixation who is responsible? and 3) Mal practice by commission agents….why it exist?. Most of the marginal and small farmers are devoid of improved production viz., off-season flowering and post-harvest technologies like packing and enhanced shelf life. Regular training how much? and awareness ~~creatio~~creation who will do? n may reduce the technology gapplz quantify the gap and adoption gapplz quantify the gap?. It is suggested that, there should be a exclusive regulated market or price fixing and regulatory committee for fixing the market price for jasmine why not to produce as per the demand and place .utility? ~~The committee to revise the price every two months once and govern the demand supply both domestic and to the neighbouring states during festival or peak seasons. This may result in price stability and profit for the jasmine growers mostly the small and marginal farmers.~~Beyond the scope of ~~this study?~~

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Key words: Jasmine, Awareness, Adoption, Constraints and determinants

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Introduction

Horticulture, an important sector of Indian agriculture, produces more than total food grains in the country. Floriculture is a vital sub-sector of horticulture, having potential for providing

enhanced returns to farmers and employment opportunities especially to small and marginal farmers and female labour. In India floriculture covers an area of 2.55 lakh hectare with a production of 17,54,000 MT of loose flowers. Tamil Nadu ranks first in area among seven states in the country that covers 25% of area under floriculture crops of 77 per cent total flower area in the country. Jasmine flower cultivation is very popular in Tamil Nadu and occupied more than two-fifths of total flower area in the state. Jasmine (*Jasminum* spp.) belongs to the family *Oleaceae* and is one of the oldest fragrant flowers cultivated by man.

Table 1 Major districts and area under jasmine cultivation in Tamil Nadu

S.No.	District	Area (Ha)	Production (Tonnes)	Productivity (Tonnes/Ha)
1	Madurai	1480	15658.18	10.58
2	Erode	1351	5321.60	3.94
3	Tiruvallur	1019	10840.01	10.64
4	Tirunelveli	968	8341.43	8.62
5	Dindigul	806	6245.30	7.75
6	Krishnagiri	610	6588.00	10.8
7	Salem	574	6382.85	11.12
8	Vellore	550	5989.19	10.89
9	Trichy	546	5301.13	9.71
10	Dharmapuri	525	5784.53	11.02
11	Tiruvannamalai	519	8636.09	16.64
12	Virudhunagar	416	3224.41	7.75

(Source : Open govt data-OGD platform India, https://www.data.gov.in)

Even few studies already conducted on technological adoption in jasmine were focussing only post-harvest aspect and processing of jasmine and they lack holistic approach of technological adoption covering both production and marketing. Hence, this study is one such attempt to examine the awareness and extent of adoption of cultivation technology in Jasmine and to identify the production and marketing constraints among jasmine growers of Trichy and Dindigul districts.

Methodology

Trichy and Dindigul districts were purposively selected for administrative reasons. From the selected districts, two blocks viz., Dindigul&Nilakottaifrom Dindigul district and Andhanallur&Thottiyam from Trichy district were selected based on the area under jasmine cultivation. From each selected blocks the villages Maickelpalayam&Kokkupatti from Dindigual block, Kallukottai&Sivanaikenpatti from Nilakottai block and Ettarai&Koppu from Andhanallur block, Meichelnaikenpatti&Kosavampatti from Thottiyam block were taken for the study. From the eight shortlisted villages 20 jasmine growers per village were

randomly selected. A total of 160 jasmine growers were taken as sample for the study. The pictorial form of sampling procedure is given below.

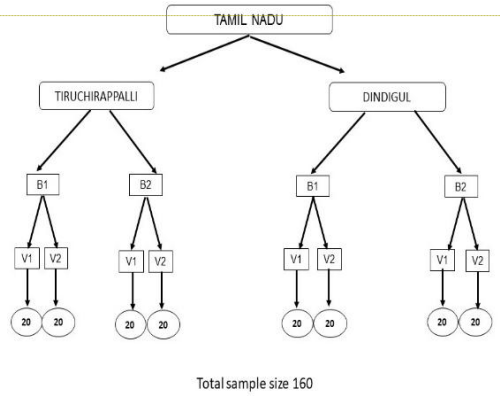

Fig 1. Distribution of samples

The sampling procedure adopted for the study was Multi-Stage Purposive Random Sampling. The research design adopted wasNon- Experimental, Post Facto Research. Well-structured and pre-tested interview schedule was used for data collection purpose. Focus Group Discussion (FGD) was also conducted during the study. The present study seeks to assess the profile characteristics, awareness, adoption level of recommended practices/technologies, determinants of awareness and adoption of recommended technologies and also the production and marketing constraints faced by the jasmine growers. The statistical tools viz., Problem Raking Matrix, Correlation, Regression and simple percentage analysis were for the interpretation of the processed research data.

