Journal of Pharmacognosy and Phytochemistry

Available online at www.phytojournal.com

E-ISSN: 2278-4136
P-ISSN: 2349-8234
JPP 2018; 7(4): 3437-3441
Received: 05-05-2018
Accepted: 10-06-2018

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Personal and socio-economics profile of the saffron growers and its association with their income level: A study in the Pulwama district of Kashmir valley

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Abstract
The study was carried out in district Pulwama of Kashmir Valley. Only two blocks namely, block Pampore and block Awantipora were purposively selected owing to the maximum area and production in these two blocks of the district. Out of the two blocks, 150 respondents from five villages were selected through stratified random sampling method. The study reveals that the majority of the respondents (42.00%) were in the age group of 53-65 years having an annual income of below 3Lakh and formal schooling of below 3 years and one half of the respondents had extension scores of 12 and above and majority (53.34%) had small holding viz, below 3 Kanals. The study reveals a significant association between knowledge and income; income and age; income and education; income and size of holding; and income and extension contact scores.

Keywords: respondents, income, extension scores, significant association and extension contact

Introduction
Saffron valued as a medicinal perennial herb and a dye; has been prized the world's most expensive spice since times immemorial. The legendary crop is acclimatized to hillsides and plateaus (locally called Karewas) at altitudes between 1500 to 2400 metres. Saffron requires a well-drained loamy soil with neutral to slightly alkaline reactions and is well adapted to areas with cold, rainy winters and warm dry summers. The official data reveals that before 1985 saffron was cultivated on 5800 hectares of land in J&K, now the area under cultivation has reduced from 5,707 hectares in 1996 to 3,715 hectares in 2009-10 and presently it is confined to 3,674 hectares only (Zahid, 2016) [36]. Further a survey of saffron industry conducted by Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir (SKUAST-K) in 2010 found that yield has gone down from the intended target of 4.5 kg per hectare to less than 2 kg per hectare. The incessant greed on the part of merchandise and adulteration has damaged the prized spice so much that its death seems to be imminent. Almost 96 to 98% of saffron in J&K is grown in Kashmir valley and 2 to 4% of it is being grown in Kishtawar district of Jammu region. During the last decade, half of the total area under saffron cultivation has been reduced by 25%, while the production and productivity also receded significantly. As per the data available from the State Financial Commissioner, Srinagar (J&K) the total area under saffron cultivation in the year 1997 was 5361 hectares, production was recorded at 17.37 metric tonnes and productivity was estimated at 3.24 Kg per hectare. However in the year 2009 the total area under saffron was 3675 hectares, the production was 9.18 metric tonnes, while productivity was recorded as 2.50 kg per hectare (Malik, 2012) [16]. Keeping 1997 as the bench mark, the percentage change during the aforesaid period reveals that area has receded to 31%, and the production level reduced to 47% while the productivity has declined to about 23%. Concerned over the declining trend of the saffron production in the valley, the govt. of India came up with a flagship programme "National Saffron Mission" in order to revive the saffron industry in Kashmir.

Results and findings
Profile of saffron growers
A perusal of the data presented in Table 1 would reveal that age of the majority of the respondents (42.00%) was 53-65 years followed by those (33.33%) who were 65 and above years. Only 24.67 per cent respondents were below 53 years. In case of income, majority of the respondents (48.66%) were having an annual income of below 3Lakh followed by 28.67 per cent with an annual income of 3-5Lakh. Only 22.67 per cent respondents were having an

annual income of 5Lakh and above So far as income from saffron only is concerned, majority of the respondents (40.00%) were having an annual income of 40000-90000 followed by 35.34 per cent with an annual income of 90000-135000. Only 24.66 per cent respondents were having an annual income of 8000-40000.

In case of education majority of the respondents 52.00% were having formal schooling of below 6 followed by 33.33% of the respondents with a formal schooling of 12 and above only 14.66 per cent of the respondents were having formal schooling of (6-12 years). In case of extension contact scores, majority of the respondents 51.33% were having extension contact scores of 12 and above. Thirty six per cent respondents were having extension contact scores of 10-12. Only

Table 1: Profile of the respondents (N=150)

