

Poverty Alleviation In Afghanistan With Special Reference To Saffron Cultivation and Related Employment Opportunities

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ABSTRACT

Agriculture has long been seen as the primary driver of Afghanistan's economic growth. Saffron production was promoted by the Afghan government as a means of achieving economic development while also lowering the country's widespread opium cultivation by giving required support to its farmers through saffron farmer service centers. Saffron is the world's most valuable and costly spice. It is made from the stigma of the saffron crocus flower (*Crocus sativus* L.), which is harvested and dried to make the spice. Saffron is a high-value worldwide product that complements Afghanistan's agriculture sector's market-driven approach. Additionally, it is a commodity that may increase women's economic participation and productive jobs outside the house. The research investigates how the cultivation of saffron in Afghanistan aids in creating jobs and alleviating poverty.

Purpose: The paper aims to understand saffron cultivation trends and their economic importance also the employment opportunities that Saffron creates.

Methodology: The research methodology is desk research which involved a review of existing literature on saffron cultivation in Afghanistan and data collected from Comtrade and others. This study utilized both quantitative and qualitative methodology. The results from the data collected show that saffron has great potential in Afghanistan and could serve as an economic booster if developed. This research paper discusses the saffron labor market and its market structure, the difficulties saffron producers face, and the importance of saffron to the Afghan economy.

Findings: Saffron farming has progressively spread across Afghanistan over the last decade. According to Afghanistan's National Export Strategy (2018-2022), more than 11,000 farmers are involved in farming around 5,200 hectares of saffron plots in Herat Province, which is Afghanistan's saffron production center. Afghan Safran's export value has continued to rise, reaching US\$17 million as of 2016. This was due to a 36 percent annual increase in exports over the last five years. A kilogram of saffron (about 450,000 stigmas) takes about 40 hours to produce and workers are estimated to collect 10 kgs of saffron flowers per day on average, earning them approximately AFN 25 (US\$0.38) per kg, or \$4 to \$6 per day.

Research limitations: Owing to the Taliban's present occupation of Afghanistan, it is impossible to predict the future of saffron in the country due to a lack of knowledge. Given that women do the majority of labor in saffron cultivation, it is questionable whether women would be able to continue working or whether this position would be moved to males..



1. INTRODUCTION

Saffron is the most expensive agricultural crop and is the only crop that is sold per gram. Its value stems from its low water requirement and the fact that once harvested it can be cultivated for five to seven years and can be harvested on infertile land. In addition to that, it can be transported easily. The Pashtun Zarghun areas and Ghorian were among the first to cultivate saffron. Saffron production in Afghanistan is currently dominated by Herat Province, which produces 90% of the country's saffron. Increased automation of saffron production does have the potential to increase land and labor productivity, as well as revenue and quality of life for farmers. Mechanization is yet to be incorporated in the production process of saffron since many Afghan farmers still plow the ground using human labor and oxen. Farmers in developing countries are also exposed to several hazards, most notably weather risks, which may impoverish farmers and their families.

Saffron was promoted as a lawful alternative to opium poppy farming since it is thought to yield similar returns. It's also a commodity with a high global value and one that fits with Afghanistan's agriculture sector's market-driven strategy. It's also been portrayed as a crop that can help women participate more fully in economic activities and contribute outside the home (Bank, 2015).

Though promoted as a substitute to opium, the crop's successful production has been limited to Herat, owing to agroecological concerns. Iran and Turkmenistan have boundaries with Herat province in western Afghanistan. Herat City, like Jalalabad in Nangarhar, has a thriving agricultural hinterland built on river-irrigated agriculture and a strategic location on the international border. It is generally depicted as one of Afghanistan's most prosperous and stable regions. It has benefited from a more open relationship with Iran in the past, and many rural households have members working in Iran who send remittances back to them. Saffron cultivation and production, according to DACCAR, is labor-intensive, needing 250 people per hectare. Saffron cultivation and production provide various job opportunities, particularly for women, who do 80% of the harvesting, picking, refining, and packaging tasks (World Bank, 2015), resulting in a decrease in poverty in Herat City. (Pashtun Zarghun and Ghorian produce more than 90% of Afghanistan's saffron) these districts in comparison to the rest of the districts mitigate migration to Iran for work prospects.

Saffron has been encouraged because of its ability to create employment, particularly for women. Each saffron harvesting season, over 5,000 women and children are engaged to clean and process saffron flowers. This labor is usually done at an apiece rate and pays much less than the work done by men, and it is usually done in locations reserved for women. This research is done to explore the economic importance of saffron to Afghanistan and to show the employment opportunities saffron cultivation creates, which thereby increases the standard of living and reduces unemployment. In addition to that, it shows how Afghanistan could aid farmers to propel the saffron industry enabling it to become more productive. This paper is based on chapters that will discuss the objectives, methodology, cultivation of Saffron, benefits of saffron and the difficulties that saffron producers face, the economic importance of Saffron cultivation for Afghanistan, and the last part focus on findings and recommendations.