Findings and Discussion

From the study, it was observed that, great majority (75.62 %) of the jasmine growers were having school education level followed by collegiate education (13.13 %). This shows the level of inclination towards acquiring formal education. The results also revealed that, almost little more than half (55 %) of the sampled respondents had more than 11 years of experience exclusively in jasmine cultivation. Majority of the jasmine growers (63.12 %) were falling under small farmer category followed by 29.38 per cent under marginal farmer category. The average land allocation for jasmine cultivation was 32 cents (0.32 acres) and almost great majority of the jasmine growers put together (76.87 %) allocated less than one acre for

cultivating jasmine. The 55.62 per cent of the jasmine growers had medium level of economic motivation. Almost half of the jasmine growers (53.75 %) in the study area depended on local market for the sale of jasmine as loose flowers. The results obtained during the study are tabulated in the for better understanding the socio-economic profile of the jasmine growers. The findings are almost in line with the finding of Bagya Janani et al., 2016.

Table 2 :Profile of Jasmine Growers **(n=160)**

S.No.	Profile Variables	Frequency	Percentage
I. Educational Level			
a.	Illiterate	18	11.25
b.	School Education	121	75.62
c.	Collegiate	21	13.13
II. Family Type			
a.	Nuclear Family	124	77.50
b.	Joint Family	36	22.50
III.Farming Experience			
a.	Low (Upto 10 years)	39	24.38
b.	Medium (11 to 15 years)	53	33.12
c.	High (above 15 years)	68	42.50
IV.Experience in Jasmine Cultivation			
a.	Less than 3 years	0	0.00
b.	3-5 years	2	1.26
c.	6-8 years	23	14.37
d.	9-11 years	47	29.37
e.	More than 11 years	88	55
V.Farm Land Holding			
a.	Marginal (<2.5 acres)	47	29.38
b.	Small (2.5 – 5 acres)	101	63.12
c.	Big (> 5 acres)	12	7.50
VI.Area under Jasmine Cultivation			
a.	< 0.50 acres	69	43.12
b.	0.51 to 1.0 acres	54	33.75
c.	1.0 to 1.5 acres	21	13.12
d.	>1.5 acres	16	10.01
VII. Source of Finance			
a.	Self / Own arrangement	131	81.88
b.	Borrowing / Bank Loan	29	18.12
VIII. Economic Motivation			
a.	Low	29	18.12
b.	Medium	89	55.62

c.	High	42	26.26
IX.Extension Agency Contact			
a.	Low	92	57.50
b.	Medium	51	31.90
c.	High	17	10.60
X.Scientific Orientation			
a.	Low	101	63.12
b.	Medium	35	21.90
c.	High	24	14.98
XI.Marketing Behaviour			
a.	Own	8	5.00
b.	Local Shop	12	7.50
c.	Local Market	86	53.75
d.	Traders	33	20.62
e.	Commission Agents	21	13.13

Awareness, Adoption and Determinants

The study revealed that, the overall awareness and adoption level of recommended technologies are tabulated in the **Table-3& Table-4**. Majority of the jasmine growers (71.88 %) were having only medium level of awareness on the recommended technologies and more than half of the jasmine growers (58.75 %) had only medium level of adoption of recommended technologies. Similar finding was mentioned earlier by Raina et al.,2014 in their study.

Table 3 :Overall Awareness level among Jasmine Growers (n=160)

S. No.	Overall Awareness Level	Frequency	Per cent
1.	Low (< 25.47)	13	8.12
2.	Medium (25.47-33.00)	115	71.88
3.	High (> 33.00)	32	20.00
Total		160	100.00
Mean: 29.23, Standard deviation: 3.76			

Table4 :Overall Adoption level among Jasmine Growers (n=160)

S. No.	Over all adoption level	Frequency	Per cent
1.	Low (< 27.20)	35	21.88
2.	Medium (27.20-44.30)	94	58.75
3.	High (> 44.30)	31	19.37
Total		160	100.00
Mean: 35.75, Standard deviation: 8.54			