Particulars	Category	Number	Percentage
Age (years)	Below 53	37	24.67
	53-65	63	42.00
	65 & Above	50	33.33
Income (per annum)	Below 3 lakhs	73	48.66
	3-5 lakhs	43	28.67
	5 lakhs & above	34	22.67
Income from saffron	8000-40000	37	24.66
	40000-90000	60	40.00
	90000-135000	53	35.34
Education (No. of years of formal schooling)	Below 3	78	52.00
	3-6	22	14.67
	6 & above	50	33.33
Extension Contacts (Scores)	Below 10	19	12.67
	10-12	54	36.00
	12 & above	77	51.33
Size of holding (Kanals)	Below 3	80	53.34
	3-6	35	23.33
	6 & above	35	23.33
Credit availability	Availing credit facility from bank	110	73.33
	Great Ease	30	27.28
	Ease	45	40.90
	Difficulty	25	22.73
	Great Difficulty	10	9.09

12.67 per cent respondents obtained extension scores below 10. The farm size of majority of the respondents (53.34%) was below 3 kanals. An equal number of respondents (23.33%) had farm size of 3-6kanals and 6 and above. The data further reveals that majority of the respondents (73.33%) availed credit facility from the banks and those availing credit facility from the bank, quite a good percentage of respondents (68.18%) obtained credits with ease and only 31.82 per cent respondents faced difficulty in obtaining credits from banks.

Level of knowledge of saffron growers

A perusal of the data presented in the Table 2 reveals that majority of the respondents 58.67% were having good knowledge (scores 9-12) about saffron cultivation. However, the percentage of respondents with excellent level of knowledge (scores 12 and above) were 22. The data further reveals that almost 20 per cent were possessing poor knowledge (scores upto 9) about saffron. The extension personnel of the department of agriculture and the scientists of KVK/Saffron Research Station, Konibal, Pampore should organise awareness camps before the sowing season of the saffron corms for educating the farmers about the useful tips for increasing the productivity in their fields. Besides, the Department of Agriculture should arrange exposure visits of the farmers to Saffron Research Station Konibal Pampore so that the saffron growers interact with the scientists and also see the technologies adopted in saffron fields themselves.

Table 2: Distribution of respondents as per the level of knowledge regarding saffron cultivation

Level of knowledge regarding saffron cultivation	Number	Percentage
Poor (Below 9)	29	19.33
Good (9-12)	88	58.67
Excellent (12 & above)	33	22.00

A perusal of the data presented in Table 3 reveals that the majority of the respondents 77.41% with poor knowledge of saffron had income less than 3 lakh. The percentage of respondents having excellent knowledge of Saffron with income less than 3 lakh were 34.89. The data further reveals that 25.58 per cent respondents having excellent knowledge of saffron were having income of 5 lakh and above. However only 12.91 per cent respondents with poor knowledge of Saffron were having income of 5 lakh and above.

The statistical analysis of the data revealed significant association between income & knowledge (χ^2=13.62) at (0.008577) level of significance which shows that as the knowledge regarding saffron increase, the income of the respondents also increase.

A perusal of the data presented in Table 3 reveals that the majority of the respondents 54.09% in the age group of 53-65 years had high income 5 lakh and above. 47.37 per cent respondents in the age group of below 53 years were having income of below 3 lakh. However the percentage of respondents having per annum income of 5 lakh and above were 27.44 per cent. The data further reveals that 16.40 per cent respondents in the age group of 53-65 years were having income of below 3 lakh.

The statistical analysis of the data revealed significant association between income & age (χ^2=16.39) at (0.002534) level of significance which shows that as the age increase the income of the respondents also increase.

Table 3: Association between knowledge of saffron growers and income

Income		Distribution of respondents according to knowledge of saffron							
		Poor (<9)		Good (9-12)		Excellent (12 & above)		Row total	
		No.	% age	No.	% age	No.	% age	No.	% age
26	Low (Below 3 lakh)	24	77.41	40	52.63	15	34.89	79	52.67
	Medium (3-5 lakh)	3	9.68	20	26.32	17	39.53	40	26.67
	High (5 lakh & above)	4	12.91	16	21.05	11	25.58	31	20.66
	Column total	31	100.00	76	100.00	43	100.00	150	100.00

χ^2=13.62

P-value=0.008577

Table 4: Association between age of saffron growers and income

Income		Distribution of respondents according to age							
		Low (<53)		Medium (53-65)		High (65 & above)		Row Total	
		No.	%age	No.	%age	No.	%age	No.	%age
27	Low (Below 3 lakh)	18	47.37	10	16.40	16	31.38	44	29.33
	Medium (3-5 lakh)	9	23.69	18	29.51	21	41.18	48	32.00
	High (5lakh & above)	11	28.94	33	54.09	14	27.44	58	38.67
	Column total	38	100.00	61	100.00	51	100.00	150	100.00

χ^2=16.39
P-value=0.002534

A perusal of the data presented in Table 4 reveals that the majority of the respondents (52.00%) with 12 and above years of formal schooling had high income (5 Lakh and above). Further 45.45 per cent respondents having formal schooling of below 6 years were having income of 5Lakh and above. The percentage of respondents with formal schooling of 6-12 years and having income of below 3Lakh were 42.22 per cent. However the percentage of respondents with income of 3-5Lakh having formal schooling of 6-12 years were 37.78 per cent.