Saffron Cultivation in Afghanistan

Saffron is one of the most expensive and valuable plants in the world, known for its red-gold color (Gómez-Gómez et al., 2012), and it is grown in over 30 nations. The plant belongs to the Iridaceae family, and is sold in grams and used as a natural flavoring in medicine, cuisines, and cosmetics. It has a distinctly sweet aroma, which is misleading because dried saffron has a light bitter aroma. The quantity and quality of this plant are primarily affected by the weather. Cold winters and hot summers are ideal for the development and cultivation of saffron, and a minimum of 12 hours of sunlight is required. Its flowers are picked early in the morning before the sun rises. Saffron usually grows to a height of 20-30 cm and produces 5-11 non-photosynthetic white leaves that cover and protect the crocus' 5-11 true leaves when they mature.

Purple buds bloom in autumn, and brilliantly colored flowers appear in October after most other flowering plants have finished producing seeds; saffron ranges from a delicate pastel shade of lilac to a deeper, more striated mauve. Iran, India, Afghanistan, Egypt, Morocco, Spain, and Italy are the primary cultivators of the plant. Saffron is produced in Iran, which is the world's largest producer. In 2017, Iran ranked top in the world with 336 tonnes produced, followed by India with 22 tonnes and Afghanistan with 10 tonnes, respectively. In Afghanistan, saffron has a long history. According to reliable data, saffron cultivation has a 2000-year history in Afghanistan (Ministry of Agriculture, Irrigation and Livestock of Islamic Republic of Afghanistan, 2021) However, comprehensive scientific research into saffron cultivation began in 1973 by the Ministry of Agriculture, Irrigation, and Livestock in the Ordokhan Khan district of Herat city during the time of the Late President Sardar Mohammad Dawood Khan. Unfortunately, due to the country's civil war and internal unrest, the research could not continue, and the effort was halted (Saleh, 2020). Saffron cultivation had been abandoned for 22 years until several Afghans who had been familiar with saffron planting and production in Iran returned to Afghanistan in 1991, bringing corms with them, and chose to continue the practice in the Ghoryan area.

Saffron growing resumed in Herat city in 1992, thanks to the country's good environment for the crop and its enormous economic relevance and worth. Specifically in the Pashtun Zarghun and Ghor districts, where opium growing has been practically the sole type of agricultural output undertaken by local farmers, which began with 60 square meters of land and has grown so quickly in 26 cities out of 34 and now covers over 800 hectares of land in Herat with 6.3 percent of the saffron



market and the employment of about 250 laborers per ha. The research paper tries to explore the creation of job opportunities and the eradication of poverty by the cultivation of saffron as a cash crop in Afghanistan. The research paper tries to explore the creation of job opportunities and the eradication of poverty by the cultivation of saffron as a cash crop in Afghanistan.

Saffron Labour and Market Structure

More than 70% of Afghanistan's population lives in rural areas, where agriculture is their only source of income (National Statistics and Information Authority (NSIA), 2016-17). Agriculture contributes significantly to the county's economy (second only to the service sector); as a result, authorities and international financiers have given it special attention through the production of saffron as a possible source of revenue. Saffron cultivation began with migrants from Pashtun Zarghun and Ghorian who had been involved in saffron growing in Iran, the world's largest supplier of saffron, producing 65 percent of the world's demand.

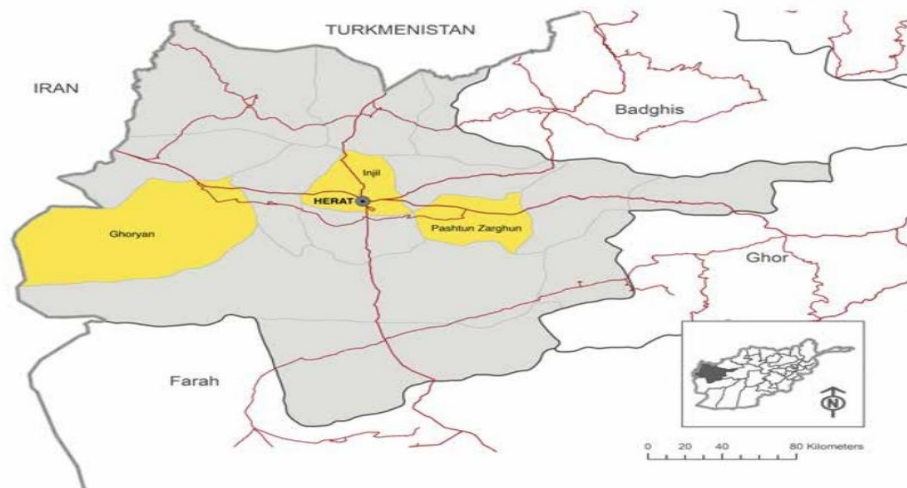


Figure 1: Herat and its districts map

Source:(Minoia & Pain, 2016)

Saffron is known as the king of the plants. It is an economic plant that, in addition to its export value, may give employment, particularly in rural regions during the off-peak season, increase farmers' income, support rural development, and generate a higher net profit than other crops (Ministry of Agriculture, Irrigation and Livestock of Islamic Republic of Afghanistan, 2021).