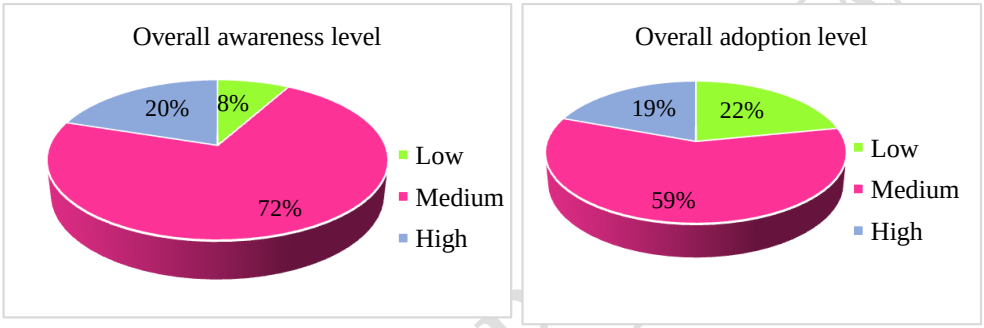

Fig 2.Pie chart showing overall awareness and adoption level

From the study it was also noticed that, the factors like educational level, extension agency contact and scientific orientation were positively correlated at five per cent level and the economic motivation was significantly correlated at one per cent level. These factors were the determinants of level of awareness level. The above specified determinants have to be concentrated to enhance the level of awareness among the jasmine growers. The findings are almost similar to that of Rajeshwaran et al., 2022. The correlation and regression co-efficient values are presented below in the **Table-5& Table-6** for level of awareness and level of adoption respectively.

Table 5 : Correlation and Multiple Regression Co-efficient of profile variables with the Level of Awareness among Jasmine Growers

Variables	Variable	'r' value	Regression coefficient	Standard Error	't' Value
X_1	Educational level	0.719**	2.187	0.439	4.982**
X_2	Family Type	0.031^{NS}	0.163	0.316	0.515^{NS}
X_3	Farming experience	-0.324**	-0.549	0.212	-2.594**
X_4	Experience in jasmine cultivation	-0.544**	-0.34	0.165	-2.060*
X_5	Farm land holding	0.098^{NS}	0.411	0.23	1.789^{NS}
X_6	Area under jasmine cultivation	-0.016^{NS}	-0.004	0.142	-0.030^{NS}

X_7	Source of finance	-0.125^{NS}	0.474	0.347	1.368^{NS}
X_8	Economic motivation	0.181*	0.091	0.216	0.424^{NS}
X_9	Extension agency contact	0.801**	2.02	0.34	5.948**
X_{10}	Scientific orientation	0.801**	1.969	0.275	7.148**
X_{11}	Marketing behaviour	-0.035^{NS}	-0.05	0.115	-0.432^{NS}

R^2 = 0.818 & F=60.62 ,**Significant at 1 % , *Significant at 5 % and NS- Non Significant

Similarly, the factors viz., educational level, size of farm holding, extension agency contact, economic motivation and scientific orientation were positively correlated at five per cent level and source of finance was significant at one per cent level with respect to the level of adoption of recommended technologies among the jasmine growers. The factors discussed by Suprehatin 2021 are similar to the results obtained during the study.

Table 6: Correlation and Multiple Regression Co-efficient of Profile variable with the Level of Adoption among Jasmine growers

Variable	Variable	'r' value	Regression coefficient	Standard error	't' Value
X_1	Educational level	0.771**	4.433	0.783	5.659**
X_2	Family type	-0.011^{NS}	-0.141	0.52	-0.271^{NS}
X_3	Farming experience	-0.467**	-1.059	0.394	-2.686**
X_4	Experience in jasmine cultivation	-0.552**	-0.729	0.317	-2.300*
X_5	Farm land holding	0.299**	1.546	0.476	3.250**
X_6	Area under jasmine cultivation	0.146^{NS}	0.233	0.258	0.904^{NS}
X_7	Source of finance	0.193*	1.22	0.551	2.214*
X_8	Economic motivation	0.422**	0.943	0.421	2.242*
X_9	Extension agency contact	0.853**	5.314	0.719	7.391**
X_{10}	Scientific orientation	0.709**	1.446	0.571	2.533**
X_{11}	Marketing behaviour	0.008^{NS}	0.027	0.195	0.137^{NS}

R^2 = 0.855 & F=79.51 ,**Significant at 1 % , *Significant at 5 % and NS- Non Significant

