Asian Journal of Managerial Science
ISSN: 2249-6300 Vol. 7 No. 1, 2018, pp.25-30


# Examining Saffron Income and Choice of Marketing Channel Connection

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***Abstract* - The study identified the marketing channels involved in the marketing of saffron and revealed grower preference to various marketing channels. Furthermore, it found that the choice of marketing channel depends on income of the saffron grower. The primary data was collected from the respondents (201 saffron growers, 6 dalals and local traders, 17, retailers/wholesalers and 5 firms) in the three selected villages of Pampore namely Letpora, Ledhu and Konibal based on interview schedule framed in accordance with the objectives of the study. Proportional sampling framework was followed for selecting the respondents of the study. The chi-square test for association has been used to find the relationship between two categorical variables which in case of present study is income and channel.**
***Keywords:* Marketing Channels, Intermediaries, Saffron Income, Choice of Channel**

## I. INTRODUCTION

Horticulture has direct bearing on J&K economy. The majority of population is reliable on horticulture sector particularly apple and saffron. Over the years, horticulture emerged as an important and growing sub sector of agriculture, offering a wide range of choices and opportunities to the farmers for crop diversification. And the primary horticulture produce that has higher efficiency and marketing arena is saffron (Ganie & Nusrath, 2016). More than 10,000 farm families of 226 villages are associated with saffron directly or indirectly. Saffron cultivation is highly labour intensive activity (GIAHS Saffron Site Report, Part-1, 31st May, 2012) where most of the field and post-harvest operations are carried out by women (Kamli & Wani, 2004). More than 95,000 farm families with this crop directly or indirectly in Iran & India are strongly linked with saffron, therefore, efforts are to be made to protect the interests of growers by making the industry more profit oriented ( Nehvi *et al.,* n.d.). Iran has increased area under saffron during the last many years and exports 90% of its total production. This alone provides a strong and sufficient evidence of its growing market for saffron in the world which can be tapped successfully for Kashmiri saffron provided the production, marketing and quality are improved significantly.

Channel identification is the most important aspect that every marketing researcher must undertake. Marketing channels are very significant because they are the ones who aid and streamline how every consumer gets their desirable products. Marketing Channels or channels of distribution have become eyes and ears of marketing today and are receiving countless attention. Channels not only create value addition but also create customer and shareholder value, brand equity and market presence for a company. Research dedicated to channel management has played an important role in the marketing discipline for over 4 decades. Channel organization or structure (Fein & Anderson, 1997) is the main research area in marketing now-a-days. Existing research confirms the unhealthy market channels in saffron (Munshi, 2001; Kubrevi & Khare, 2006; Wani, Saraf &Wani, 2006; Ghorbani, 2008; Shah, Tripati & Hussain, 2009; Imtiyaz-Ul-Haq & Sahina, 2014 ; Ganie & Nusrath, 2016; Hamid, Kachroo, Bhat &Peer,2017). Therefore, the present study aimed at identifying the possible channels involved in marketing of saffron in the Kashmir valley so as to suggest ways to make them healthy.

Various studies have been undertaken on marketing but their scope was limited to channel/distribution and marketing cost, margin and price spread analysis. No study so far has examined the relationship between saffron income and marketing channel. Therefore, the present study has attempted to examine such cause and effect relationship using Chi-Square test.

At present saffron growers are trying very hard to market their products and services due to various reasons such as, presence of large number of intermediaries resulting into price and quality distortions, extreme disintegration and small land holdings, non-adoption of scientific cultivation practices, subtle nature of saffron to management because it is a food grade material and it has to pass through a sequence of food safety certifications, processing of Kashmiri saffron takes place outside the state because of poor industrial base, adulteration (Qadri, 2017), massive educational unemployment and illiteracy. Apart from these, they are facing serious problems about marketing understanding and proficiency. The growers who have asymmetric knowledge of market conditions and inadequate infrastructural hold-up and transport and storage facilities incur heavy losses (Ganie & Nusrath, 2016). They are also

ignorant about modern marketing tools, strategies and issues like quality, branding, packing and packaging, after-sales-servicing, etc. The demand, supply and pricing concepts cannot be separated with consumer wants and needs. Subsequently they are not able to give hard-hitting competition to their counter parts within and outside the state. It is a matter of great concern especially when the graph of agriculture sector in the state is increasing at a decreasing rate.

## II. OBJECTIVES

1. To identify the different marketing channels involved in the marketing of saffron.
2. To analyse the relationship between saffron income and marketing channels.

