



## Decline of Saffron Production in Kashmir

**For Prelims:** [Saffron](#), [Geographical Indication \(GI\) Tag](#), North East Center for Technology Application and Reach.

**For Mains:** Government Policies & Interventions, Saffron Cultivation and its Importance.

**Source:** DTE

### Why in News?

The [Saffron fields of Kashmir](#), known for producing the **world's costliest spice**, are facing a severe crisis due to the **encroachment of cement factories**.

- Despite ranking as the **second-largest saffron producer globally**, with an average annual production of 11-12 tonnes, after **Iran**, the region's saffron industry is weakening, presenting economic challenges for local farmers.

### What Factors Contribute to the Decline in Saffron Production?

- **Proximity to Cement Factories:**
  - Cement factories in close proximity to saffron fields emit **large volumes of dust**, damaging both **quality and quantity** of saffron yield.
    - Saffron fields in Pulwama, have witnessed a **60% decline in cultivation in the last 20 years due to cement pollution**.
- **Impact of Cement Dust:**
  - Delicate **saffron flowers are adversely affected by cement dust** containing harmful gasses like [nitrogen oxides](#), [sulphur dioxide](#), and [carbon monoxide](#).
  - Large volumes of cement dust also results in **decreased chlorophyll**, clogged **stomata** (tiny pores in plant tissue that allow for gas exchange) in leaves, interrupted light absorption and gas diffusion, inducing **early leaf fall and resulting in stunted growth**.
    - Cement dust negatively impacts **crocin responsible for the color of saffron) content, affecting color, medicinal properties, and cosmetic benefits** of Kashmiri saffron.
- **Environmental Factors:**
  - **Climate change**, unexpected rainfall, and land diversion for housing and industries contribute to reduced saffron production.
    - Usage of machines for ploughing also affects saffron cultivation, which is highly dependent on a favorable climate.
- **Lack of Government Intervention:**
  - Farmers have **resisted the establishment of cement factories** near saffron fields since 2005, citing environmental concerns.
    - Despite protests and appeals, authorities have permitted cement industries to operate in close proximity to saffron cultivation.
- **Market Challenges:**

- Saffron farmers face financial difficulties as the **spice's market becomes less lucrative**.
  - Farmers express concern over declining prices, quantity, and quality, leading to a bleak future for the industry.

## What are the Key Facts About the Kashmiri Saffron?



### ▪ Saffron Production and Price:

- Saffron production has long been restricted to a limited geographical area in the Union territory of Jammu & Kashmir.
  - **Pampore region**, in India, commonly known as **Saffron bowl of Kashmir**, is the main contributor to saffron production.
- The saffron spice, extracted from the **stigma (male reproductive part)** of the saffron flower (***Crocus sativus L.***), is known as kong in Kashmiri, zaffran in Urdu, and kesar in Hindi.
  - Kashmiri kesar is highly valued, selling at Rs 3 lakhs per kilogram.
  - A gram of kesar is obtained from approximately 160-180 flowers, requiring extensive labor.

### ▪ Season:

- In India, saffron Corms (seeds) are cultivated during the **months of June and July** and at some places in **August and September**.
- It starts flowering in October.

### ▪ Cultivation Conditions:

- **Altitude:** Saffron grows well at an **altitude of 2000 meters above sea level**. It needs a photoperiod (**sunlight**) of **12 hours**.
- **Soil:** It grows in many different soil types but thrives best in calcareous (soil that has calcium carbonate in abundance), **humus-rich and well-drained soil** with a pH between 6 and 8.
- **Climate:** For saffron cultivation, we need an explicit **climatological summer and winter** with temperatures ranging from no **more than 35 or 40°C** in summer to **about -15 or -20°C in winter**.
- **Rainfall:** It also requires adequate rainfall that is **1000-1500 mm per annum**.

### ▪ Crocin Content and Color:

- **Kashmiri kesar contains 8% of crocin**, while the rest of the varieties contain 5-6% of the element.

### ▪ Benefits of Kashmiri Saffron:

- It is known for **medicinal properties** such as lowering blood pressure, treating anemia, migraines, and aiding insomnia.
- Possesses **cosmetic benefits**, enhancing skin quality, reducing pigmentation, and minimizing spots.
- Integral part of **traditional dishes** and it is widely used in beverages, confectionery, dairy products, and food coloring.

▪ **Recognition:**

- In 2020, the central government granted a [Geographical Indication \(GI\) certification](#) to saffron grown in the Kashmir Valley.
- Saffron Heritage of Kashmir is one of the [Globally Important Agricultural Heritage systems \(GIAHS\)](#).
  - GIAHS are agroecosystems where communities maintain a close relationship with their territories. These resilient sites, marked by **agrobiodiversity, traditional knowledge, and sustainable management**, involve farmers, herders, fisherfolk, and forest people, contributing to livelihoods and food security.
  - The [Food and Agriculture Organization](#) of the [United Nations](#) has recognized over 60 such sites worldwide through its GIAHS Programme.

## Initiatives in India to Promote Saffron Production

▪ **National Saffron Mission:**

- The NSM was launched in 2010-11 to support the cultivation of saffron in Jammu and Kashmir. The mission was part of the [Rashtriya Krishi Vikas Yojana \(RKVY\)](#) and aimed to improve the socio-economic status of the people living in Kashmir.

▪ **North East Centre For Technology Application and Reach (NECTAR):**

- It is an autonomous body under the **Department of Science & Technology**, Government of India supported a pilot project to explore the feasibility of **growing saffron in the North East region of India**, with the same quality and higher quantity.

## Way Forward

- Implement and enforce **strict environmental regulations** to mitigate the impact of cement factories on saffron fields.
  - Ensure regular **monitoring and penalties for industries** contributing to pollution near saffron cultivation areas.
- Facilitate **collaboration between the government and saffron growers** to address concerns and find sustainable solutions.
- Support initiatives for **diversifying the livelihoods of saffron farmers**, offering alternative sources of income.
- Allocate funds for **research and development** in saffron cultivation, focusing on creating varieties resilient to environmental challenges.
  - Invest in **technology** that minimizes the impact of pollutants on saffron crops, ensuring sustainable growth and maintaining quality.

## UPSC Civil Services Examination Previous Year Question (PYQ)

**Q. The FAO accords the status of 'Globally Important Agricultural Heritage System (GIAHS)' to traditional agricultural systems. What is the overall goal of this initiative? (2016)**

1. To provide modern technology, training in modern farming methods and financial support to local communities of identified GIAHS so as to greatly enhance their agricultural productivity.
2. To identify and safeguard eco-friendly traditional farm practices and their associated landscapes, agricultural biodiversity and knowledge systems of the local communities.
3. To provide Geographical Indication status to all the varieties of agricultural produce in such identified GIAHS.

**Select the correct answer using the code given below:**

- (a) 1 and 3 only
- (b) 2 only
- (c) 2 and 3 only

(d) 1, 2 and 3

Ans: (b)

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