

Harvesting Red Gold in Afghanistan

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Can the world's most expensive spice replace the deadliest drugs? New initiatives are helping to promote saffron cultivation in Afghanistan, with striking results.



Some 50,000 years ago it was used in cave paintings and 5000 years ago traders brought it from Crete to Sumer, in modern day Iraq. It was considered so sacrosanct that its adulteration could lead to execution in the medieval period.

Today it's the world's costliest spice. It is Saffron or Red Gold.

It's so expensive in the market that the government of Afghanistan is working with ICARDA to promote Saffron cultivation as a potential

alternative to poppy crop.

Saffron offers a viable and legal alternative to thousands of Afghan farmers economically dependent on poppy cultivation to make ends meet. Development organizations too have realized the importance of saffron and are actively promoting it amongst farmers in Herat and other provinces.

Funded by the UK's Department for International Development (DFID), ICARDA's saffron program is a joint initiative in partnership with Afghan Ministry of Agriculture,

Irrigation and Livestock, and the Center's implementing partners under the RALF Program: Danish Committee for Aid to Afghan Refugees (DACAAR, a consortium of Danish NGOs), Washington State University, and Catholic Relief Service.

The glitter

A kilogram of saffron fetches US \$ 1000 to 1200 in Herat. This could go higher when production increases and farmers gain direct access to the markets. Today, Afghan saf-

The sweet smell of profit

Saffron comes from the purple saffron crocus (*Crocus sativus*), which blooms only for two or three weeks in autumn. Each flower carries three reddish-orange stigmas. The flowers are picked by hand, the stigmas are removed, dried, and sold. It takes 150,000 flowers, and over 400 hours of labor, to produce a single kilogram of dried saffron. Saffron is available in filament form (intact stigmas) or as powder. Powder is much cheaper, but also easier to adulterate.

Saffron is used in cooking as a seasoning and coloring agent. Formerly, it was also used as a fabric dye, in perfumes, and in herbal medicine; modern science is beginning to rediscover some of these medicinal properties such as anti-cancer properties (for cancer therapy).

Annual global production is around 300 tons, of which Iran produces over 90%. In the West, high-quality saffron retails for well over US\$ 11,000 per kilogram.

from reaches the international market through Iran, India, Dubai and Pakistan, but is not sold as an Afghan product.

Analysis of cost and revenue data collected from farmers in Pashtun Zarghun in Herat province indicates that saffron gives far higher returns than most crops, even more than poppy.

Red Gold in Afghanistan

Area under cultivation in 2007	90 ha
Total number of Saffron growers in 2007	1100
Average yield	10 kg/ha
Total production in 2005	640 kg

Saffron has many advantages when compared with poppy. The growing season for it is from mid-September to mid-May and the active growth period is from October to the beginning of December. Thus, saffron does not compete for irrigation and labor with other crops during the cropping period that is from March to August. The crop requires only two irrigations, which is ideal for farmers with small land holdings and little access to water.

The saffron crop provides employment opportunities to women, as they play an active role in its cultivation, harvesting and processing. A well established saffron industry would empower women.

But, saffron needs a long-term commitment. The bulbs remain in the soil throughout the year, for several years. Some farmers will be unwilling to tie up their best fields for long periods, especially for a relatively new crop. Interestingly saffron offers profits even on less than prime lands.

Another challenge in making saffron widely cultivated is the high initial investment. Many farmers may not be able to make the initial investment to buy flower bulbs. The government would need to step in to provide support.

In spite of some growers being unable to find enough family labor and having to depend on paid labor, interest is growing rapidly and government agencies are unable to supply enough bulbs to meet demand.

Strengthening capacity

About 1100 farmers grow saffron today, but only 700 of them produced it for sale in 2006. In 2006, the saffron yield suffered a setback in Pushtun Zarghun because of a prolonged rainy period, which hampered harvest. A project survey in Herat province showed that over 80% of farmers grow at least small quantities of saffron every year, for household use.



Afghan farmers learning the proper method of separating the stigmas from flowers.

Quality improvement could scale up production and that could be achieved through establishing farmers' cooperatives.

