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Pistachio Market System

Northwest Syria



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Introduction

Funded by USAID, iMAP IMRC has conducted a value chain study on Pistachio in Northwest Syria (NWS) from December 2018 to January 2019. The selection of pistachio commodity has been carried out in close coordination with the Food Security and Livelihoods Cluster South Turkey Hub. This study aims to understand the current situation of the pistachio value chain in NWS, identify the impact of the crisis on the pistachio commodity, and pinpoint the main coping strategies that market actors use. This study will be shared with the FSL members to help them identify the needs, and required responses through an evidence-based approach.

Methodology

This study centered on the mapping and analysis of the pistachio market system, which entails three layers: the market environment, the market chain, and the key infrastructures, inputs and support services. The research gives a snapshot of the market system status and bottlenecks through an exploratory approach of relevant actors and dynamics. The sample size was not meant to be statistically representative, but respondents were chosen according to their relevance in the bigger picture of the market system. This report summarizes the main findings of the conducted study.

For the purpose of this study, iMAP consulted local actors in 6 subdistricts of three governorates: Ain Al Arab, A'zaz and Jarablus in Aleppo governorate, Idleb & Khan Shaykun in Idleb governorate and Suran in Hama governorate. The existence of pistachio farms, markets, processing workshops, trading routes, and different controlling actors¹ were the main reasons behind the location selection.

Data collection tools were developed by iMAP in consultation with a local data collection partner to ensure awareness of the context and avoid exposing field enumerators to any security and safety risk. A total of 53 market actors were interviewed as key informants in addition to four focus group discussion with consumers as shown in the below table.

Market Actor Type	Data collection method	Number of entries
Producers	Semi-structured individual interview	13
Processor	Semi-structured individual interview	14
Trader	Semi-structured individual interview	20
Key Informants and service providers ²	Semi-structured individual interview	6
Consumer	Focus Group Discussion.	4

¹ At the selected location there were a presence of three main actors; Syrian democratic forces, Non-state armed groups and Turkish Army Forces.

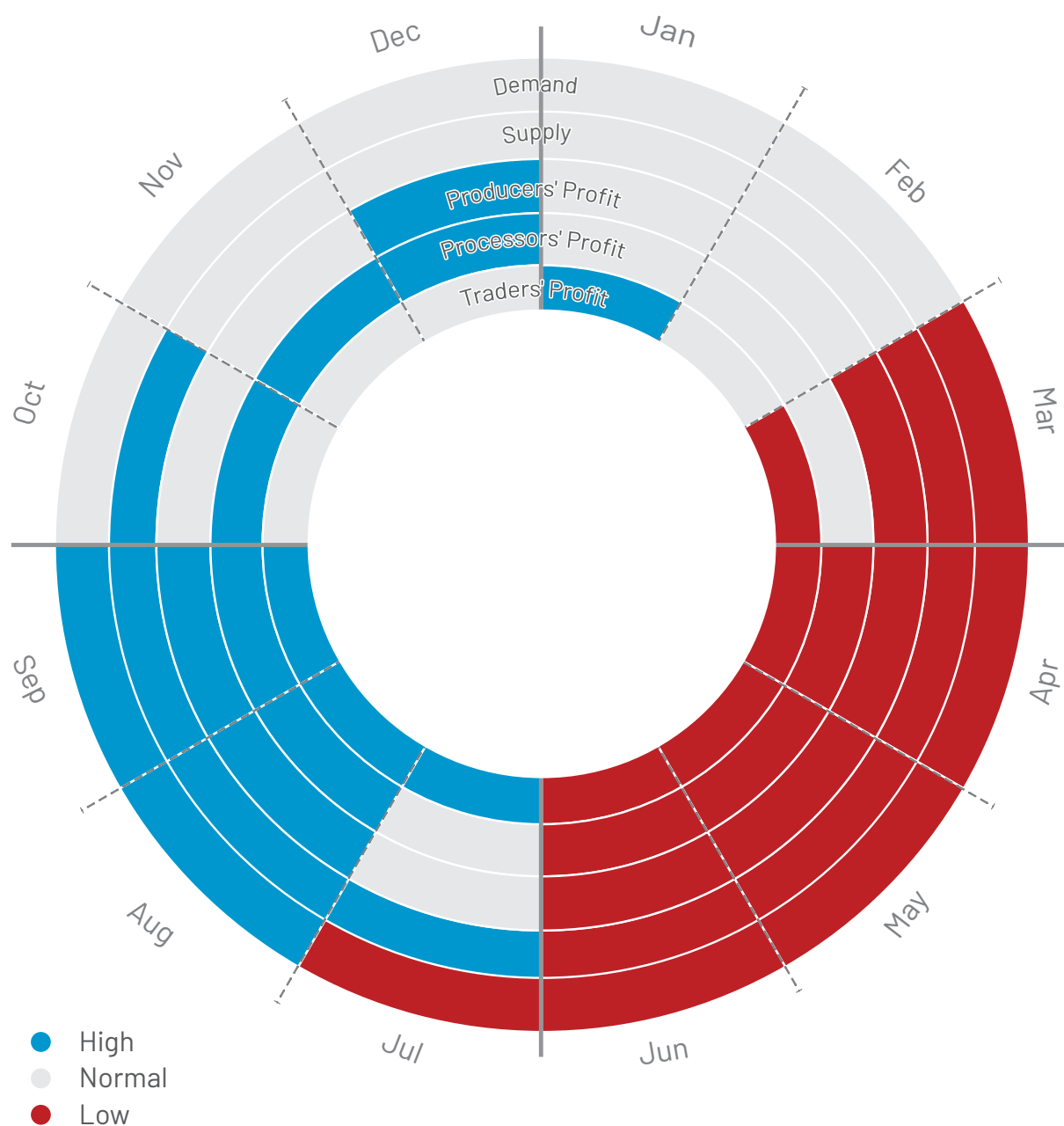
² Key Informants include local council members from agricultural committee, agricultural pharmacy, and agronomist.

