



HICCUPS AND VISIONS OF THE SAFFRON INDUSTRY IN THE KASHMIR VALLEY: EVIDENCE FROM A PARTICIPATORY RURAL APPRAISAL

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Abstract

The study identified the problems and prospects of the saffron industry in the Kashmir valley using Participatory Rural Appraisal (PRA) technique namely Preferential Ranking Technique. Purposive-Stratified-cum-Snowball sampling framework was followed for selecting the respondents of the study. The primary data was collected from 40 respondents in the three saffron growing villages of Pampore namely Letpora, Ledhu and Konibal. Eighteen problems were identified namely adulteration, presence of lengthy marketing channels, low level of education, pathetic water resource management, lack of proper market intelligence, lack of proper grower associations, lack of modern marketing tools, inefficiency of National Saffron Mission, lack of scientific farming and communication gap between growers and agriculture experts cum trainers. The other problems uncovered by the field survey are high cost of labor, high cost of corm, poor or no knowledge about plant safeguard methods and increasing production, lack of extension service of agriculture university (SKUAST-K) and agriculture department of the state, low grower's share in consumer's rupee for farm produce, poor coordination among growers in general and intermediaries involved in marketing in particular and lack of employment prospects in the village. Rank Based Quotient (RBQ) was used in order to reveal the significance of problems perceived by the growers and the main informers ranging from 99.75 to 41.25. It was adulteration problem that recorded the highest RBQ value (99.75) followed by inefficiency of National Saffron Mission (98.75), presence of lengthy marketing channels (93.25) and low grower's share in consumer's rupee for farm produce (92.25) respectively. As far as other problems are concerned, they scored low RBQ. On the basis of PRA of the sample villages, the present study argues that the main problems of the saffron industry need to be addressed at national as well as international level. Moreover, National Saffron Mission needs to be revitalized and extension education, that is participatory by letter and spirit, needs to be imparted to saffron growers so that they may improve their livelihood.

Key words: hiccups, visions, saffron industry, participatory rural appraisal, preferential ranking technique, rank-based quotient.

Introduction

Horticulture is the backbone of the J&K economy. The majority of the population is reliable on the horticulture sector particularly, saffron. Over the years, horticulture emerged as an important sub-sector of agriculture, proposing a wide range of varieties, choices and opportunities to the growers for crop diversification. And the most important horticulture crop that has higher efficiency and marketing stadium is saffron (Ganie and Nusrath, 2016). More than 10,000 farm families of 226 villages are directly or indirectly linked with saffron whose cultivation is highly labor-intensive where most of the field and post-harvest operations are carried out by

women (Kamli and Wani, 2004). There are more than 95,000 farm families in Iran & India who are strongly linked with saffron (Nehvi, F.A., Koul, L.G., and Wani, 2008) for that reason, efforts are to be made to increase the production and income of saffron which has its bearing upon the decision making of marketing channels. Iran's continuous efforts for area expansion under saffron and phenomenal export growth (90%) during the past many years provides a robust and enough satisfactory evidence of its growing market for saffron in the world which can be tapped effectively for Kashmiri saffron, on condition that the production, marketing and trade are improved considerably.

In the agricultural business, profitability is a function

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of the choice of proper marketing channels and the size of landholding. The economic growth and development of many developing nations of the world are very much dependent on agricultural production and growth (Stamm, A., Jost, C., Kreiss, C., Meier, K., Pfister, M., Schukat, P., and Speck, 2006). There is no denying the fact that India's agriculture is also heavily dependent upon the agriculture sector (Acharya, 1998). As far as saffron marketing in Jammu and Kashmir is concerned the growers have many channel choices to sell their produce such as direct marketing, informal involvement and formal involvement in the market. However, informal markets dominate the entire scene. Under informal markets, there are unofficial communications between growers and intermediaries. On the other hand, formal markets clearly demarcated grades, quality standards, certifications and safety regulations. In addition, under formal market structure prices are properly set (Grimsdell, 1996). Small saffron growers find it very difficult to penetrate the formal markets as they cannot grade, pack and store the products at the individual level (Zaki, 2002) due to high transaction costs, high risks, missing markets and lack of collective action (Jari, 2009).