Every saffron harvesting season, around 5,000 women and children are hired to clean and process saffron flowers though they receive less as compared to the work done by males(Minoia & Pain, 2016). To maintain the quality of the saffron stigmas, workers, primarily women, get up as early as 4 a.m. to pluck the purple blossoms. They pull flowers off the stems rapidly yet delicately, gathering them in baskets. This process continues for the following 20 to 25 days, or until all of the saffron blooms. Saffron may be grown in a variety of climates in Afghanistan. The farmers would be saved from poverty if each had half a jerib or one jerib (0.2ha) of land for saffron an income of \$33 because it has such a high market value. As a result, many Afghan farmers may participate in it as they don't require much acreage to cultivate it.

Because saffron is indeed a crop with high capital and operating income and expenses that are only noticeable after the second year, it is much more likely to be cultivated by farm owners who could certainly meet their needs to survive, have an adequate area of land or other income sources to consider taking on capital requirements, and therefore can afford to carry risks. As a consequence, food security may be less desirable to farming families with insufficient land or with few other sources of revenue. According to Minoia and Pain, those who have been able to transition into its production have reaped significant benefits; however, they are mostly male farmers with greater landholdings. There are also cases of women who have gotten a foothold in production through inheriting land or gaining access to land through relationships or leasing.

The development of associations has been viewed as a vital tool in boosting saffron cultivation; however, these primarily focus on the production supply side, with little support for post-production and worldwide marketing. The bureaucratic procedure of formally forming an association, as well as the limitations placed on the scope of their activity, further limit them. Male groups seem to be administered by the regional feudal aristocracy, who not only provide credit to the other farmers interested in saffron cultivation, but also have strong ties to, or perhaps ownership of, the big saffron trading enterprises. Women have formed a few groups, some through wives of the male saffron associations' heads and women from houses with more land. In Afghanistan, there are around 14 enterprises and 26 saffron grower associations. However, there are three large enterprises — two in Herat and one in Kabul — that supply the majority of Afghan saffron output. It signifies that the market is highly concentrated.



The farmer receives less profit from the sale of his or her goods since the distribution channel is short. That is, there will be fewer intermediaries. Farmers should be in charge of the distribution channel/chain. Farmers in Afghanistan have little or no contact with international buyers. They sell their products through traders, who conceal crucial market knowledge to themselves to make more money at the expense of farmers. The majority of producers use the same processes to produce saffron, but the quality varies greatly from one enterprise to the next due to the lack of a certification authority that can create and enforce uniform processing and packaging norms. For example, the major product of saffron is Negin, which is mainly red, but some farmers may dry it well, while others may not process it well enough to remove the stigmas, rendering the yellow on the stigmas useless, and adding weight to this valuable product if not dried enough. Saffron farming is a simple operation that does not require a lot of capital or time to set up processing machines, for traders to create offices, or for farmers to start with a Jeri of land that requires very little water. To get out of the market, a farmer may have to wait for complete harvest seasons or risk losing the seeds. Because there is no market for specialist second-hand machinery in Afghanistan, it may be difficult for processors to sell their equipment at a reasonable price. The saffron network built over the years will vanish for traders, processors, and growers, and may be useless in other sectors or occupations. This industry's businesses lack both market research and efficient advertising. The majority of small business owners and managers are unaware of the value of marketing operations, and many do not even have a website.

Saffron's benefit for Afghanistan

Afghanistan has the most suitable weather for saffron cultivation and has the capacity to even increase the area under harvest and the production quantity as well. Today, tremendous progress has been made and saffron is cultivating at increasing rate. Saffron of Afghanistan also has the highest quality and for four continuous year the country ranked top in the world in terms of quality and falvour and third in terms of exports and production after Iran and Spain. Saffor provides ample economic input due to the highes value which it has. Farmers can earn six to ten times higher income through saffron and therefore mitigate the poverty which most of the people, speciallu farmers suffer from. Besides, saffron provides numerous job opportunities to the people and specifically for women and their families from harvesting to refining and packaging.

Difficulties faced by Saffron Producers

The marketing of Afghan saffron is still in its infancy, with Afghan saffron still being promoted as Iranian saffron. Saffron cultivation needs a medium-term maturity period, with maximum yield happening in the third year. Numerous farmers have financial difficulties and find it difficult to wait for the harvest to develop completely. As per Research, Planning, and Policy Directorate (April 2013), one of saffron growers' disadvantages is a lack of drying, sorting, and packaging expertise. They get little funding and lack training in post-harvest and hygiene standards. As a consequence, the blooms include an excessive amount of dust and sand, and their existing quality (moderate to poor) remains unmarketable in western and industrialized nations. For many farmers, obtaining corn may be difficult. Additionally, demand for Afghan saffron is restricted owing to a lack of storage facilities or an inability to speculate on price to maximize harvest value. There are currently no standardized saffron processing facilities. As a result, there is no operating laboratory for quality analysis available to farmers, organizations, cooperatives, or corporations. As a result, there is no universal curriculum for Afghan saffron, and there is a dearth of understanding about high-quality standards and certification. Inability to acquire the produce from farmers owing to a lack of cash; also, there is a lack of confidence between farmers and businessmen.