*A. Hypothesis*

1. There is no relationship between saffron income and disposal of saffron through various marketing channels.

## III. MATERIALS AND METHODS

The above objectives have been fulfilled by relying on primary data which was collected by means of an interview schedule which has been framed strictly in accordance with the objectives of the study and information on important variables has been collected from Tehsil Pampore. Pulwama accounts for 75% of the total area under saffron (Economic Survey, 2009-10) and Pampore tehsil of district Pulwama is famous all over the world for the quality saffron it produces owing to its bizarre physical features, suitable climatic conditions, soil type and water table. Moreover, Pampore has been recognized as Globally Important Agricultural Heritage System (GIAHS) site by Food and Agriculture Organization of the United Nations (FAO). Pampore was formally recognized as GIAHS at the Beijing International Forum held in June 2011(FAO, 2017). Therefore the present study was conducted in Pampore.

The secondary data has also been used which is obtained from the following sources:

1. Spices Board of India.
2. Agriculture Department Kashmir, Government of Jammu and Kashmir.
3. Saffron Spice Park, Dussu, Pulwama (Saffron Research Station SKUAST-K).
4. GIAHS Saffron Site Report (Part-1) 31st May, 2012.
5. Census Data, 2011.

*A. Sample Procedure*

Probability sampling was adopted for the selection of samples. The villages were selected on the basis of highest area under saffron cultivation. Tehsil Pampore consists of 29 villages which are less dispersed in terms of production which is why we selected 3 villages only. From the 3 selected villages we took 4 components viz. growers, dalals & local traders, retailers/wholesalers and firms. The detail is given in the following table:

TABLE I SAMPLE OF GROWERS, DALALS, RETAILERS/WHOLESALERS AND FIRMS

| S. No. | Name of the Village | Growers | Dalals & local traders | Retailers/Wholesalers | Firm | Total |
|---|---|---|---|---|---|---|
| 1 | Letpora | 83 | 2 | 10 | 3 | 98 |
| 2 | Ledhu | 82 | 2 | 5 | 1 | 90 |
| 3 | Konibal | 36 | 2 | 2 | 1 | 41 |

** Source: Compiled by author*

Since we are working with a finite population (N) and the population size is known, we applied proportional system or method for determining the sample size (n) of saffron growers.

Proportional method is as: $n=N\times0.1$
Proportion is taken as 10%
Where N=total household size (growers) among the three villages
$N_1$=total household size of village 1 Letpora (828)
$N_2$=total household size of village 2 Ledhu (823)
$N_3$=total household size of village 3 Konibal (358)

n =total sample size among the three villages
$n_1$=selected sample from village 1(83)
$n_2$=selected sample from village 2(82)
$n_3$=selected sample from village 3(36)

For village1 viz. Letpora the sample size was determined through the following formula:
$n_1=N_1\times0.1$
$= 828\times0.1$
$=83$(approx.)

Similarly, for village2 viz. Ledhu the sample size was determined through the following formula:
$n_2=N_2\times0.1$
$= 823\times0.1$
$=82$(approx.)

Similarly, for village3 viz. Konibal the sample size was determined through the following formula:
$n_3=N_3\times0.1$
$=358\times0.1$
$=36$(approx.)

Dalals & local traders, Retailers/Wholesalers and firms were selected randomly from each selected village. Using percentage method or probability proportional to size of the population, sample size of 201 was determined for saffron growers of the 3 selected villages. A total of 229 sample respondents were selected. Total samples were distributed by various categories which are presented in the table 1. Saffron growers constituted 201(87.77 %) of total sample, dalals & local traders constituted 6 (2.62 %), saffron wholesalers and retailers constituted 17 (7.42%) and firms constituted 5(2.18%).

Thus, 229 sample respondents were interviewed. Interview with saffron associations, cooperative societies and experts in the field of agriculture and marketing also proved helpful for the present study.

*B. Estimation Procedure*

The chi-square test for independence, also called Pearson's chi-square test or the chi-square test of association, is used to determine the relationship between two categorical variables (Laerd Statistics) viz. saffron income and disposal of saffron through various channels.