Highlights

Below section highlights the main findings of this study. These findings provide an overview of the pistachio value chain during the reporting period.

- ➔ Pistachio trees need 15 years to reach the harvestable maturity and production stage, which was the main reason for the following key findings:
 - ➔ Pistachio producers show resilience behavior, and are trying their best to maintain their production;
 - ➔ The cost of halting the pistachio production is higher than continuing production despite challenges;
 - ➔ Pistachio trees are inheritable and have a social value for farmers;
 - ➔ The bombing and shelling have negatively impacted the assets of pistachio actors. Pistachio trees have been burned, and some processing factories, workshops, and warehouses were destroyed. Traders reported losing their products during shipping & transportation activities.
- ➔ Displacement caused limited access to skilled labor. Farmers reported difficulties in diagnosis and prescription for the new trees' diseases and the treatment method needed due to the limited number of agronomists.
- ➔ Market actors reported lack of humanitarian support to pistachio market actors.
- ➔ A lack of a proper governance structure and support resulted in having no clear formal rules around the work of pistachio market actors. For example, farmers lost access to subsidized fuel, fertilizers, and pesticides, and can only count on poor road infrastructures.
- ➔ With the aim to address and cope with the limited capacity of local governance structure, some local committees and initiatives have been formed (especially at A'zaz and Idlib) to support pistachio market actors. These committees provide some awareness sessions to farmers, and also play a role in solving issues among the market actors, mainly disputes that are related to price setting and quality of pistachio products.
- ➔ The quality control system has been significantly damaged. In 2011, quality control used to be carried out by GoS Directorate of Trade who was responsible for monitoring the quality and price of agricultural commodities (pistachios included). In 2018, there were no reports of quality control system in place in the opposition-held areas. Still, traders who export pistachios to the GoS-controlled areas reported that pistachio is being checked by the GoS-associated department to ensure the quality. No trader mentioned about commodities being rejected/returned due to low quality.
- ➔ The credit system has deteriorated due to the fragile security situation and the lack of trust among market actors. This had a direct impact on the volume of work and profit margin per actor. In addition, the damage in credit system brings up the financial capacity to be one of the main reported challenges by pistachio market actors and the foremost market entry barriers to the pistachio market.
- ➔ The price of 1 MT of pistachio in 2018 decreased by an average of 13 percent in comparison with the price in 2017. This could be explained by the fact that a pistachio tree, genetically, highly alternates in fruit production. It is worth mentioning that the price of 1 MT of pistachio in 2018 was ten times more than the price of 1 MT of pistachio in 2011.
- ➔ Pistachio products' price were affected by 1) the SYP/USD exchange rate fluctuation that indicates the currency depreciation, 2) change in production amount, 3) increase in the production, processing and trading cost (production cost increased from 17K to 100K SYP/MT), 4) difficulties in importing and exporting process, 5) informal taxation on checkpoints across conflict lines, 6) custom fees across borders, and 7) the fragile security situation.
- ➔ Demand of pistachio decreased at the household level, mainly because households are not able to meet their basic needs, and they do not consider pistachio as one of the basic needs. Pistachio has become very expensive; the average price of 1 KG of pistachio in 2018 represented almost 6 percent of the monthly Survival Minimum Expenditure Basket (SMEB) for the month of December, 2018.
- ➔ Demand for pistachio has been unstable according to reports. For example, demand increased where exporting is possible (both legal and illegal); also, it increased at seasonal time where price is low. In addition, reports showed that demand decreased at the time of trade closure as prices become very high, off-harvesting season, and at the time of fighting.