The quality and reputation of Iranian saffron, as well as China's entrance into the global saffron market via smuggled shipments into India, Iran, and Pakistan, imperil the Afghan brand's quality guarantee. Drought years are a danger to saffron production since they might result in a delay in the initial watering, lowering the quality of the saffron. International purchasers often complain about Afghan saffron's amateurish processing, which is a result of the country's absence of proper processing and testing facilities. This is a significant opportunity for investors since saffron is a unique spice whose primary qualities of color, taste, and fragrance can only be scientifically assessed in labs by skilled experts.

Development of Saffron Export Industry

The world's most expensive spice (average price of USD 1,200/kilogram) is currently produced at 230MT, with 90% cultivated in Iran and worth USD70-100 million. When saffron is limited, large price fluctuations occur immediately before harvest time. Because of the low water requirements (300mm) and a large amount of dry land available, there is plenty of room to expand Afghan production. The primary markets for Afghan saffron are Iran, India, the United Arab Emirates, France, and the United States, but saffron is not promoted as Afghan. Because it is a labor-intensive industry, Afghanistan is well-positioned to benefit from its lower labor costs (Katawazy, 2013) Shifting production to Europe or the United States would be prohibitively expensive. A large number of individuals are employed in the processing and post-harvest handling of saffron blossoms, particularly women.

Economic Importance to Afghanistan

Afghanistan is an unstable country with security concerns, limited economic development, and considerable donor participation in the economy. Poor understanding of Sharia law and customary traditions that restrict women's movement and involvement in the economy are among the obstacles to women's economic empowerment.



Afghanistan's economic and policy climate may be molded in large part in the years to come by its admission to the World Trade Organization. This will require a commitment from Afghanistan to prioritize improvements to the investment climate, which might boost public support and traction for BER reforms.

However, there is a risk that women will be excluded from the benefits of entering the WTO. There is a risk that the high number of women working in agriculture, carpets, saffron, nuts, and counterfeit items will be displaced as a result of the need to meet high WTO standards, such as Sanitary and Phytosanitary (SPS) requirements on agricultural exports and intellectual property regulations under TRIPS. To avoid this, and to ensure that women benefit from Afghanistan's WTO membership, women must be included in discussions on trade potential. They should also have access to information and capacity-building services that are suited to their socio-cultural setting.

In the research of Ghiasy et al., several donors have attempted to boost productivity in female-dominated areas of the value chain by providing supplies or training for better processes. Women's engagement in the agricultural sector, however, remains hampered by low pay: they are frequently paid less than children or not at all. Whatever compensation women receive is subject to male capture, discrimination, and sabotage farther up the supply chain, and it is rarely enough to help them overcome systematic enslavement or gain control over the market processes to which they are subjected. In the case of saffron manufacturing, donors have aided the formation of the Afghan Women's Saffron Association (AWSA), which has been able to reclaim some of the saffron markets from a male-dominated oligarchy. In Afghanistan, some female-owned value chains have arisen thanks to donor support.

Agriculture is frequently identified as the sector that has the greatest potential for job creation and economic effect in rural Afghanistan, which is home to more than 80% of the impoverished. As of 2014, the agricultural sector employed 40% of the labor force, but much of this work is low-productivity and/or subsistence. The World Bank believes that agriculture will need to grow at a rate of 6% per year to keep up with population growth if poverty reduction is to be realized. On the ground, however, there have been no structural or long-term advances in production. Agricultural output is mostly determined by weather conditions. Thus, the sector will stay stagnant unless significant structural changes, such as irrigation are made.

Data Analysis and Findings

In this paper, the research methodology is desk research which involved a review of existing literature on saffron cultivation in Afghanistan and data collected from various but authentic sources like Comtrade and Afghanistan Ministry of Agriculture, and The National Statistics and Information Authority (NSIA) of Afghanistan. The full advantage was taken from the Afghanistan Ministry of agriculture and Comtrade website to understand the saffron trends and their economic importance in Afghanistan.

Afghanistan has had the finest quality of saffron for the past ten years, and it has been considered the greatest in the world (MEHMOOD, 2021) as the climate in the nation is favorable for healthy growth and flower output. It has great significance in the country's agricultural economy. At present Afghanistan has the 3rd position of largest saffron producer in the world and in 2019 the crop trade value was US \$ 2641619.

Table.1 shows that in the year 2010, Saffron exported was 7,920 which increased to 33,598 in 2019.