## IV. ANALYSIS AND INTERPRETATION OF DATA

*A. Marketing channels*

The present study identified six marketing channels which has been defined and then classified on the basis of number of intermediaries involved and popularity of the channel. The popularity of the channels was ascertained on the basis of response of the sample units. The following marketing channels were identified as the main marketing channels of saffron in J&K:

*Channel-I: Grower-Consumer:* This channel is the shortest route to the consumer. This channel doesn't involve any intermediary between the grower and the consumer and therefore this channel is healthy marketing channel but the fact is that this channel is second least popular marketing channel as very less number of growers was found selling their produce directly to the consumers. Usually we have numerous and scattered consumers who buy in small quantities, hence, leaving this channel unpopular for a wide market. Results reveal that this channel is very unpopular marketing channel as 6.5% of the growers sell their produce through channel-I. Moreover, while comparing income category within the channel-I, the percentage of the growers in the income category between Rs 64, 501 – Rs 1, 35, 000 who sell their produce through channel-I is highest (10.6%). On the other hand, between the channel comparisons reveal that channel-V is most popular marketing channel in case of low and medium income category.

*Channel-II: Grower-Dalal & Local Traders-Retailer-Consumer:* Although this channel like channel –III involves only two intermediaries between the grower and the consumer but this channel is least popular or most unpopular marketing channel than all rest of the identified marketing channels. This channel is preferable when buyers are large retailers. The example can be taken of provisional stores, departmental stores, etc. who buy saffron from dalals and local traders and then sell directly to the consumers. Only 6 % of the growers were found selling their produce through channel-II. Moreover, while comparing income category within the channel-II, the percentage of the growers in the income category less or equal to Rs 64, 500 who sell their produce through channel-II is highest (13.2 %). Comparing income category between the channels reveal that the percentage of the growers in the income category less or equal to Rs 64, 500 who sell their produce through channel-V is highest (60.3 %) thereby signifying that channel-V is most popular marketing channel. Moreover, the second most popular marketing channel in the same income category viz. less or equal to Rs 64, 500 is channel-IV. But, the third popular marketing channel in the same income category is undoubtedly the channel-II.

*Channel-III: Grower-Firm-Retailer-Consumer:* This channel involves only two intermediaries between the grower and the consumer and therefore this channel may be rightly termed as highly compressed channel. Although this marketing channel is less healthy than channel-I but it is more popular than channel I and Channel-II. It is very interesting to find that while comparing income category within the channel-III, the percentage of the growers in the income category more than Rs 1, 35, 001 who sells their produce through channel-III is highest (34.3 %). Moreover, between the channel comparisons also reveal same results. Therefore, it can be concluded that high saffron income growers and high saffron growers sell their produce through channel-III.

*Channel-IV: Grower-Dalal & Local Traders-Wholesaler-Retailer-Consumer:* Although this channel involves more intermediaries than the channel-II and channel –III but it is more popular than rest of the marketing channels except channel- V. In this channel the grower uses the service of an agent middleman who is in the form of dalal or local trader for the starting point of disposal of saffron. The agent middleman may in turn sell it to wholesaler who then sells it to retailer. While comparing income category within the channel-IV, the percentage of the growers in the income category less or equal to Rs 64, 500 who sell their produce through channel-IV is highest (23.5 %). However, between the channel comparisons reveal that the percentage of the growers in the income category less or equal to Rs 64, 500 who sell their produce through channel-V is highest (60.3 %). But, the next popular marketing channel in the same income category viz. less or equal to Rs 64, 500 is undoubtedly the channel-IV.

*Channel-V: Grower-Dalal & Local Traders -Firm-Wholesaler-Retailer-Consumer:* Although this channel involves more intermediaries than rest of the marketing channels but it is foun d to be the most popular saffron

marketing channel. Within as well as between the channel comparisons reveal that it is the most popular saffron marketing channel. Within the channel comparisons reveal that the percentage of the growers in the income category less or equal to Rs 64, 500 who sell their produce through channel-V is highest (60.3 %). Between the channel comparisons also reveal same results. Like channel- IV in this channel also the grower uses the service of an agent middleman who is in the form of dalal or local trader for the starting point of disposal of a good. The agent middleman may in turn sell it to the firm who then sell it either through wholesaler or through retailer.

*Channel-VI: Grower-Firm-Wholesaler-Retailer-Consumer:* Although this channel involves more intermediaries than the channel-II and channel-I but it is more popular than channel-II and channel-I, nevertheless, this channel may be rightly called fairly compressed channel largely due to the absence of dalals and local traders. It is very interesting to find that while comparing income category within the channel-VI, the percentage of the growers in the income category more than Rs 1, 35, 001 who sells their produce through channel-VI is highest (23.9 %). However, between the channel comparisons reveal that the percentage of the growers in the income category more than Rs 1, 35, 001 who sells their produce through channel-III is highest (34.3 %). But, the next highest percentage being that of channel-VI.