- ➔ Interviewed market actors stated that the environment is fragile and unpredictable. They expressed hope of having a more stable and secure environment, and fear the advancement of the government, which could cause displacement.
- ➔ Traders, especially exporters, seem to have a stronger power over the rest of the pistachio market actors. Traders gain this power from their financial capital capacity, limited number of traders in the market, and connection with different controlling actors like GoS, non-state actors, Syria Democratic Forces (SDF) and forces backed by Turkey.
- ➔ The demand, supply and profit vary according to season as shown in the calendar below.
- ➔ The quality of locally produced pistachio is higher than the imported one, which is sold at a cheaper price. The price of 1 MT of Syrian pistachios ranges from SYP 2 to 3.5 million, while the price of imported pistachios ranges from SYP 1.4 to 3.5 million. The availability of imported pistachio is less than the locally produced Syrian pistachio.
- ➔ Pistachio interacts with other market systems like fuel/warming, fertilizers, ice cream and dessert markets.



Market Map

The below market map was created to illustrate the pistachios market system in the assessed areas in NW Syria. As mentioned in the methodology section, the map consists of three layers: the market environment, the market chain, and the key infrastructures, inputs and support services.

Below sections provide descriptive information on the pistachio value chain phases: Production, Processing, Trading and Consumption. In addition, a paragraph explaining the labor status of the pistachio value chain was added.

