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The Production and Problems of Saffron Industry in Jammu And Kashmir- A Brief Analysis

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ABSTRACT:
High quality saffron (crocus sativus kashmirianus) is produced in the Kashmir valley. It is among the most important business pursuits in Kashmir's rich cultural legacy. The Kashmir Valley is indeed renowned for its production of high-quality saffron, specifically a variety known as "crocus sativus kashmirianus." This region's saffron has gained recognition for its distinct flavour, aroma, and vibrant colour, making it highly sought after in both domestic and international markets. Saffron cultivation has a rich heritage in Kashmir, with a history that dates back centuries. The process involves planting and cultivating the saffron crocus flowers, carefully harvesting the delicate saffron stigmas (often referred to as threads or strands), and then drying and packaging them for various culinary and medicinal uses. The saffron threads are known for their use in flavouring and colouring various dishes, as well as in traditional medicine and cosmetics. This study aims at studying the cultivating practices, reasons responsible for its production, declining, steps taken by the state and central government in saving this crop from extinction threats. Besides this, the study also analyses its economic viability and access the various problems which hinder its progress as well as prosperity.

KEY WORDS: - Saffron, Productivity, Progress, Kashmir

I. Introduction:

Saffron is an important crop in Jammu and Kashmir, known for its special aroma and used as a powerful flavouring and colouring agent. The land under saffron cultivation in Kashmir is about 5,707 hectares, with more than 90% in Pampore tehsil of Pulwama district in South Kashmir, while the rest is in central Kashmir's Budgam and Srinagar districts. However, the production of saffron has drastically declined by 68% over the past two decades, and the area under saffron cultivation has shrunk at a fast pace from around 5,707 hectares in 1996 to the current level. In the past, saffron was cultivated on a large scale in rural areas of district Pulwama, but due to different constraints in saffron cultivation, growers shifted to other horticultural crops, and today the saffron crop is confined to the Pampore and its adjacent areas. The low yield has become a deterrent for farmers, and many of them have already shifted to other high-yielding crops like apples and walnuts. However, there is some good news for saffron growers in Jammu and Kashmir. According to recent reports, the per-hectare production of saffron has increased manifold, and the National Saffron Mission, launched in 2010, played a pivotal role in the substantial increase in saffron production. The annual yield of saffron in Kashmir crossed 13 metric tonnes in 2020 for the first time in 10 years, and the production was quite encouraging during the last harvesting season due to favourable temperatures and initiatives undertaken by the government.

Saffron production in Jammu and Kashmir faces several problems that hinder its progress and prosperity (Taufique M., et. al., 2017). Some of the major issues associated with saffron cultivation in the region are: Lack of irrigation: Saffron requires a specific amount of water for its growth, and the lack of proper irrigation facilities is a significant problem in the region (Taufique M., et. al., 2017). Declining production: The production of saffron has been declining in recent years due to various factors such as climate change, soil degradation, and pests and diseases (Ganaie D. B., et. al., 2019). Lack of market intelligence: There is a lack of good market intelligence for saffron in Jammu and Kashmir, which affects the pricing and marketing of the crop (Qadri B., 2021). Propagation difficulties: Saffron is a triploid crop and fails to produce seed upon selfing or crossing. It is propagated by daughter corms produced from the mother corms, which can be a limiting factor in its cultivation (Rather A. M., et. al., 2022) Efforts are being made to address these

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problems and improve the saffron industry in Jammu and Kashmir. For example, the government has initiated various schemes and programs to provide better irrigation facilities and promote saffron cultivation in the region (Taufique M., et. al., 2017). Additionally, research is being conducted to develop new varieties of saffron that are more resistant to pests and diseases and can be propagated more easily (Rather A. M., et. al., 2022)