The ICARDA-led project has established links with saffron research centers in Iran, which will provide training to Afghan farmers on seeding methods (corm selection), crop management, and harvesting and drying methods.

The method of drying is important to enhance quality. In accordance with ISO 3632 Standards, the key quality characteristics are as follows:

Moisture....12%
 Flavor (picrocrocine test)....70
 Aroma (safranal) 20-30
 Color strength (crocin).....190.



Mullah Akbar, known as "Baba-e- Zafaran" is a pioneer saffron farmer in Pashtun zarghun District of Herat.



Afghan government officials from the Ministry of Counter-Narcotics evaluating the intercropping of saffron and fruit trees in Herat.

The challenge before the farmers is the marketing of the produce. Without proper marketing channels, farmers will either be unable to access potential markets, or be forced to sell to traders at a fraction of the eventual retail price. DACAAR, a key project partner, is helping to strengthen the capacity of Afghan saffron traders to enable them to compete in international markets.

The project's capacity building efforts also target research and extension staff from Afghan universities and the Ministry's Provincial Departments. Gradually, a platform is being built, for the development of a sustainable, profitable saffron industry in Afghanistan.

Building a national platform

A national workshop in Herat in November 2006 helped consolidate the progress and prepare the ground for further expansion. More than 100 stakeholders (including 21 women) participated: Ministry staff, saffron growers and their associations, corm bank associations, traders, five Afghan universities (Herat, Kabul, Kandahar, Balkh and Paktia), Washington State University, the Ministry of Counter Narcotics, FAO, NGOs, donor agencies, and others.

The conference made 14 recommendations for a national strategy on saffron, agreed upon by producers, government agencies, and ministry representatives. One key output: the National Saffron Coordination and Support Committee was established shortly after the conference, led by the Ministry of Agriculture and Irrigation. The Committee will coordinate the work of different ministries and research institutions on issues such as production, quality standards, import/export regulations, and marketing.

The new strategy aims to consolidate and disseminate results from various saffron projects, and resolve specific technical issues e.g. quality control standards for exports, phytosanitary requirements for import of bulbs. There are plans to expand demonstration trials in different parts of the country, provide support to producer cooperatives, and establish village-level service centers for cleaning and drying of saffron.

It will be some years before the saffron industry in Afghanistan can compete with global heavyweights. But the enormous potential, and the enthusiasm of local communities, is reflected in a statement by Najia Latif, a woman farmer from

Pashtun Zarghun: "With the money I earned from selling saffron last year, I bought carpets for my home and new clothes for my children. I also bought medicine to treat a serious health problem – I could never afford these things before."

Women and Saffron

Women's role in household livelihood

In villages most of the women are assisting their family through livestock rearing and small income generation activities like embroidery, which do not fulfill their need for income. Recently, however, saffron production in villages has generated job opportunity for the women in and out of their homes. According to an estimate, 80 % of the saffron processing is done by the women and this may contribute to increasing their income level. Women activities in saffron production and processing:

- Help in land preparation and planting of saffron bulbs
- Collection of saffron flowers from the fields
- Separation of the stigmas from the flowers
- Drying saffron
- Packing of saffron

In order to promote the activities of women in production and processing of saffron, DACAAR has offered the following facilities to date.

- 250 women have been trained in saffron production and processing
- Facilitating meetings for women to exchange their ideas and



Afghan women harvesting saffron flowers in Herat Province (mid-november 2006).

experiences

- Holding of field-days for women
- Providing proper facilities for saffron drying

- Changing mind and attitude of men towards women
- Influencing the men by women not to grow poppy

Economic impact on women

- Providing independent income sources for women
- Providing licit job opportunities for women
- Promoting self dependability among women
- Contribution to overall livelihood of the household especially the women
- Promoting self reliability and self confidence among the women

Problems of women saffron growers

- Inaccessibility to saffron market
- Unavailability of specialist women in production and processing of saffron
- Lack of knowledge related production and processing of saffron
- Cultural barriers
- Lack of proper equipment for processing and packing of saffron
- Lack of coordination between women saffron growers

Socio-culture impact of saffron on women

- Creating participation opportunities for women
- Improving women social relationship with the others through frequent meetings

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