Saffron growers face many problems due to various causes such as small landholding (Munshi, 2002) causing fall in the production and productivity levels, incidence of large number of intermediaries bringing about price and quality distortions, traditional cultivation practices (Kubrevi, S.S. and Khare, 2006; Masood, Badrul, Muzaffar, Teixeira and Kirmani, 2010). Saffron is very delicate to treatment and usage since it is a functional food-grade spice and it has to undergo a sequence of food wellbeing endorsements. The industrial infrastructure is very poor in our state which is why Kashmiri saffron is processed outside the state thereby adding the current pool of problems. Likewise, adulteration is the most important problem which has a multiplier effect on the prevailing marketing problems in saffron industry. It has dwindled our industry and made loss to both growers and state. But, still then the growers and dealers don't realize the negative repercussions of this shameful act. Apart from these, saffron growers are facing severe problems with regard to the marketing information and know-how. They are also unaware of modern marketing tools, strategies and themes like excellence, branding and packaging, delivery plan, communication skills, after-sales-tune up, feedback etc. Accordingly, they fail to compete with their corresponding person outside the state. It is a matter of great concern predominantly given the fact that the graph of the saffron industry in Jammu and Kashmir State is decreasing at an increasing rate.

Objectives :

1. To highlight the nature and significance of participatory rural appraisal approach in agriculture development.
2. To highlight the problems and prospects of the saffron industry in Kashmir valley.

Materials and Methods

The present study is based on both primary as well as secondary data. It adopted *Purposive Stratified-cum-snowball sampling* for the selection of respondents. There are ten districts in the Kashmir valley and out of 10 districts saffron is prominently cultivated in district Pulwama and district Budgam. District Pulwama was selected purposively because the district covers the maximum area under saffron cultivation. It comprises 7 tehsils namely, Awantipora, Pampore, Pulwama, Tral, Rajpora, Aripal and Litter. Tehsil Pampore was selected purposively because it accounts for the majority of saffron production. There are 29 villages in Pampore and out of 29 villages, 3 villages namely Letpora, Ledhu and Konibal having good amount of land under saffron cultivation were selected purposively. From the 3 selected villages, the respondents have been divided into four strata namely growers, Dalals & local traders, retailers / wholesalers and firms. From each stratum 10 respondents were selected by applying snowball sampling. In this way the sample size for the present study was 40. A well-designed interview schedule was framed in order to achieve the objectives of the present study. The sampling design for the present study is shown in fig. 2.1.

In order to identify problems in saffron industry in sample villages, with the help of socio-metric technique, 5 main informers (grower, Dalal, retailer, wholesaler and firm) were identified who were well versed with the saffron cultivation alongside village circumstances. Independently they were asked to list out the problems faced by the growers of the village concerning saffron industry. It was from each main informer that we acquired the names of growers or respondents who in reality confronted the problems itemized or listed by them. The growers recognized with the help of main informers were correspondingly asked to list out the problems encountered by them. The problems were assigned rank indicative of which problem they have a preference to put at first, second, third, fourth etc. Unrelenting this progression, until 40 growers were identified for the study. By communicating with these growers, a series of problems were noted down. Furthermore, incidence of growers for various ordering or ranking of the problems was estimated. In order to find out the significance of problems observed by the main informers and growers, rank based