Production and Marketing constraints faced by the Jasmine Growers

The sampled villages were taken as individual cluster of 20 farmers (jasmine growers). Based on the mean score of the cluster farmers the ranking was done to prioritise the constraints faced by the jasmine growers both in production as well marketing. Most of the problems are in line with the findings of Vanetha.K.P, 2021 and Vetrivel et al., 2020. From the study result, and through problem ranking method, it was observed that, the first three major

problem ranked by the jasmine growers were 1) labour shortage during peak flowering season, 2) Lack of mechanization for plucking of flowers and flower buds and 3) climatic aberrations and monsoon setting. The other production-oriented constraints faced by the jasmine growers are mentioned in the **Table 7.**

Table-7: Production led constraints faced by the Jasmine Growers

S.No.	Production Constraints	Trichy		Dindigul		Mean Score	Problem Ranking
		Cluster I	Cluster II	Cluster III	Cluster IV		
1	Lack of Govt. subsidy for cropping jasmine	27	30	29	26	28.00	**VIII**
2	Labour shortage during peak flowering season	35	36	37	34	35.50	**I**
3	Paucity of credit support	31	29	30	27	29.25	**VI**
4	Financial constraint for purchase of critical inputs	34	32	30	31	31.75	**IV**
5	Lack of mechanizatio n for plucking flowers and flower buds	33	30	35	36	33.50	**II**
6	Non availability of improved variety planting material	27	24	26	29	26.50	**X**
7	Lack of post harvest facility (cold storage, pack house)	29	27	29	31	29.00	**VII**
8	Improper insurance coverage during crop failure	30	31	32	30	30.75	**V**
9	Lack awareness on off-season flower	26	29	25	29	27.25	**IX**

	blooming technology						
10	Climatic aberrations & fluctuations	33	34	34	30	32.75	**III**

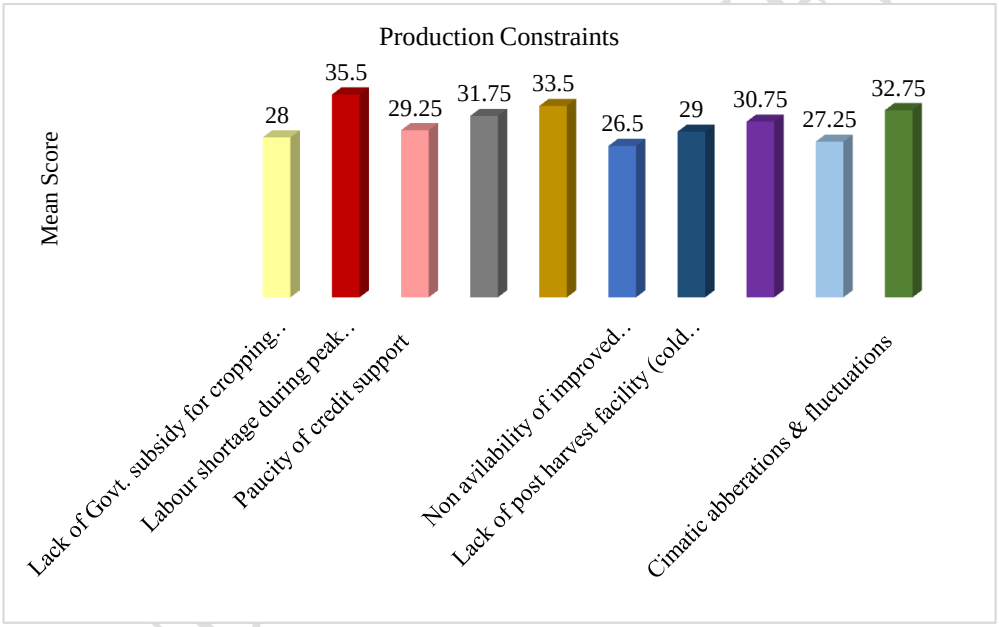

Fig 3. Bar graph showing mean value of production constraints

It was observed that, the jasmine growers faced marketing related constraints during the marketing of farm produce (jasmine flower). The first constraints ranked by the jasmine growers were 1) Price fluctuation and market risk, 2) Lack of transparency in price fixation and 3) Mal practice by commission agents. The other market-oriented constraints faced by the jasmine growers are mentioned in the **Table 8**.