History of Saffron

The word "saffron" has multiple linguistic origins, and it's a testament to the historical trade routes and interactions between various cultures. The Arabic word "asfar" (أصفر) does mean "yellow," and it's the root from which the term "saffron" was derived. Saffron's vibrant reddish-orange color is a significant characteristic, and this connection to the colour yellow likely contributed to the naming of the spice. The medieval French term "safran" too had its part in the evolution of the term "saffron." The term "safran" can be traced back to the Latin word "safranum" or "safranum," which itself was influenced by the Old French term "safran" and ultimately from the Arabic "asfar." This demonstrates how the word evolved as saffron's use and trade spread across regions and cultures. In Sanskrit this aromatic species is known as "Kunkin" and "Kesarnard" and "Kung" in Kashmiri. The spice saffron has the tremendous uses from flavouring industries, biological properties like anticancer and antioxidants. At present it is confiding to districts of Pulwama, Budgam, Srinagar, Kishtiwar and Doda. However, Pulwama district occupies a prominent place. Saffron has deep roots in various cultures and languages, and its names in different languages reflect its cultural and historical significance. In Sanskrit, saffron is referred to as "Kunkuma," "Kesara," and "Kunkumavarna," and these names highlight its connection to color and aroma. Similarly, in Kashmiri, saffron is known as "Kung," which is a reflection of its presence and importance in the region. Saffron's diverse uses extend beyond just its culinary applications. It indeed possesses various biological properties that have piqued interest in the fields of medicine and health.

Khrew, Ladoo, Lethpora, Dussu and Koil constitute the main saffron producing areas, accounting for 78% of total area under saffron in the state. These areas are known for their ideal climatic and soil conditions that are conducive to saffron cultivation. Here's a bit more information about these major saffron-growing regions:

- **Khrew:** Khrew is located in Jammu and Kashmir's Pulwama district. It is one of the key saffron-producing areas in the region. The favourable altitude, soil type, and climate of Khrew contribute to the cultivation of high-quality saffron.
- **Ladoo:** Ladoo is another saffron-producing region in the Pulwama district. Like Khrew, Ladoo benefits from the suitable geographical and environmental conditions required for successful saffron cultivation.
- **Lethpora:** Lethpora is also situated in the Pulwama district. Its elevation and climate make it an important saffron-growing area. The tradition of saffron cultivation in this region has been passed down through generations.
- **Dussu:** Dussu is located in the saffron hub of Pampore area which also falls within the Pulwama district. Pampore is considered the saffron capital of India and is renowned for producing some of the finest saffron in the world. Dussu is an integral part of this saffron belt.
- **Koil:** Koil is yet another region in the Pampore area that is known for its saffron cultivation. The combination of suitable altitude, soil type, and climate contributes to the quality of saffron produced here.

TAXONOMY

Domain	Eukarya
Kingdom	Plantae
Division	Magnoliophyte
Class	Liliopsida
Order	Asparagales
Family	Iridaceae
Genus	Crocus
Species	Sativus
Sub-species	kashmirianus

OBJECTIVIES OF THE STUDY:

1. To evaluate the function of saffron production within Jammu and Kashmir's economy.
2. To examine the various issues and difficulties encountered by saffron industry.
3. To analyse certain remedial measures and steps taken by central and state government to tackle the related issues and problems.

II. RESEARCH METHODOLOGY

The study paper has relied exclusively on the secondary data which has been collected from various sources like J&K Economic survey, Spice Board of India, Govt. of India & GK, different magazines, newspapers. The result of it is shown in the form of suitable statistical diagrams and maps.

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Secondary data, derived from existing sources like government reports, surveys, publications, and other documented information, can provide valuable insights into various aspects of the saffron industry in Kashmir.

Table 1: Annually Trends in Area, Production, Productivity of Saffron (Jammu and Kashmir)

Year	Area (ha)	Production (metric ton)	Yield (kg/ ha)
1997	5707	15.95	2.8
1998	4161	12.88	3.13
1999	2880	7.65	2.27
2000	2742	3.59	1.88
2001	3075	0.3	1.57
2002	2989	6.5	2.96
2003	2928	5.15	1.66
2004	2436	6.86	3.75
2005	3110	7.04	1.63
2006	3130	6.5	2.25
2007	3010	8.2	2.15
2008	3000	7.7	2.5
2009	3280	9.46	2.34
2010	3785	9.55	2.5
2011	3790	9.85	2.52
2012	3674	10	2.72
2013	3674	11.5	3.13
2014	3674	15	4.08
2015	3674	9.6	2.61
Total change in %	**-35.62**	**-39.81**	**-6.78**

Source: Jammu and Kashmir Agriculture Department, Jammu and Kashmir ENVIS and Deputy Director, Planning Department, UT of J and K.