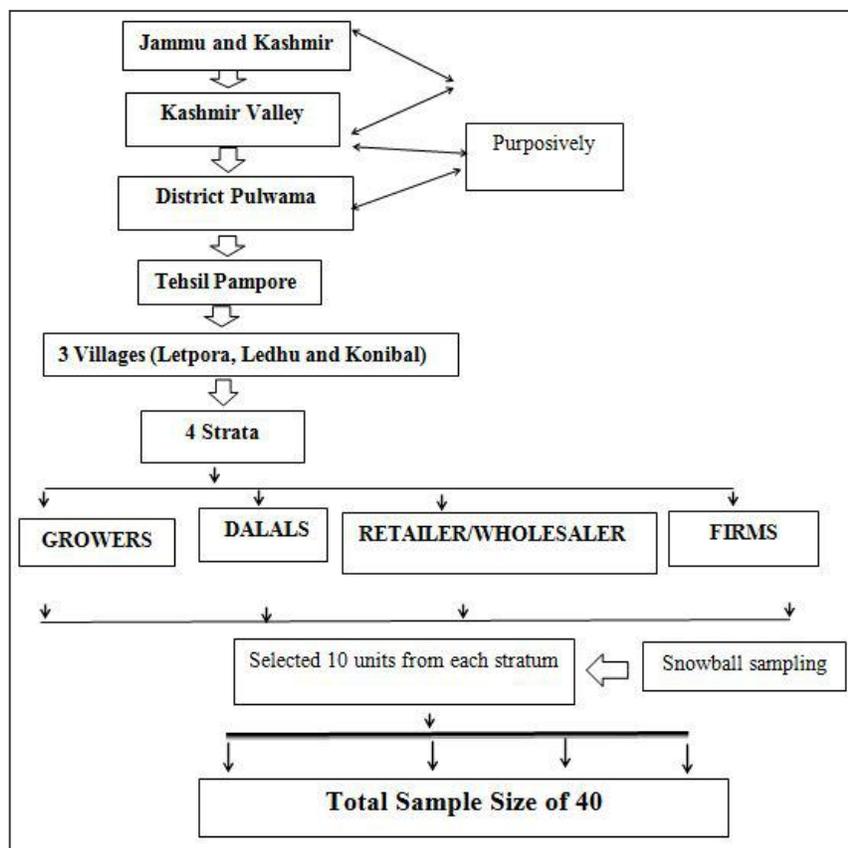


Fig. 2.1: Sampling Design flowchart

quotient was used for which the formula is as given below:

$$RBQ = \sum_{i=1}^n \ln(F_i) \div (n+1-i) \div Nn \times 100$$

Where, F_i is the incidence or rate of recurrence of growers/main informers for the i th rank of the problem. n and N are the maximum number of ranks assigned for numerous problems by a grower among all the communicated growers and number of respondents, respectively.

Nature and significance of Participatory Rural Appraisal

Participatory Rural Appraisal (PRA) is a practise and approach at the same time for cooperating and making contacts with villagers with the aim of being sympathetic to them and gaining wisdom from them. As a result, in order to meet the needs of present generation without compromising the needs of future generation, it helps to measure the sentiments and opinions for the allocation of resources and rank the main concerns, to record all the evidence and formulate a design of action. Preferential Ranking Technique, one of the best and important constituent of Participatory Rural Appraisal, is far and wide used tool to detect the problems of a village in agricultural field surveys and line up the problems and fix plan of action for unravelling the identified problems.

Amongst various tools of Participatory Rural Appraisal (PRA), it designates a budding galaxy of methods to empower local folks to share, improve and evaluate their understanding of life and environments, to design and to perform. Furthermore, Participatory Rural Appraisal is embedded in forward-looking participatory research, rapid rural appraisal (RRA), agronomic ecology analysis, pragmatic anthropology and field study on rural farming systems. In addition, participating ways and means take account of transect strides, mapping and demonstrating, matrix recording, seasonal datebooks, trend and change breakdown, wealth and welfare classification and logical cum diagnostic graphical illustration. With the help of Participatory Rural Appraisal we are able to manage natural resources, carry sustainable development, bring a balance in different sectors, alleviate poverty, generate efficacious public line-ups, improve health and meet food security goalmouths.