Production Phase

- ➔ Although pistachio is considered as a drought-tolerant tree, technical experts reported that pistachio has been affected by the recent drought in NWS. As a coping strategy, farmers use supplementary irrigation to the rain-fed plantations. Supplementary irrigation was reportedly used widely in northern Idleb and Aleppo and less in Hama governorate. Interviewed experts reported that the best time for supplementary irrigation is during February. Supplementary irrigation enhances the quality of pistachio fruits, therefore empowers farmers to have better negotiation power with traders in terms of price.
- ➔ Harvesting practices have been affected by lack of the harvesting expertise and the fragile security situation, where some farmers tend to conduct the harvesting at an earlier time as they are afraid of losing access to their production.
- ➔ Farmers lost access or have limited access to their land of pistachio plantations for the following reasons:
 - ✓ The pistachio plantation is located at the front line areas, especially in Hama governorate.
 - ✓ Fighting in locations where pistachio plantations are situated.
 - ✓ Fear of being victims to Explosive Remnants of War (ERW) as a result of the earlier shelling and bombing in the plantation areas.
- ➔ Six out of thirteen farmers reported that they had to stop/pause their work due to forced displacement, ongoing fighting, and changing of controlling actor. This suspension of activities resulted in reduced production and household income, and increased pistachio tree dieback and damage due to lack of care.
- ➔ Collected data showed that cultivated land on pistachio plantation in the assessed subdistricts increased with a median of 8,000 donums in 2011 to 10,000 donums in 2017 and 2018. This happened in line with increasing the size of pistachio plantation per farmer with a median of 35 donums in 2011 and 55 donums for the period 2017 and 2018.
- ➔ The household consumption in relation to the usage of pistachio produce was stable. Producers in average used 62% of the produced amount for processing in 2011 while this percentage decreased to 28% in 2018. This led to an increase in direct trading percentage from 34% in 2011 to 68% in 2018. The increase in the cost of processing tools and the lack of processing expertise were the main reasons reported to have contributed to the decrease in processing percentage across producers.
- ➔ Pistachio farmers face different conflict-related challenges such as frequency of ongoing fighting, changing of local authority/controlling actors, losing access to areas within pistachio plantations, burning of trees, inability to export, challenges in marketing & selling pistachio products, limited access to production inputs (mainly fertilizers and pesticides, tree maintenance e.g pruning), and shift in market power dynamics among market actors.
- ➔ Drought conditions and tree infestation and diseases were reported as main environmental challenges that pistachio farmers were most concerned about.
- ➔ Farmers no longer have access to input support. Prior to 2011, farmers used to have fair access to governmental support especially seeds, chemical inputs (like fertilizers and pesticides), organic inputs (like manure), fuel and water. In 2018, the main source for inputs has been private local traders; inputs are fairly available but hardly affordable due to financial constraints.
- ➔ Farmers reported access challenges to fuel and electricity. Thus, some farmers tend to use alternative energy, mainly solar panels. Although solar panels are available, they are still hard to afford as they are expensive and there is a lack of needed expertise.
- ➔ The cost of production increased from 17,000 SYP per MT in 2011 to 100,000 SYP per MT in 2018. Some farmers tried to decrease individual household production cost by sharing the production cost with other farmers, which is mainly the case for irrigation activities.

Pistachio Value Chain- Northwest Syria Dec 2018- Jan 2019

The Market Environment

Institutions, rules, norms & trends



Early Harvesting



The mediator role



Social Value of Pistachio Trees



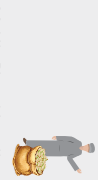
Business networks



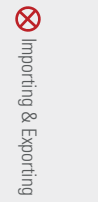
Manifestations of Conflict De-escalation