Table1.1 Area under saffron in J&K (2010)

District	Area under saffron (ha)	% of total area
Pulwama	3200	84.54
Budgam	300	7.92
Srinagar	165	4.35
Kistiwar	120	3.17
Total	3785	100

Source: Directorate of agriculture J&K

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District wise area under saffron in J&K 2010.

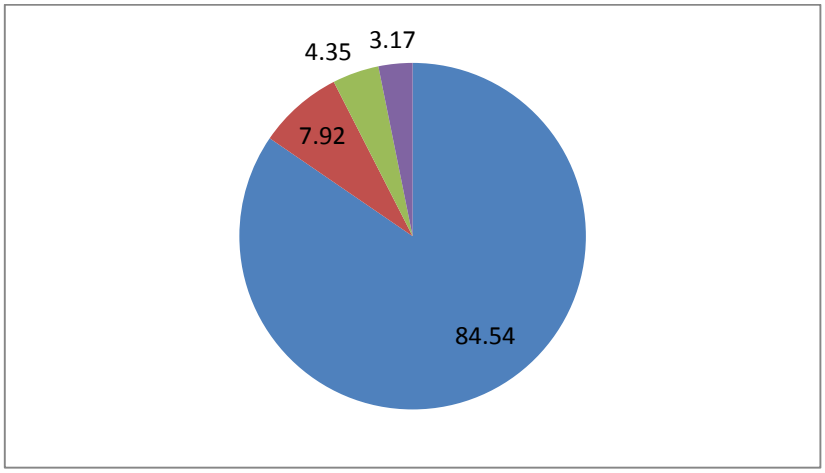

Figure1: Source: Directorate of agriculture J&K

The table 1.1 clearly shows that Pulwama district is the leading producer of saffron in J&K and contributes approx. 85% of total production among the following 4 districts mentioned in the table 1.1 The table 1 clearly displays that overall area under saffron during the year 1997 was 5707 hectares of land with an annual production of 15.95 MT & productivity of yield 2.8 kg per ha (table 1), the highest area ever under this saffron cultivation. However, the area and the production declined sharply. Moreover, the area declined by 52.5% in 2001-02 in comparison to 1996-97. Although thereafter, it should slight increase in 2004-05, but still it is 45% less than that in 1996-97. This year 2001-02 was the worst with lowest ever production as 300 kg for the whole state.

Table 2: District- wise area, production & productivity of saffron in J&K (mean-values of last 5 years 2000-05)

District	Area (in ha)	Production (MT)	Yield (kg/ha)
Pulwama	2346(74.64)	4.41(70.12)	1.88
Budgam	507(16.13)	1.27(22.88)	2.50
Srinagar	210(06.68)	0.38(05.54)	1.80
Doda	80(02.50)	0.20(02.91)	2.50
total	3143(100)	6.26(100)	2.17(avg)

NOTE: Figures in brackets denote % of total value
Source: Directorate of agriculture J&K Divisions

Table 3.1: No. of families engaged in saffron & holding size in J&K

District	No. of families
Pulwama	9,000
Budgam	1,227
Srinagar	732
Doda	5,310
Total	**16,269**

Source: Deputy director, planning department J&K

Table 3.2: Holding size

Class	Percentage household
Below 0.5 ha	61
0.5-1.0 ha	26
1.0 ha and above	13

Source: deputy director, planning department J&K

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The table 3.1 suggests that more than 16,000 families are engaged in saffron cultivation.
The table 3.2 shows that out of the total 61% of holdings are below 0.5 ha, 26% size of holdings between 0.5- 1.0 and rest 13% having holding size above 1.0 ha.