The essence and acceptance of Participatory Rural Appraisal are comparatively illuminated by the unforeseen systematic yet critical capabilities of local people when facilitated by tranquil empathy and articulated through series of sharing and expressly chromatic systems. As a consequence, when compared with traditional methods, it displays high cogency and consistency of evidence shared by local people to endowing local experts. The circulation of Participatory Rural Appraisal has been imaginative and horizontal involving flow from developing to developing countries by way of learning by doing and learning by experiences with the aid of varied local tools coupled with behavioural changes. The graph of Participatory Rural Appraisal has been monotonously increasing which is why maintaining quality is a challenge in the presence of institutional side and lengthy channels of distribution. Likely and favourable possibilities in Participatory Rural Appraisal embrace research institutes, farming systems and substitutions to typical field surveys (questionnaire in particular). In addition, they offer checking, watching, appraisal and horizontal spread by local folks, empowerment of the poor and policy analysis. The practical implication of Participatory Rural Appraisal is change in individual behavior and outlooks and change

in logistic beliefs. It matches and reverberates with paradigm swings in both natural sciences and social sciences, including environmental science and moral science.

Results and Discussion

Identification of problems

As already discussed, preferential ranking technique, one of the utmost operational approaches of PRA, was used in the present study for finding the main problems of saffron industry in Kashmir valley. In this respect, eighteen (18) problems were uncovered. These were adulteration, presence of lengthy marketing channels, low level of education, pathetic water resource management, lack of proper market intelligence, lack of proper grower associations, lack of modern marketing tools, inefficiency of National Saffron Mission, lack of scientific farming, communication gap between growers and agriculture experts cum trainers. In addition, we find other problems associated with this trade such as high cost of labor, high cost of corm, poor or no knowledge about plant safeguard methods and increasing production, lack of extension service of agriculture university (SKUAST-K) and agriculture department of the state, low grower's share

in consumer's rupee for farm produce, poor coordination among growers in general and intermediaries involved in marketing in particular and lack of employment prospects in the village (see Table 4).

Estimation of Rank Based Quotient (RBQ)

Different problems are listed out in Table 4 which are based on the ranks given by the respondents and main informers. For each problem, the rank based quotient (RBQ) was first calculated and then presented in Table 4 ranging from 99.75 to 41.25. It was adulteration problem that recorded the highest RBQ value (99.75) followed by inefficiency of National Saffron Mission (98.75), presence of lengthy marketing channels (93.25) and low grower's share in consumer's rupee for farm produce (92.25) respectively. As far as other problems are concerned, they scored low Rank Based Quotient.

Prospects of saffron industry

• *Functional Spice*: Certainly saffron is a functional spice (Assimopoulou, Sinakos and Papageorgiou, 2005) for the reason that it is widely used in food and constitutes part of world class traditional serving dishes across world, especially from a number of Mediterranean countries (Winterhalter, P. and Straubinger, 2000). In addition, it is

Table 4: Values of Rank Based Quotient for the problem identified in sample villages.