Table1. Afghanistan Saffron trade flow

Period	Trade Flow	Trade Value (US\$ million)	Commodity Code	Quantity (Ton)
2010	Export	7920000	91020	7920
2011	Export	2225000	91020	2225
2015	Export	3305447	91020	2188
2016	Export	3868724	91020	2402
2017	Export	9796882	91020	8621
2018	Export	21234727	91020	21457
2019	Export	26416119	91020	33598



Source: <https://comtrade.un.org/data>

According to table2, 2017 brought about an exponential increase in the area saffron was harvested. The area size increased from 2811 ha in 2016 to 5205 ha in 2017 which resulted in the production of 10,600kgs of saffron in the same year as compared to 6000kgs in 2017. The table also shows an increased price of saffron from \$200 in 1991-2004 to \$1600 in 2017 which is a great impact on the economy of the country as it is a cash crop and brings more income to the farmers with the least expenses on the farm planting, fertilizing, and watering fees might add up to another Afs 10,000 (\$150) every year. As previously said, harvesting begins in the second year, and labor demand for this increases in subsequent years, and as harvesting areas increase the employment opportunities per ha keep increasing as well. Table 2 indicates the number of jobs created by saffron cultivation in the country. On average, 1ha of saffron production in Afghanistan requires 250 labor days. Given the total harvested area of 5205ha in 2017, it means 1301250 job opportunities for the labor in the country. As a result, saffron cultivation and production are seen as a key role in preventing migration from rural regions or the country as a whole owing to a lack of jobs.

Table 2. Afghanistan Saffron cultivation and production

Year	Area Harvested (ha)	Employment Generations	Total Production (KG)	Average Price (USD \$)
1991-2004	16	400	60	200
2005	40	10000	150	350
2006	83	20750	240	450
2007	161	40250	400	800
2008	260	65000	900	1200
2009	306	76500	1500	1350
2010	400	100000	1700	1500
2011	560	140000	1800	1300
2012	650	162500	2700	1700
2013	730	182500	2700	1800
2014	850	212500	3145	1800
2015	1020	255000	3500	1700
2016	2811	702750	6000	1600
2017	5205	1301250	10600	-

Source: <https://mail.gov.af/en/afghanistan%E2%80%99s-saffron-media>

Table 2: indicates the trends of saffron production, cultivation, and its price from 1991 to 2017. It's observable that all the three factors, Area Harvested, Production, and the price increase meaningfully. Low water requirement, labor-intensive, simple machinery, Easy transportation, higher income, international market, short growing season, low risk, high productivity, good storage abilities (up to 2 years after drying), and gender as 80% of the work can be performed by women.

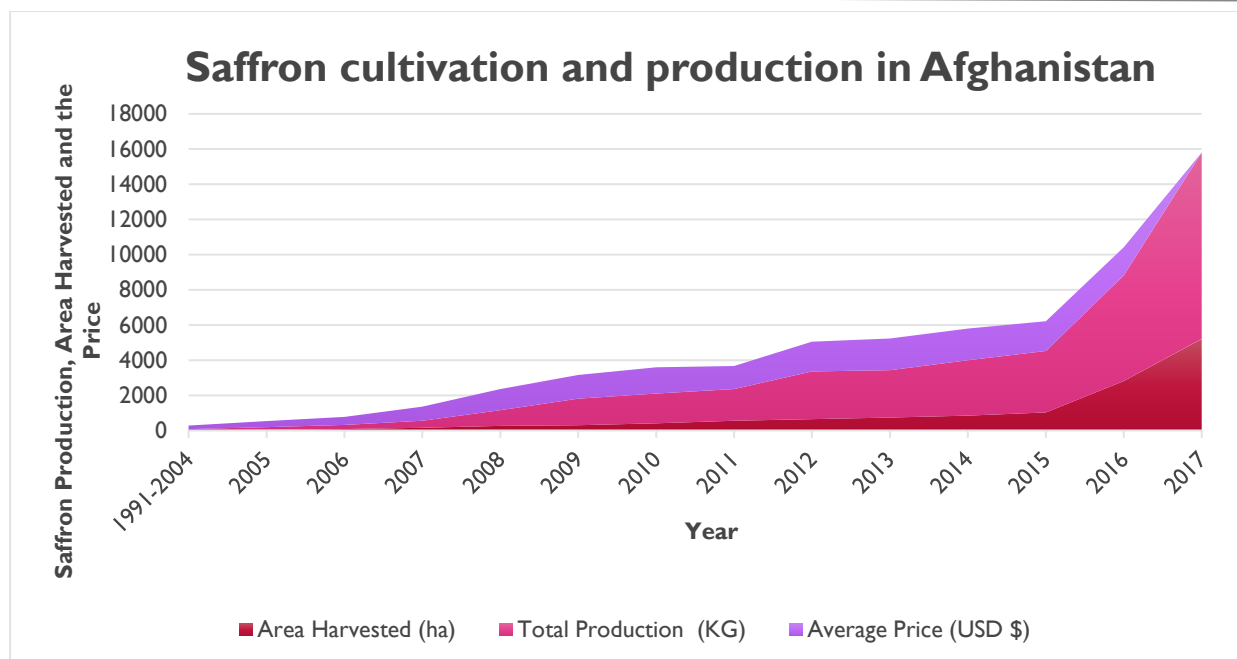


Figure 2. Afghanistan saffron trends

According to the below table, the crocus flower has an 8-year life cycle, and the bloom output is low in the first year but increases over time, peaking in the 4th and 5th years, as indicated in table 3 below.