Traders Controlling Power



Mobile Pistachio seller at seasonal time



Importing & Exporting

⚠️ No humanitarian support

⚠️ Displacement

⚠️ Governance structure

⚠️ Drought

⚠️ Security situation

⚠️ Quality control system

⚠️ Currency Fluctuation

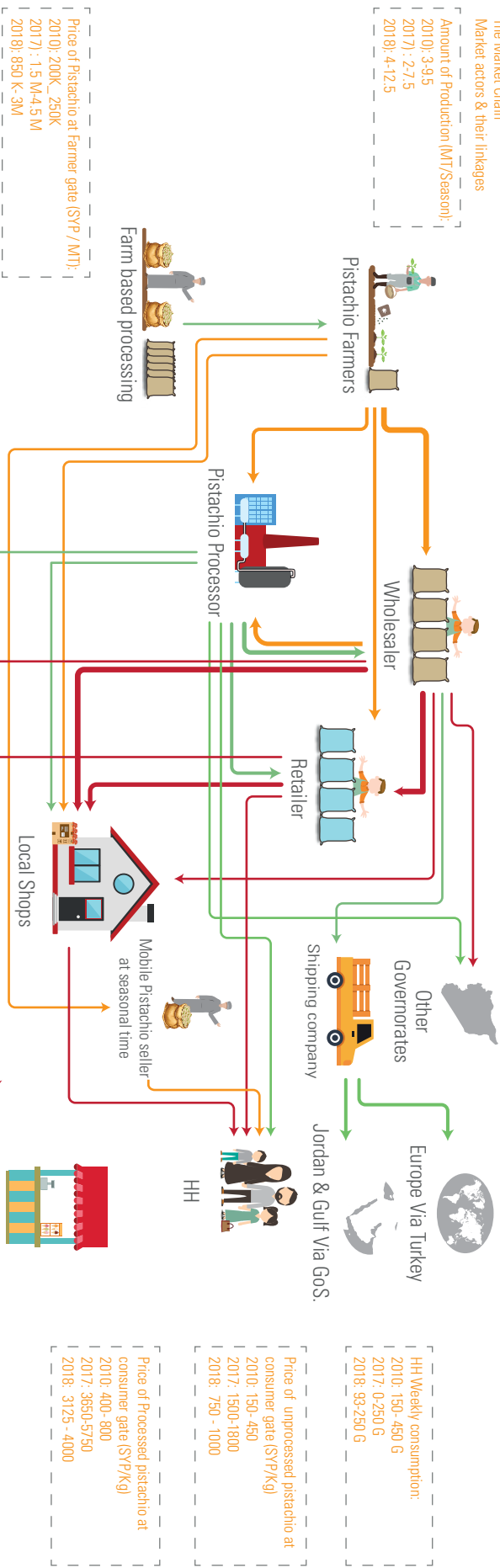
⚠️ Taxation and Custom Fee

⚠️ Check points

The Market Chain

Market actors & their linkages

Amount of Production (MT/Season):
2010: 3-9.5
2017: 2-7.5
2018: 4-12.5



Key Infrastructure inputs, market-support services



- ➔ Producers reported that traders, mainly wholesalers, are their main customers, followed by processors and then other farmers who have processing capacity. The customer type has not changed during the conflict, however, the number of customers dropped by 50%, which impacts the producers' power in the pistachio market. Having limited number of customers coupled with the risk of losing access to pistachio produce negatively impacted the producers' price negotiation power.
- ➔ Producers face challenges in improving their production capacity such as limited number of trees, new tree diseases outbreaks and lack of related knowledge to treat the trees, weather condition (mainly drought conditions), and the fact that the pistachio tree, genetically, highly alternates in fruit production.
- ➔ The most requested support by pistachio producers is related to inputs. Pistachio producers are aiming to request for humanitarian interventions to fill the role of the government in supplying fertilizers, pesticides, fuel, rehabilitation or set-up of irrigation systems, as well as technical support.

Processing Phase

- ➔ Twenty percent of the interviewed processors had to pause their work due to the ongoing fighting, bombing, forced displacement, and change of controlling actor. This resulted in the loss of processing tools and machines, drop in the number of customers, and loss of job or income source for laborers.
- ➔ Some processors reported that they had to take the risk of coming back to their processing factories/workshops to rehabilitate and restart their business as they had no other sources of income. Some processors had returned from Turkey.
- ➔ The majority of processors procure pistachios from wholesalers and farmers, while some processors procure from retailers and local shops. Processors reported a decrease in the number of vendors in 2018 by 40% compared to 2011.
- ➔ The main reason behind increased processing costs is procuring inputs from vendors located outside the processors' sub district, where associated costs of taxation and transportation significantly increased.
- ➔ The main pistachio processing activities are cleaning, drying, categorization, smiling³, sterilizing, cracking, peeling, and packaging. Eighty-five percent of the processing activities are carried out by specific processors; collected data indicate that 10% of farmers have the capacity to process the pistachio themselves. Moreover, processors reported that the median generated waste at processing cycle is 5%.
- ➔ Challenges most reported by processors were high cost of processing inputs, access to electricity, high fuel cost, poor availability of modern machinery, lack of skilled labor, and high transportation cost.

³ Smiling is the process in which the closed pistachio fruits are being opened slightly. It is a quality driven process.

Trading Phase

- ➔ Forced displacement and bombing of warehouse for pistachio production were the main reported reasons by traders for pausing their trading activities. This pause resulted in the loss of trader stock and warehouse tools. Their connections with customers and vendors have also been negatively affected. Some traders managed to restart their business through borrowing some financial capital, sharing/trading inputs with some relatives, and rehabilitating their warehouse.
- ➔ The manifestations of conflict de-escalation such as the enforcement of a demilitarized zone and formulation of the olive branch areas slightly improved the trade activities where the security situation had somehow improved with less shelling and bombing of communities.
- ➔ Traders, mainly wholesalers, reported challenges in getting the pistachio product in their sub districts, which resulted in increased processing costs due to shipping and taxation.
- ➔ The imported pistachio mainly comes from Turkey, Iran (via GoS-controlled areas then to opposition-controlled area), Europe (mainly Greece passing through Turkey and Egypt), and Iraq (through Der-Alzor).
- ➔ Traders deal with exporting and importing companies who are based in Turkey to import and/or export pistachio. These companies play a mediator role as Turkey is a transit country.
- ➔ The volume of trade has been affected by the crisis mainly due to the change in the payment modality as it has become limited to cash.