S.No	Problems	Rank Based Quotient (RBQ) value
1	Adulteration	$(12 \times 10 + 18 \times 9 + 6 \times 8 + 3 \times 7 + 2 \times 6 + 0 \times 5 + 4 \times 4 + 0 \times 3 + 10 \times 2 + 0 \times 1) \times 100 / (40 \times 10) = 99.75$
2	Presence of lengthy marketing channels	$(11 \times 10 + 17 \times 9 + 8 \times 8 + 4 \times 7 + 3 \times 6 + 0 \times 5 + 0 \times 4 + 0 \times 3 + 0 \times 2 + 0 \times 1) \times 100 / (40 \times 10) = 93.25$
3	Low level of education	$(13 \times 10 + 0 \times 9 + 7 \times 8 + 0 \times 7 + 4 \times 6 + 0 \times 5 + 0 \times 4 + 11 \times 3 + 5 \times 2 + 0 \times 1) \times 100 / (40 \times 10) = 63.25$
4	Pathetic water resource management	$(18 \times 10 + 0 \times 9 + 5 \times 8 + 0 \times 7 + 4 \times 6 + 0 \times 5 + 0 \times 4 + 9 \times 3 + 2 \times 2 + 15 \times 1) \times 100 / (40 \times 10) = 72.5$
5	Lack of proper market intelligence	$(17 \times 10 + 0 \times 9 + 0 \times 8 + 0 \times 7 + 5 \times 6 + 0 \times 5 + 0 \times 4 + 15 \times 3 + 14 \times 2 + 0 \times 1) \times 100 / (40 \times 10) = 68.25$
6	Lack of proper grower associations	$(9 \times 10 + 0 \times 9 + 4 \times 8 + 0 \times 7 + 5 \times 6 + 0 \times 5 + 0 \times 4 + 10 \times 3 + 6 \times 2 + 0 \times 1) \times 100 / (40 \times 10) = 48.5$
7	Lack of modern marketing tools	$(8 \times 10 + 0 \times 9 + 3 \times 8 + 2 \times 7 + 4 \times 6 + 0 \times 5 + 0 \times 4 + 9 \times 3 + 5 \times 2 + 0 \times 1) \times 100 / (40 \times 10) = 44.75$
9	Inefficiency of National Saffron Mission	$(16 \times 10 + 15 \times 9 + 9 \times 8 + 4 \times 7 + 0 \times 6 + 0 \times 5 + 0 \times 4 + 0 \times 3 + 0 \times 2 + 0 \times 1) \times 100 / (40 \times 10) = 98.75$
10	Lack of scientific farming	$(15 \times 10 + 0 \times 9 + 5 \times 8 + 0 \times 7 + 5 \times 6 + 0 \times 5 + 0 \times 4 + 0 \times 3 + 0 \times 2 + 0 \times 1) \times 100 / (40 \times 10) = 55$
11	Communication gap between growers and agriculture experts cum trainers	$(14 \times 10 + 0 \times 9 + 9 \times 8 + 0 \times 7 + 3 \times 6 + 0 \times 5 + 0 \times 4 + 0 \times 3 + 0 \times 2 + 0 \times 1) \times 100 / (40 \times 10) = 57.5$
12	High cost of labor	$(7 \times 10 + 3 \times 9 + 10 \times 8 + 0 \times 7 + 0 \times 6 + 0 \times 5 + 0 \times 4 + 0 \times 3 + 4 \times 2 + 5 \times 1) \times 100 / (40 \times 10) = 47.5$
13	High cost of corm	$(2 \times 10 + 7 \times 9 + 11 \times 8 + 3 \times 7 + 0 \times 6 + 0 \times 5 + 0 \times 4 + 0 \times 3 + 4 \times 2 + 0 \times 1) \times 100 / (40 \times 10) = 50$
14	Poor or no knowledge about plant safeguard methods and increasing production	$(6 \times 10 + 9 \times 9 + 12 \times 8 + 2 \times 7 + 0 \times 6 + 0 \times 5 + 0 \times 4 + 0 \times 3 + 0 \times 2 + 0 \times 1) \times 100 / (40 \times 10) = 62.75$
15	Lack of extension service of agriculture university (SKUAST-K) and agriculture department of the state	$(7 \times 10 + 5 \times 9 + 4 \times 8 + 2 \times 7 + 6 \times 6 + 0 \times 5 + 0 \times 4 + 0 \times 3 + 0 \times 2 + 0 \times 1) \times 100 / (40 \times 10) = 49.25$
16	Low grower's share in consumer's rupee for farm produce	$(18 \times 10 + 13 \times 9 + 9 \times 8 + 0 \times 7 + 0 \times 6 + 0 \times 5 + 0 \times 4 + 0 \times 3 + 0 \times 2 + 0 \times 1) \times 100 / (40 \times 10) = 92.25$
17	Poor coordination among growers in general and intermediaries involved in marketing in particular	$(4 \times 10 + 5 \times 9 + 3 \times 8 + 2 \times 7 + 7 \times 6 + 0 \times 5 + 0 \times 4 + 0 \times 3 + 0 \times 2 + 0 \times 1) \times 100 / (40 \times 10) = 41.25$
18	Lack of employment prospects in the village	$(13 \times 10 + 2 \times 9 + 4 \times 8 + 5 \times 7 + 1 \times 6 + 0 \times 5 + 5 \times 4 + 0 \times 3 + 0 \times 2 + 0 \times 1) \times 100 / (40 \times 10) = 60.25$

Source: field survey

used in textiles as well (Alonso, Zalacain and Carmona, 2012). It is used in various perfumes and creams and evidence can be seen from Romans (Giaccio, 2004).