*B. Saffron income and marketing channel liaison (link)*

TABLE II INCOME_ MAGNITUDE * DISPOSAL OF SAFFRON THROUGH MARKETING CHANNELS

| | | | Disposal of saffron through marketing channels | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|
| | | | **Channel I** | **Channel II** | **Channel III** | **Channel IV** | **Channel V** | **Channel VI** | |
| **Income_ Magnitude** | <= 64500.00 | Count | 2 | 9 | 0 | 16 | 41 | 0 | 68 |
| | | % within Income_ magnitude | 2.9% | 13.2% | 0.0% | 23.5% | 60.3% | 0.0% | 100.0% |
| | 64501.00 - 135000.00 | Count | 7 | 3 | 6 | 13 | 32 | 5 | 66 |
| | | % within Income_ magnitude | 10.6% | 4.5% | 9.1% | 19.7% | 48.5% | 7.6% | 100.0% |
| | 135001.00+ | Count | 4 | 0 | 23 | 11 | 13 | 16 | 67 |
| | | % within Income_ magnitude | 6.0% | 0.0% | 34.3% | 16.4% | 19.4% | 23.9% | 100.0% |
| Total | | Count | 13 | 12 | 29 | 40 | 86 | 21 | 201 |
| | | % within Income_ magnitude | 6.5% | 6.0% | 14.4% | 19.9% | 42.8% | 10.4% | 100.0% |

*Source: compiled by author in SPSS

**NOTE:** P-Value is the measure of the strength of evidence against the null hypothesis. As P-Value tends to Zero (→0) there is greater evidence against the null hypothesis which is to say that there is less evidence to accept null hypothesis. Therefore, it may be rightly said that there is an inverse relationship between P-Value and evidence against the null hypothesis.

If P-Value < 0.01 there is very strong evidence against the null hypothesis.
If 0.01 < P-Value < 0.05 there is strong evidence against the null hypothesis.
If 0.05 < P-Value < 0.10 there is weak evidence against the null hypothesis.

TABLE III NULL HYPOTHESIS AND P-VALUE

| Decision | P-Value |
|---|---|
| Accept | >0.05 |
| Reject | < 0.05 |

Source: 14 days Workshop on Research Methodology, 6-20 Nov, 2017, cuk.

Table II indicates that the most popular saffron marketing channel is channel-V as majority of the saffron growers sell their produce through channel-V (42.8%). Moreover, majority of the growers who fall in the income group less or equal to Rs 64500 (60.3%) and income group Rs 64501- Rs 1, 35, 000 (48.5%) respectively sell their produce through channel-V. It also reveals that the next popular saffron marketing channel is channel-IV (19.9%) followed by channel-III, VI, I and II respectively. For high income saffron growers it is channel-III which is most popular marketing channel. While as for low and medium income saffron growers it is channel-V which is most popular marketing channel.

We are interested in the results of the "Pearson Chi-Square" row. We can see in table 4 that $\chi$ (10) = 76.813, $p$ = .000

viz. < 0.05. Table 4 indicates that the relationship between income and disposal of saffron through various marketing channels is significant at 5 % level of significance. It tells us that there is statistically significant association between income and disposal of saffron through different identified marketing channels. In other words the choice of channel is dependent on the income of the grower

TABLE IV CHI-SQUARE TESTS

| Chi-Square Tests | | | |
|---|---|---|---|
| | **Value** | **d. f.** | **Asymp. Sig. (2-sided)** |
| Pearson Chi-Square | 76.813[a] | 10 | .000 |
| Likelihood Ratio | 89.827 | 10 | .000 |
| Linear-by-Linear Association | .193 | 1 | .661 |
| N of Valid Cases | 201 | | |
| a. 6 cells (33.3%) have expected count less than 5. The minimum expected count is 3.94. | | | |

**Source: compiled by author in SPSS.*

## V. RESULTS AND DISCUSSION

*A. Channels*

The main marketing intermediaries involved in saffron marketing are brokers, local traders, agents, cooperative societies, government agencies and companies (Munshi, 2001, GIAHS Saffron Site Report, Part-1, 31st May, 2012). However, the present study found less role of government in the marketing of saffron which is reflected well from six marketing channels which the present study identified, supported by the findings of Wani, Saraf &Wani (2006) and Hamid, Kachroo, Bhat &Peer (2017).