Table 3. The life cycle of the Crocus flower

Yields of Saffron in Different Years of Field Age		
The Field Age	The yield of Flower (kg/ha)	The yield of Dry Saffron (kg/ha)
1st Year	100	1.32
2nd Year	400	3.95
3rd Year	600	7.8
4th Year	800	10.5
5th Year	1000	13.2
6th Year	700	9.15
7th Year	600	7.8
8th Year	400	5.2
Average of 8th years	565.2	7.36

2. DISCUSSION

Over the past decade, saffron growth has increased steadily across Afghanistan. According to Afghanistan's National Export Strategy (2018-2022), about 11,000 farmers cultivate over 5,200 hectares of saffron plots in Herat Province, the country's saffron producing hub. Afghan Saffron's export value has increased steadily over the years, reaching US\$17 million in 2016. This is because exports have increased by 36% annually during the previous five years. A kilogram of saffron (about 450,000



stigmas) takes roughly 40 hours to produce, and employees harvest approximately 10 kg of saffron flowers per day on average, earning approximately AFN 25 (US\$0.38) per kg, or \$4 to \$6 per day.

The Afghan saffron industry, according to the Ministry of Agriculture, is estimated to be valued between \$200 million and \$300 million. However, several recent advances in the saffron sector have suggested that the industry's growth prospects are promising. To begin, saffron production rose from ten to thirty-one provinces out of a total of thirty-four. A decade ago, saffron was produced in just one region. Second, for the third year in a row, the International Taste and Quality Institute in Brussels, Belgium, confirmed Afghan saffron as one of the finest saffron in the world. Finally, in 2017, the area under cultivation of saffron increased to almost 5,200 hectares.

Capital requirements for saffron production, on the other hand, are a significant barrier to entry in Afghanistan, where personal savings are low and access to credit is limited. Saffron growing is challenging for some farmers in Afghanistan because of the high capital needed; producers must have the finances to obtain enough saffron corms to fill a plot from the beginning. Following the purchase and planting of the corms, a saffron farmer should have sufficient savings or other sources of income to last around two years for the saffron plants to blossom in sufficient numbers for harvesting. After many years of care for the same plot of saffron plants, the maximum output is obtained. As a result, the saffron farmer earns no money during the first harvest season. Operating costs are low after a farmer has the initial money required to begin saffron cultivation. Although saffron production is labor-intensive, it is also very seasonal and needs minimal capital investment in machines. The typical lifespan of a saffron plant is seven years.

While saffron is a very profitable crop, in the long run, it also generates large earnings in the short term. Profitability is often achieved during the third year of operations, as output increases. Between the third and fifth years of cultivation, the maximum yields are obtained. Afghanistan may be able to cover the gap left by declining productivity in Europe's saffron-producing nations like Spain, Greece, and Italy. Afghanistan benefits from a vast pool of easily accessible labor, notably among female laborers. The disadvantage for Afghan enterprises is the difficulty in establishing commercial partnerships with foreign customers. Afghan saffron enterprises lack the requisite expertise and abilities for worldwide marketing. Their capacity to identify export opportunities is harmed by a dearth of market information.

Apart from a lack of institutional export assistance from commercial and public sector organizations, existing producer groups are unable to satisfy their members' expectations for desired market connections and market expertise. The bulk of data is contributed by individual companies and may or may not be vetted and dependable. It is critical to increasing awareness of market dynamics, pricing structures, and marketing methods. Additional promotion of the advantages and tariff concessions accorded by bilateral and preferential trade agreements is necessary. To overcome all of these problems, Afghan saffron dealers need assistance in discovering and engaging with business partners in major international markets.

One of the primary reasons Afghan saffron firms continue to struggle to establish a foothold in international markets is because part of the country's saffron is marketed as Iranian saffron. Iranian businessmen transport saffron corms to Afghan farmers for saffron growing regularly. Plucking the valuable saffron stigmas and transporting them to the Islamic Republic of Iran for processing and packaging. Saffron is branded as an Iranian product before being sent to Europe and other nations. According to Afghanistan's National Export Strategy (2018-2022), many Afghan saffron dealers also express concern over the industry's opposite situation, in which low-quality Iranian saffron is imported to Afghanistan, mixed with Afghan saffron, and then marketed as Afghan saffron. Both types of adulteration, perpetrated by Afghan and Iranian saffron merchants, detract from the Afghan saffron sector's overall status. Saffron smuggling between Afghanistan and Iran seems to be straightforward due to corruption and inefficiency at the Afghan-Iranian border.

Around 40% of Afghanistan's saffron is consumed domestically, with distribution through retail outlets in Kabul and Herat. The spice has a strong domestic market and is gaining popularity in Afghan cuisine, particularly among high-income families in metropolitan regions of Afghanistan, as well as in hotels and restaurants. However, Iranian saffron imported from Iran increasingly dominates the domestic market. Afghan saffron producers have a high chance of capturing market share from Iranian competitors as the Afghan saffron sector expands, particularly if local demand patterns stay stable or increase.