- ➔ Connections and networks with traders from different areas play an essential role in importing and exporting activities and it becomes the main source of traders' power. Traders pay taxation (both formal and informal) based on the crossing areas and controlling actors:

- Between SDF and opposition held area, trader pay taxation;
- Between opposition held area and Turkey, trader pay custom fee;
- Between opposition held areas and GoS controlled it is informal taxation or bribe to the GoS checkpoints.

Below are some findings on taxation amount for 1 MT of pistachios across different check points.

Commodity Type	Checkpoint controlled by	Taxation Fee (SYP/ MT)
Processed Pistachio	GoS	148K-300 K
	Armed Opposition Group.	12K- 75K
Unprocessed Pistachio	GoS	140K-150 K
	Armed Opposition Group.	30K-58 K

- ➔ Exporting difficulties, decrease in demand, and the risks associated with warehousing and shipping pistachios make trading riskier than before. Hence, some traders stopped their work. This resulted in increasing the power of active traders as the number of active traders become smaller.
- ➔ 40% of the interviewed traders reported limitation in increasing their supply due to limited financial capacity, fragile security situation, the risks associated with warehousing and transporting activities.
- ➔ Traders reported that trust and ability to move pistachio products along different controlled areas has become equivalent to the amount of the financial capital. Therefore, some of the market actors formed a partnership with each other. This partnership counts on the strengths of each actor. For example, a farmer has the production capacity, a processor has the processing factories, trader has the financial strength, mediator has the trust with farmers, shipping company has the trucks and fuel, and shipping facilitator has the connection with different check points at different controlling areas. All these actors become partners and the profit is divided among them.

➔ Traders reported the main challenges at pistachio trading activities are as follows:

- **Importing and exporting related challenges:** Checkpoints, associated custom and taxation fees which were reported high, guaranteeing the safety of products from production area to intended destination, high transportation cost, trade closure, trade routes infrastructure which is in poor state, obtaining the quality check documentation, longer time needed for shipments, high labor cost, lack of insurance system or legal obligation, and ability to compete with higher price of pistachio in other countries.

- **Local Trading challenges:** Traders reported that the warehousing cost increased due to the deterioration in the security situation in areas where pistachio plantations are located. Hence, the traders had to rent warehouses in relatively safe areas that are far from the pistachio plantation areas. Other challenges include the needed security system for warehouse, having access to credit system, having access to financial services like banking services and/or loans, limited number of processors, and the high processing cost. Sometime traders had to take pistachios from farmers to processor in other areas, and pay all associated costs to meet the demand of processed pistachio.

Importing and exporting related challenges



- Checkpoints
- Associated custom and taxation fees



- Guaranteeing the safety of products from production area to intended destination
- Lack of insurance system or legal obligation

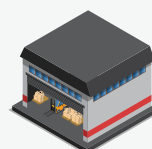


- Transportation cost
- Labor cost
- Ability to compete with price of pistachio in other countries



- Trade closure
- Trade routes infrastructure
- Obtaining the quality check documentation
- Time needed for shipments

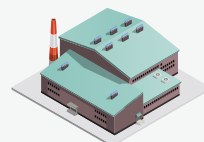
Local Trading challenges



- Renting warehouses in a relatively safe area that is far from the production area
- Provide the needed security system for warehouse



- Having access to credit system



- Limited number of processors
- High processing cost



- High transportation cost

Consumption Phase

- ➔ The purchasing power of customers was reported to have dramatically decreased due to the conflict, which has a direct impact on consumption volumes. Consumers reported that pistachio consumption is limited to producers and a niche segment considered as wealthy households.
- ➔ The majority of households no longer consume or procure pistachio as it is not considered as a basic item and it is very expensive. Pistachios are substituted by cheaper types of nuts and fruits.
- ➔ Dessert shops preferred the imported pistachio as it was reportedly cheaper.
- ➔ Household consumers preferred the Syrian pistachio as it was reported to be of high quality and better taste. In addition, consumers reported that they have more trust with the locally produced pistachio in comparison with the imported one.