The most prevalent marketing channel in traditional saffron growing area of south Kashmir (Pampore) is grower-commission agent-wholesaler-retailer-consumer. The retailers get higher relative share in consumer's rupee (Shah, Tripati & Hussain, 2009). The present study supports the findings of these studies.

*B. Income- Channel liaison*

Between the channel comparisons reveal that channel-V is most popular marketing channel in case of low and medium income category showing that the small growers sell their produce through dalals or local traders. High saffron income growers sell their produce through channel-III. Very small portion of the high saffron income growers sell their produce to dalals. In fact, large saffron growers sell their produce to firms (Ganie & Nusrath, 2016).

## VI. SUMMARY OF THE MAJOR FINDINGS

1. Choice of channel is highly dependent on income of the saffron growers.
2. Government agencies play no role in marketing of saffron and hence its distribution remains in the hands of intermediaries who make huge profits leaving no scope for the farmers to progress.
3. Saffron market is very unhealthy because of the lengthy chain of intermediaries who take away major portion of consumer's rupee.
4. Large saffron growers or high income growers usually follow channel-IV for the disposal of the quantity of saffron produced by them because usually dalals and local traders pay them in instalments which normally doesn't affect their way of living.
5. Small growers low income growers usually follow channel-II as they usually sell their produce to dalals or local traders who then sell it to firms or retailers/wholesalers. This is largely because they want to avoid the large time lag between the selling of their produce and payment of receipts.
6. Retailers and firms enjoy maximum share in consumer's rupee.
7. Direct Marketing is most profitable for saffron growers as it doesn't involve any intermediary leaving no scope for exploitation.
8. Percentage (%) share of channel VI in Total Price Spread is higher as compared to channel II mainly because of the presence of large number of intermediaries.
9. There is a big difference between the market prices of saffron (dominated by large number of intermediaries) and the farm gate prices.

## VII. CONCLUSION

The marketing channels expropriate a substantial proportion of the profit with both the growers as well as the consumers being losers. Saffron income being highly responsive to marketing channels or income elasticity of channel being high, government should provide support to saffron growers so that their income will increase which will escalate output as well. By cooperative marketing the chains of middlemen can be eliminated and grower's share in consumer's rupee can be increased. Harmonised link or connection between the ultimate consumers and the growers can improve their monetary status and provide them with the market incentives important for the extension of this shrinking industry. Once the marketing is regularized the demand would increase and the farmers will get better incentives and subsequently divert more land for the cultivation of this crop. Saffron cultivation being highly labour intensive activity where most of the field and post-harvest operations are performed by women (Kamli & Wani,2004), special practical training to saffron growers on field and post-harvest operations and marketing activities can help in tackling the post-harvest and marketing related issues.

## VIII. RECOMMENDATIONS

1. Government should provide loan to the saffron growers at low rate of interest so that they will be free from the

clutches of local moneylenders and dalals who exploit them.

2. Government should create local outlets at each saffron village where the farmers sell their stocks directly to the consumers or the authorized buyers at fixed prices. Intervention of grower's associations, committees and organizations in this network is essential to bring the desired fruits to the farmers.
3. There should be marketing of Kashmiri saffron at national and international level. Kashmiri saffron should be exempt from taxes for export purposes till it becomes internationally strong and competitive. Kashmiri saffron should be promoted at exhibitions and trade fairs in and outside the state and the saffron growers and traders should be trained in business and communication skills and marketing. Saffron growers, traders, firms/sub-firms should be given good chance in participating in the government organized trade exhibitions, national /international conferences, seminars and workshops so that they can gain good amount of exposure.
4. Media and government help should be taken by the growers and dealers of saffron to raise public awareness about the nutritional and health benefits of saffron. This will boost the demand and increase the income levels of growers and dealers.
5. Establishment of farmer schools in villages in general and saffron growing areas in particular can help in the capacity building of saffron stakeholders. Lucas (1988) assumes that investment in education leads to the production of human capital which is crucial determinant in the growth process. Saffron growers should receive training on pre-harvesting and post-harvesting techniques of production and marketing of saffron.
6. FAO of the United Nations recognizes the fact that welfare of family farming communities is essential condition for sustainable agriculture and rural development. It is for this realization that GIAHS have been developed. Same should be realized by the government of Jammu and Kashmir, agricultural scientists, academicians, researchers and other civil society members. Jammu And Kashmir State needs to promote GIAHS site Pampore as much as possible both at national level as well as international level. Help in this regard should definitely be sought from FAO of the United Nations. Problems of saffron industry need to be discussed at different forums (Qadri, 2018).

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