3. CONCLUSION AND RECOMMENDATIONS

With production rates falling to 2.89 kg per hectare (2006) when the area under cultivation was 83 hectares, and production rate continuing to fall to 2.48 kg/ha when the area under cultivation doubled to 161 hectares, it would be recommended that better farming methods should be employed to increase productivity and more labor being hired to aid in processing saffron since it's a process that takes time to do and is done manually. It takes approximately 150 flowers to have one 1 gram of saffron. This means that if more laborers are hired to harvest saffron the quantity produced would also increase.

More focus should be placed on increasing the production rate since that would influence the total output. Afghanistan would also need to strengthen its saffron marketing and branding since there are instances where Afghan saffron is marketed as Iranian. Saffron is a very valuable spice crop with a great potential for profitability in Afghanistan. Harvesting and processing take place in late fall and early winter, ensuring that saffron harvesting does not compete with other agricultural tasks for labor. Expanding Afghanistan's saffron sector will contribute to resolving unemployment and bringing in cash, among other benefits.



Some recommendations that can aid the saffron industry are:

1. Financial opportunities like providing loans at low rates to farmers should be provided to help farmers get started with saffron production and avoid being exploited by money lenders.
2. Associations and organizations should be created to network local saffron producers and assist them in selling their saffron produce in the domestic and international markets.
3. Afghan saffron needs to be promoted within Afghanistan to increase its domestic consumption, thus replacing Iranian saffron in the Afghan market.
4. Afghan saffron should be promoted at international trade fairs and exhibitions to increase its exposure to the global market.
5. Farmer's owners and their workers should be trained on the right farming methods to employ to increase productivity, hygienic guidelines in its collection and packaging, and marketing among others. Farm owners should also be trained on how to manage their farms and workers with emphasis placed on how to improve work conditions for workers since they are of high significance when it comes to cultivating saffron.

Annexes

Reasons of why Afghanistan has a suitable condition for growing Saffron

1	Low water requirement	Saffron normally only has to be irrigated once or twice a year.
2	Labor intensive	250 annual person-days per hectare
3	Simple machinery	All activities can be done by hands
4	Easy transportation	Saffron is not as cumbersome to ship to markets as other crops
5	The income cost ratio is higher than other crops	Farmers can expect to earn at least 1,000 USD per jerib annually – or 5,000 USD per hectare
6	International market	Annual increasing of demand for Saffron
7	Short growing season	There is only one month of labor required each year
8	Irrigation times and water requirement	Saffron growing season does happen at the same time with other crops and therefore does not deprive other crops of their water requirements
9	Seven years production cycle	Land preparation and cultivation is only required in the first year of the cycle
10	Low risk compared to other crops	Saffron is a drought-resistant crop and there are no specific saffron diseases in Afghanistan
11	Gender	Women can perform 80% of the work
12	Good storage time	Preserving up to 2years after drying
13	High productivity	Afghanistan's soil and climate are conducive to high saffron yields



Table 4. Spices; saffron exports by country in 2018

Spices; saffron exports by country in 2018						
Reporter	Trade Flow	Product Code	Year	Partner	Trade Value 1000USD	Quantity (kg)
Iran	Export	91020	2018	World	351,126.66	279,608
Spain	Export	91020	2018	World	55,755.04	78,898
Afghanistan	Export	91020	2018	World	21,234.73	21,458
Hong Kong, China	Export	91020	2018	World	6,203.17	10,225
France	Export	91020	2018	World	4,730.29	3,071
Portugal	Export	91020	2018	World	4,355.35	10,878
Greece	Export	91020	2018	World	4,342.55	2,396
Netherlands	Export	91020	2018	World	3,453.43	22,113
Poland	Export	91020	2018	World	3,108.20	25,589
China	Export	91020	2018	World	3,002.76	149,584
Germany	Export	91020	2018	World	2,911.03	1,643
United Arab Emirates	Export	91020	2018	World	2,339.78	
Italy	Export	91020	2018	World	1,267.40	17,318
Morocco	Export	91020	2018	World	965.39	2,698
United Kingdom	Export	91020	2018	World	854.26	119,139
India	Export	91020	2018	World	832.68	21,057
Sweden	Export	91020	2018	World	775.84	2,411
Austria	Export	91020	2018	World	748.86	577
Belgium	Export	91020	2018	World	650.49	4,860
United States	Export	91020	2018	World	521.02	16,653
Czech Republic	Export	91020	2018	World	402.59	52,029
Switzerland	Export	91020	2018	World	398.61	2,687
Singapore	Export	91020	2018	World	359.98	
Turkey	Export	91020	2018	World	217.88	9,093
Saudi Arabia	Export	91020	2018	World	133.44	11,278
Australia	Export	91020	2018	World	118.7	77
Estonia	Export	91020	2018	World	92.05	19
South Africa	Export	91020	2018	World	91.61	13,404