- *Trickle-down effect*: The upshot or outcome of economic growth on the frequency of poverty is called trickle-down effect. Saffron has a trickle-down effect and for that reason it has beyond doubt many prospects at state, national and international level. Due to its great soundness and exposure to trickle-down theory, it has instigated the government authorities and the dealers to provide a vent for some of the major social and economic problems of the state (Mir, 1992).

- *Cumulative demand*: The healing and pharmaceutical attributes of saffron have been emphasized in a number of studies and research papers (Shah, Mir, Matoo, Dar and Beigh, 2017). Saffron has a major use in Ayurveda and herbal medications to upkeep a dynamic global drive for improving quality of life and leading a fit and active living that is gaining impetus which results in snowballing the demand substantially apart from an increase in its use as a functional spice for cooking purposes. The demand would upswing further once there is an improvement in production and marketing to bridge the gap between demand and supply. Furthermore, saffron has also found use in the wine industry. Some varieties and brands of wine use saffron as the main ingredient to provide a special flavour and sell at a first-class price. The rapid growth and development in the wine industry being observed in India after the ban on producing intoxicating drinks were lifted in the country has unlocked yet another prospect or opportunity for raising the consumption levels of saffron (Nehvi, Koul and Wani, 2008). Because of its greater inherent features, Kashmiri saffron will beyond doubt have an upper hand over the imported and adulterated saffron (Wani, Saraf and Wani, 2008). Many Herbal and Ayurveda companies use saffron as raw material. Patanjali Company, one of the leading FMCG (fast moving consumer goods) Company in India, uses saffron as one of the main raw material. The demand for saffron is rising day by day with the growth and progress of all the big FMCG industries.

- *Mounting international trade*: International trade is a necessary condition for the growth and development of a business enterprise. It creates a link between trading partners and help in the development of rapport. There is no denying the fact that behind the process of international trade in a developing country like ours are a series of economic reforms, especially agricultural reforms. With the help of several reforms, Iran has increased area under saffron during the last many years and exports 90% of its total production. This single-handedly is responsible

for a resilient and adequate indication of its developing market for saffron in the world which can be passed over efficaciously for Kashmiri saffron, on condition that the production, marketing, quality and exports are enhanced meaningfully. Literature shows that the countries which don't produce saffron are also exporting saffron thereby showing its growing international trade. Export of saffron is considered a vital component of value-added growth of the agriculture sector (Mehdi and Reza, 2012).

- *Extension lead of saffron in non-traditional areas*: The observation and at the same time misconception of saffron being extremely location-specific and not open to cultivation in other settings in the state has in the meantime been removed after saffron was grown efficaciously in uplands or Karewas of Srinagar and Budgam districts of Kashmir province. This unbolts up a countless scope for area extension on a large scale in the well-drained Karewa lands of non-traditional areas available in Baramulla, Sopore, Handwara and Kupwara etc. districts of Kashmir province; Kishtwar and upper areas in Udhampur districts in Jammu province; and Leh and Kargil districts of Ladakh region. These should be exploited after location-explicit pilot studies are conducted by the government in broad-spectrum and Sheri Kashmir University of Agricultural Sciences and Technology of Kashmir (SKAUST), in precise form, to assess the cropping performance and then normalize crop handling and regulatory strategies apt to every single situation (Nehvi, Koul and Wani, 2008).