Table 8: Market led constraints faced by the Jasmine Growers

S.No.	Marketing Constraints	Trichy		Dindigul		Mean Score	Problem Ranking
		Cluster I	Cluster II	Cluster III	Cluster IV		

1	Distance from market	34	36	34	33	34.25	**VI**
2	Lack of organized market and regulations	33	36	34	36	34.75	**V**
3	Price fluctuation & market risk	38	37	38	37	37.50	**I**
4	Lack of link and support for storage and grading	33	32	30	31	31.50	**VIII**
5	Mal practice by commission agent	36	35	36	37	36.00	**III**
6	Lack of value addition support	31	32	29	33	31.25	**IX**
7	Perishable nature & lack of extending shelf life	32	30	33	31	31.50	**VII**
8	Lack of information on market intelligence	28	30	29	30	29.25	**X**
9	Lack of transparency in price fixation	36	37	35	38	36.50	**II**
10	Lack of transportation support	37	35	34	36	35.50	**IV**

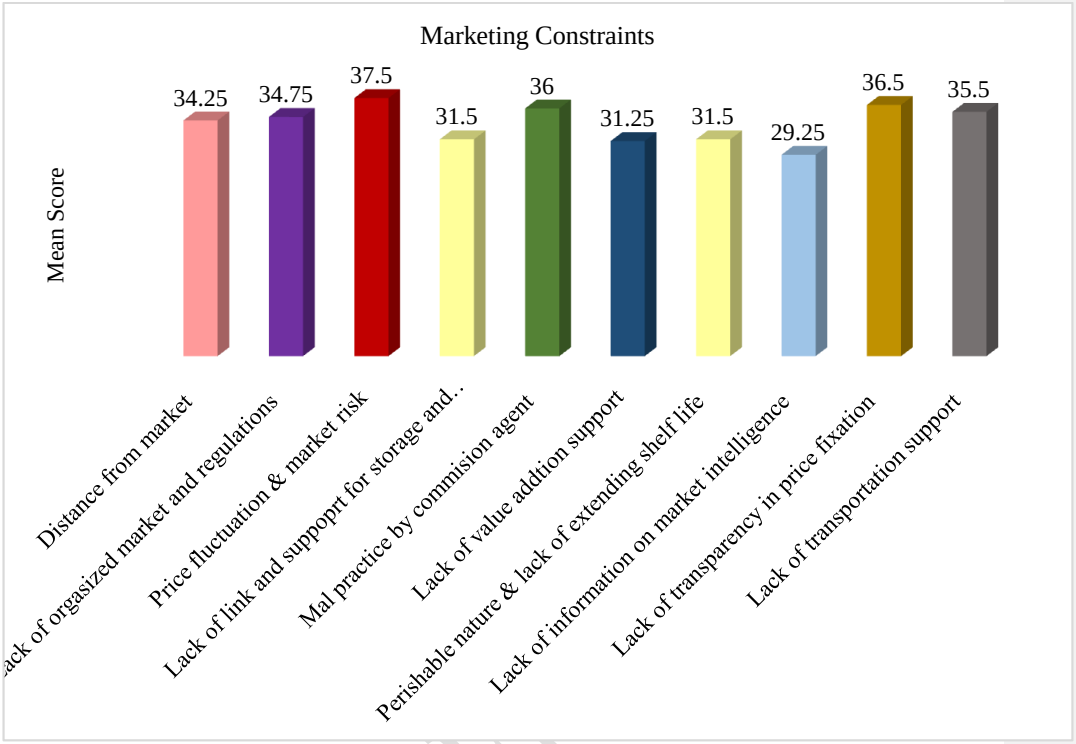

Fig 4. Bar graph showing mean value of Marketing constraints

Conclusion

Tere was only medium level of awareness (71.88 %) and only medium level of adoption (58.75 %) of recommended technologies among the jasmine growers. Most of the marginal and small farmers are devoid of improved production viz., off-season flowering and post-harvest technologies like packing and enhanced shelf life. Regular training and awareness creation may reduce the technology gap and adoption gap. The study also revealed that, the jasmine growers face both production and market led constraints. The foremost production led constraint is labour shortage during peak flowering season. This can be addressed through mechanization similar to cotton boll plucker, the farmers are expecting flower and flower bud pluckers which are operated by the principle of vaccum sucking. The foremost market led constraint faced by the jasmine growers is Price fluctuation and market risk. It is suggested that, there should be a exclusive regulated market or price fixing and regulatory committee for fixing the market price for jasmine. The committee to revise the price every two months once and govern the demand-supply both domestic and to the neighbouring states during festival or peak seasons. This may result in price stability and profit for the jasmine growers mostly the small and marginal farmers.

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