The statistical analysis of the data revealed significant association between income & education (χ^2=22.28) at (0.0001759) level of significance which shows that as the level of education increase the income of the respondents also increase.

A perusal of the data presented in table 5 reveals that the majority of the respondents (60.00%) having small holding (Below 3 kanal) were having low income (Below 3Lakh). However 48.57 per cent respondents with large holding size (6 & above) were having high income of (5Lakh and above). The data further reveals that nearly an equal percentage of respondents with medium holding size (3-6 kanal) were having income of more than 3Lakh. Only 16.25 per cent respondents possessing small holdings were having high income (5 Lakh and above).

The statistical analysis of the data revealed significant association between income & size of holding (χ^2=21.39) at (0.0002641) level of significance which shows that as the size of holding increases the income of the respondents also increases.

Table 5: Association between Education of saffron growers and income

Income		Distribution of respondents according to level of formal schooling							
		Low (upto 6)		Medium (6-12)		High (12 & above)		Row total	
		No.	%age	No.	%age	No.	%age	No.	%age
29	Low (Below 3 lakh)	7	12.73	19	42.22	17	34.00	43	28.67
	Medium (3-5 lakh)	23	41.82	17	37.78	7	14.00	47	31.33
	High (5 lakh & above)	25	45.45	9	20	26	52.00	60	40.00
	Column Total	55	100.00	45	100.00	50	33.33	150	100.00

χ^2= 22.28
P. value = 0.0001759

Table 6: Association between size of holding of saffron growers and income

Income		Distribution of respondents according to size of holding							
		Small (0-3)		Medium (3-6)		Large (6 & above)		Row total	
		No.	%age	No.	%age	No.	%age	No.	%age
30	Low (Below 3 lakh)	48	60.00	10	28.57	8	22.85	66	44.00
	Medium (3-5 lakh)	19	23.75	13	37.15	10	28.58	42	28.00
	High (5 lakh & above)	13	16.25	12	34.28	17	48.57	42	28.00
	Column total	80	100.00	35	100.00	35	100.00	150	100.00

χ^2=21.39
P-value=0.0002641

A perusal of the data presented in Table 7 reveals that majority of the respondents (44.59%) with medium extension scores (10-12) had high income (5 lakh and above). The data further reveals that 44.12 per cent respondents with low extension scores had low income of (Below 3 lakh). However the percentage of respondents with low extension scores and having income of 5 lakhs and above were 32.36 per cent.

The statistical analysis of the data revealed significant association between income & extension contacts (χ^2=9.49) at (0.04984) level of significance which shows that as the extension contacts of the farmer with extension personnel increase the income of the respondents also increases.

Table 7: Association between extension contacts of saffron growers and income

Income	Distribution of respondents according to extension contact scores							
	Low (Below 10)		Medium (10-12)		High (12 & above)		Row total	
	No.	% age	No.	% age	No.	% age	No.	% age
Low (Below 3 lakh)	15	44.12	15	20.28	17	40.48	47	31.34
Medium (3-5 lakh)	8	23.52	26	35.13	14	33.33	48	32.00
High (5 lakh & above)	11	32.36	33	44.59	11	26.19	55	36.66
Column Total	34	100.00	74	100.00	42	100.00	150	100.00

χ^2=9.49
P-value=0.04984

Conclusion

The majority of the respondents (42.00%) were in the age group of 53-65 years having an annual income of below 3Lakh and formal schooling of below 3 years. The findings further revealed that one half of the respondents had extension scores of 12 and above and majority (53.34%) had small holding viz, below 3 Kanals. Almost three forth of the respondents availed credit facility from the banks. Almost sixty per cent respondents had good (9-12) knowledge scores regarding recommended Saffron practices and almost one-fifth of the respondents had poor (below 3) knowledge scores. The findings revealed a significant association between knowledge and income; income and age; income and education; income and size of holding; and income and extension contact scores.

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