MAJOR CONSTRAINTS TO THE SAFFRON PRODUCTION IN J&K

1. Longer planting cycle of 9 -15 years as compared to annual planting in Italy,5 to 6 years cycle in Spain, Greece and Iran.
2. Absence of irrigation:- It attributes to the low production and low productivity.
3. Improper marketing:-It is highly unorganised and is mainly in the hands of private brokers (Dalalas).
4. Planting of corms without proper fungicide treatment.
5. Non- application of organic manures as against a carpet of well decomposed manure applied in European countries.
6. Unscientific post-harvest practices.
7. Adulteration:- A major extreme and rampant malpractice making it a major constraint in reviving saffron cultivation inside the kingdom..

III. SUGGESTIONS:

1. Establishment of more sector nurseries must be done.
2. Adoption of integrated nutrient supply and management practices (INSAM).
3. Introduction of post-harvest technology for flower picking, pistil separation, etc.
4. Enrolling progressive saffron growers as registered seed corn growers.
5. Improve post-harvest handling practices by launching awareness campaign among the farmers.
6. Elimination of middle-man (Dalalas) and frame strategy by means of which, the productwill be sold directly in the markets.
7. Reallocation of factories within the saffron production area or in its peripheries.

IV. CONCLUSION:

J& K is having an enormous capability of cultivation of saffron in the course of the world. As it is evident from the above study, despite it provides a large share to the economy of J&K, it is not entirely free from problems. Several drawbacks highlighted in the study gives saffron industry a huge setback. Moreover, to save this crop from extinction, the govt. support is the need of an hour. Saffron is indeed a valuable crop with significant economic potential. However, there seem to be challenges and drawbacks that are impacting its growth and sustainability. Government support is often crucial in addressing these issues and ensuring the prosperity of the saffron industry.
Some common challenges that saffron cultivation faces include:

1. Labour Intensiveness: Saffron cultivation is highly labour-intensive, as the flowers need to be hand-harvested. This can lead to labour shortages and increased costs.
2. Climate and Weather Conditions: Saffron requires specific climate and weather conditions to thrive. Changes in these conditions due to climate change or other factors can affect saffron production.
3. Pests and Diseases: Saffron plants are susceptible to various pests and diseases that can significantly reduce yields. Effective pest and sickness management strategies are vital.
4. Market Demand and Price Fluctuations: Saffron is a high-value crop, but its market demand and prices can be volatile. This can affect the income of saffron farmers and the overall profitability of the industry.
5. Lack of Modern Farming Techniques: The adoption of modern agricultural practices, such as efficient irrigation methods and improved crop management, could enhance saffron yields and quality.
6. Infrastructure and Processing Facilities: Adequate infrastructure for processing and storage is crucial to maintain the quality of saffron and meet market standards.
7. Research and Innovation: Continuous research and innovation are needed to address the challenges facing saffron cultivation, improve crop yields, and develop new varieties.
8. Support for Farmers: Training and education for saffron farmers, as well as access to financial resources and subsidies, can encourage greater participation in saffron cultivation.
9. Export and Marketing: Promoting saffron in international markets and ensuring proper branding can help expand its reach and increase export opportunities.
10. Government support can take various forms, including:
11. Research and Development Funding: Governments can allocate funds for research to develop disease-resistant saffron varieties, efficient cultivation techniques, and improved processing methods.
12. Infrastructure Development: Investment in processing and storage facilities, as well as

improved irrigation systems, can support saffron farmers.

13. Training and Education: Government programs can provide training and education to saffron farmers on best practices, pest management, and modern farming techniques.

14. Financial Assistance: Subsidies, low-interest loans, and financial incentives can help saffron farmers invest in their crops and address financial challenges.

15. Market Promotion: Government initiatives to promote saffron domestically and internationally can boost market demand and increase the value of saffron products.

16. Policy Support: Favourable policies related to land use, water management, and trade can create a conducive environment for saffron cultivation.

It's important to consider the specific context of Jammu and Kashmir and collaborate with experts, local communities, and relevant stakeholders to tailor government interventions effectively.

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