Labor Status in the Pistachio Market System

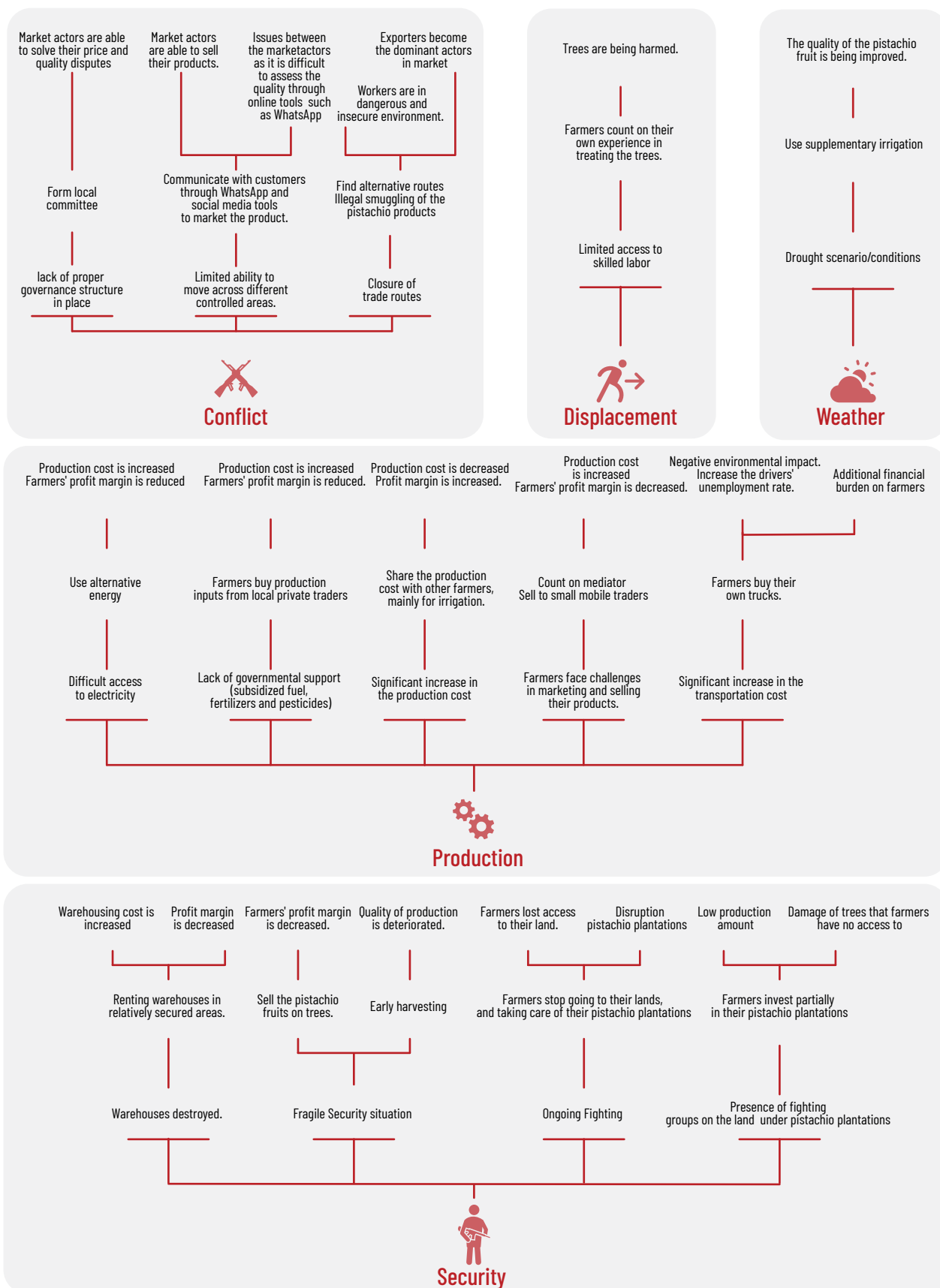
The generic labor skills were reportedly available. However, there was a lack of skilled labor, especially agronomists, alternative energy experts, processing experts, and trimming workers. The displacement was reported as the main reason behind difficulties in finding the needed skilled laborers.