Table5. Afghan Export Partners

Reporter	Trade Flow	Product Description	Partner	Trade Value 1000USD	Quantity (Kg)
Afghanistan	Export	Spices; saffron	World	21234.73	21457.6
Afghanistan	Export	Spices; saffron	India	14679.97	15354.5
Afghanistan	Export	Spices; saffron	Saudi Arabia	5649.86	5293.4
Afghanistan	Export	Spices; saffron	United Arab Emirates	525.06	497.15
Afghanistan	Export	Spices; saffron	Turkey	110.21	85
Afghanistan	Export	Spices; saffron	United States	66.92	48.3
Afghanistan	Export	Spices; saffron	Germany	50.19	45.96
Afghanistan	Export	Spices; saffron	Kuwait	44.06	43.56
Afghanistan	Export	Spices; saffron	Canada	31.62	26.83
Afghanistan	Export	Spices; saffron	Spain	16.96	13.5
Afghanistan	Export	Spices; saffron	Australia	16.05	9.31
Afghanistan	Export	Spices; saffron	Qatar	10.77	10
Afghanistan	Export	Spices; saffron	Austria	6.04	5
Afghanistan	Export	Spices; saffron	China	5.02	5
Afghanistan	Export	Spices; saffron	France	4.98	5
Afghanistan	Export	Spices; saffron	Netherlands	4.65	4
Afghanistan	Export	Spices; saffron	Hong Kong, China	2.44	2.13
Afghanistan	Export	Spices; saffron	Japan	2.13	2
Afghanistan	Export	Spices; saffron	Russian Federation	1.92	2
Afghanistan	Export	Spices; saffron	Poland	1.29	1
Afghanistan	Export	Spices; saffron	United Kingdom	1.23	1
Afghanistan	Export	Spices; saffron	Switzerland	1.20	1
Afghanistan	Export	Spices; saffron	Sweden	1.10	1
Afghanistan	Export	Spices; saffron	Vietnam	1.08	1



REFERENCES

- [1] (Danish Committee for Aid to Afghan Refugees (DACCAR) , 2007), <https://nation.time.com/wp-content/uploads/sites/8/2011/09/saffronmanualforafghanistan.pdf>
- [2] (Gómez-Gómez, Lourdes Trapero-Mozos, Almudena Gómez, Maria Dolores, Rubio-Moraga, Angela Ahrazem, Oussama, 2012)
- [3] (Ministry of Agriculture, Irrigation and Livestock of Islamic Republic of Afghanistan, 2021)
- [4] (National Statistics and Information Authority (NSIA), 2016-17)
- [5] Binish Qadri. Asian Journal of Managerial Science. Examining Saffron Income and Choice of Marketing Channel Connection. ISSN: 2249-6300. Vol. 7 No. 1, 2018, pp.25-30. <https://www.trp.org.in/issues/examining-saffron-income-and-choice-of-marketing-channel-connection>
- [6] DSA_The Politics of Markets in Afghanistan. (Pg.5,8) <https://nomadit.co.uk/conference/dsa2016/paper/33603/paper-download.pdf>
- [7] Giulia Minoia, & Adam Pain. (2016). Saffron: The Social Relations of Production, Working Paper 48. https://securelivelihoods.org/wp-content/uploads/WP48_Saffron_The-social-relations-of-production.pdf
- [8] Kafi, M., Koocheki, A., & Rashed, M. H. (Eds.). (2006). Saffron (Crocus sativus): production and processing Science Publishers <https://books.google.co.in/books?hl=en&lr=&id=kO8prjfiCEC&oi=fnd&pg=PR7&dq=Iran+saffron+comprehensive+book&ots>
- [9] Ministry of Industry and Commerce Islamic Republic of Afghanistan (2018-2022). https://www.intracen.org/uploadedFiles/intracenorg/Content/Redesign/Projects/AAT/AFG_Saffron.pdf Afghanistan's National Export Strategy
- [10] Miri, S. (2007). Iran saffron comprehensive book. Haft Kharwaran Publication.(Lunsford & Zenger, 2009) (Food and Agriculture Organization of the United Nation (FAO), 2020) <https://www.fao.org/fao-stories/article/en/c/1272066/>
- [11] Richard Ghiasy, Jiayi Zhou, & Henrik Hallgren. (2015). Afghanistan's Private Sector: Status and ways forward. Stockholm International Peace Research Institute. https://www.sipri.org/sites/default/files/2016-04/SIPRI_Afghanistans-Private-Sector_Report-2015.pdf
- [12] Saleh, P. A. (2020). Identification of the Proper Time for Saffron Cultivation and its Effect on the Productivity of Saffron in Kabul. Kabul, Kabul, Department of Information: Department of Information and Public Relations of the Academy of Sciences
- [13] Tasneem Salam. (2017). Business Environment Reform and Women's Economic Empowerment in Afghanistan. Department for International Development. <https://assets.publishing.service.gov.uk/media/5c7661bbed915d354edffda1/Evidence-and-Learning-Note-Business-Environment-Reform-and-Womens-Economic-Empowerment-in-Afghanistan-May-2017.pdf>
- [14] World Bank. (2015). www.worldbank.org/en/news/feature/2015/01/20/saffron-major-source-income-alternative-poppy
- [15] Aslami, H. M. (2006). Saffron from planting to harvesting to processing. In 1st National Conference on Saffron, Heart, Afghanistan.

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