- *Farmer's Openness*: The most important crops of the state of Jammu and Kashmir are rice, maize and wheat. The demand and supply cavity in agriculture in Jammu and Kashmir is increasing at an increasing rate but the production level is increasing at a decreasing rate. And for enhancing agricultural productivity on a sustainable basis, improving Seed Replacement Rate (SRR) is an important component. It is very good that agriculturalists and ranchers of the state having a trade-off with other food, marketable and viable crops have shown a great receptiveness to the modern techniques of production for augmenting production, processing, marketing and exports to fetch better prices. This is obvious from the remarkable success achieved in improving the production and productivity levels of paddy in particular and vegetables, decorative crops and fruits in general and above all the revolution brought about in the dairy industry and apple industry in the state. This shows a good sign for investments in saffron industry in the state, exploiting the strengths already mentioned above (Nehvi, Koul and Wani, 2008). SWOT Analysis is an

acronym for strengths, weaknesses, opportunities and threats and is a structured planning method that evaluates these four elements of an organization, project or business venture. A SWOT analysis can be carried out for Saffron industry so as to specify the objectives of the saffron business venture and identifying the internal and external factors that are favourable and unfavourable to achieve that objective.

Conclusion

The saffron business is full of hiccups or problems identified well by Participatory rural appraisal technique which is highly dependent upon cooperation and contacts with villagers with the intention of being compassionate to them and attainment of wisdom from them in order to improve their income, production and market. But, at the same time saffron has very high prospects and for that reason, government and the concerned bodies should provide great financial support along with skill development programmes and training to saffron growers and all the stakeholders associated with this trade directly or indirectly so that they will take advantage from this trade and improve their living. Saffron farming is very much labour intensive in nature where most of the ground and post-harvest tasks are performed by females (Kamli, S.A., and Wani, 2004), superior hands-on practical training to saffron growers on the field and post-harvest operations can help in improving the area, production and productivity levels which at present are very unfavourable. Furthermore, such practical demonstrations and training can help in tackling the post-harvest and marketing related problems and in fact they will have a capacity to do away with all the problems highlighted by the present study.

Recommendations

- It has been found that fragile water resource supervision and untimely channelling lead to water scarcities. There is no denying the fact that our saffron is world famous for its deep-down quality but it lacks proper water accessibility which is why level of production and productivity is low. Consequently, if suitable water facility is made available, it will be possible to obtain high levels of production and productivity thereby improving trade competitiveness.

- Saffron is very luxurious and high priced cash crop which create great temptation among some dealers to adulterate it with low graded material such as weeds, oil, etc. and bleach it all bloodshot to make it as clean as possible. As a result, bad quality saffron drives good quality saffron out of the market and thus worsening the market of saffron. Strong action should be taken against adulterants who malign the image of the very crop and

create superficial product as well as demand and then sell the stocks at different prices to different buyers. In this way such unscrupulous folks promote price discrimination.

- Growers should be educated and trained in ISO standards and food security norms. With the help of grower associations and cooperatives, growers should create such a grading structure that will check the quality and reassure observance to such standards.

- Adequate market information, value addition, proper market infrastructure and grading affect the choice of marketing channels (Panda and Sreekumar, 2012). Growers need to be provided with better market facilities so as to make their decision regarding marketing channels better and convincing. As a result, we can improve the length of marketing channels which at present is very long and therefore, unhealthy.

- Choice of marketing channels among growers depends upon both technical and institutional factors like education and training, market infrastructure, road infrastructure, processing centres, assured markets etc. The poor the institutional and technical factors are, the higher will be the difficulties for growers in marketing their produce through organized and unorganized markets (Jari, 2009). Saffron market being loaded with chain of intermediaries are poorly institutionalized and have technical errors on field and post-harvest level. Therefore, in order to improve the marketing efficiency of saffron and growers' share in consumer rupee these institutional and technical factors should be given top-most priority and steps should be taken to improve the quality standards and safety levels of saffron as presently there is a lack of Standardization, Certification and Quality Assurance in saffron in most of the producing and trading countries of the world.

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