The fact that the pistachio market suffers from huge disruptions increases the burden on workers in finding job opportunities, especially those who used to work in occupations that are quality based like fruits cleaning, smiling and categorization.

The daily labor wage rate in 2018 increased 5 times comparing with the wages before the conflict in 2011 (from 500 SYP prior to 2011 to 2,500 SYP in 2018). Still the local norms show that laborers have access to other benefits such as paid overtime, accommodation, discounts, and share of production.

Coping Strategies

Participants reported the main challenges they face and their coping strategies. The below infograph illustrates the main challenges with the expected impact of their coping strategies.



Recommendation

- ➔ **Scan pistachio lands:** as one of the reported challenges is the possibility of having mines and/or ERW in the lands as a result of the bombing, shelling and fighting. It is recommended to have an intervention to scan the pistachio farms against the mines and ERW to ensure that all lands are safe to access. This could be supported by providing farmers with awareness sessions on the possibility of having ERW on their lands, how to deal with and report the mines and ERW.
- ➔ **Enhance the local capacity:** implementing partners are encouraged to conduct vocational trainings (VT) on marketing, quality control, warehousing safety and security and maintenance of processing and production machines to meet the labor demand. In addition, awareness sessions around the new tree pest and diseases and treatment practices are needed. These VT are essential to fill the gap of local knowledge lost due to displacement. It is important to take the access limitation, and displacement in consideration in the design phase of local capacity enhancement programs to avoid having neglected areas as most of pistachio farms are located in hard-to-reach areas.
- ➔ **Monitor the pistachio assets:** farmers reported that a notable percentage of pistachio plantations were burned due to the fact that pistachio plantations are located in the frontline areas. Thus, it was recommended to formulate a monitoring initiative in which implementing partners who are active in the livelihood and agricultural sector could report relevant incidents such as burnt plantations and damaged labs and processing factories. This kind of initiative could help in generating evidence and quantifying the impact of the crisis on the pistachio market, which could then be used for advocacy to rehabilitate pistachio plantations and resuscitate the whole pistachio value chain.
- ➔ **Enhance the role of local committees:** the lack of having a proper local governance structure in place has a negative impact on supporting and facilitating the work of market actors, especially on price and quality control, and exporting and importing activities.

Before 2011, GoS established a pistachio office that was located in Hama governorate. The pistachio office used to provide capacity building and technical guidance not just to farmers but also for technicians. The pistachio office is still active in the area under GoS, however, it is out of service in the opposition held areas.

In some communities like A'zaz and Idleb, the local committees moved forward with steps to fill the existing gap, but these committees are in need of technical and financial support to play an effective role in market recovery. Implementing partners are encouraged to look at the possibilities of providing the necessary support to local committees and enhance their role towards having a healthy market in place.
- ➔ **Best use of pistachio waste:** the fragile context encourages the market actors to focus on the pistachio fruits and giving less importance to the pistachio waste. Still participants reported that there was a high percentage of waste that is not being utilized and/or recycled. Hence, it is advised to look at the best way of utilizing the pistachio waste for more profitability and eco-friendly results. For instance, waste or by-products can be composted into organic fertilizer or uncontaminated by-products of pistachio can be processed into livestock fodder/feeds.
- ➔ **Protect Pistachio:** Syria is considered as the original source of pistachio, at Ein Altena in Damascus suburb. Due to the continuous loss of pistachio plantations, it was recommended to establish a preservation center to protect the good genotypes of pistachio species both in-situ and ex-situ, that will be used to improve the pistachio production after conflict.