



SYRIA CROSS-BORDER HLG (NWS)
FOOD SECURITY & LIVELIHOODS
CLUSTER

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Wheat Market System Rapid Assessment

Northwest Syria



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1. Introduction

With wheat being a staple crop for the staple bread for Syrians; since 2011, multiple implementing humanitarian partners have been providing wheat production support and flour assistance procured in the region and inside Syria, and cash and voucher assistance. The consequent conflict events, loss of agricultural institutions, inflation, increase in fuel price, currency depreciation, and high frequency of extreme weather events like floods, frost and drought scenarios, and the introduction of imported flour were all major factors that played various roles in causing diminishing returns from the local production of wheat. Many farmers abandoned wheat production and switched to cash crops. There is a need to extend assistance to wheat farmers, in order to revitalize local production by increasing availability of inputs and improving marketing skills, that would allow farmers to locally compete. In that regard, the Food Security and Livelihood Cluster in northwest Syria (NWS) and iMMAP proposed to carry out a value chain assessment focusing on input supply chain management and output market of wheat production in NWS. The study built on the wheat-to-bread processing facilities mapping conducted since December 2019, and mapping of wheat value chain mapping in June 2018 that were conducted by iMMAP.

1.1. Study Objectives

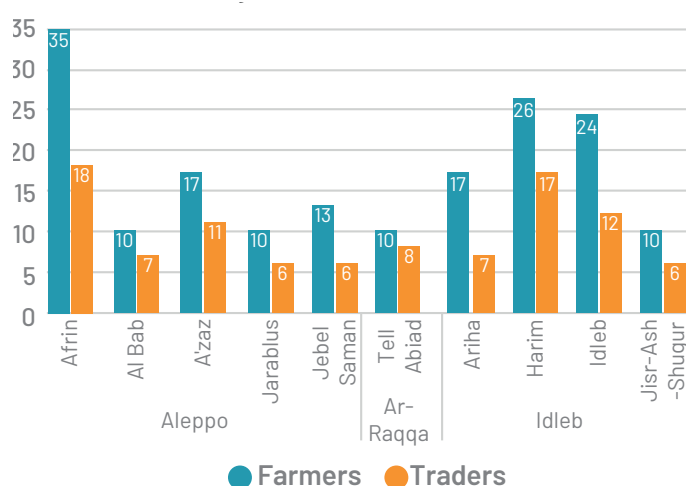
1. Understand the current challenges and opportunities facing wheat producers in the NWS region.
2. Explore sources of wheat seeds and wheat production inputs including wheat seed, and other agricultural inputs (fertilizers, pesticides, herbicides, and fuel, in addition to the harvesting cost and agriculture extension service support ...etc)
3. Study price trends of the different sources of wheat seeds, wheat flour and agricultural inputs
4. Explore the wheat to flour trading norms, and the effect of imported flour on local wheat production.

5. Understand opportunities and inefficiencies in the current system that are hindering market actors within the wheat value chain from sustaining their agribusiness and livelihood.
6. Identify leverage points along the wheat value chain that have potential in strengthening the effectiveness and efficiency of local wheat production across the NWS region.
7. Understand the role of different stakeholders and market actors (NGOs, Syrian Publishment Establishment of Grain (SPEG), and General Organization of Seeds Multiplication (GOSM)) in the wheat market system.
8. Identify the main potential interventions that address the marketing gaps.

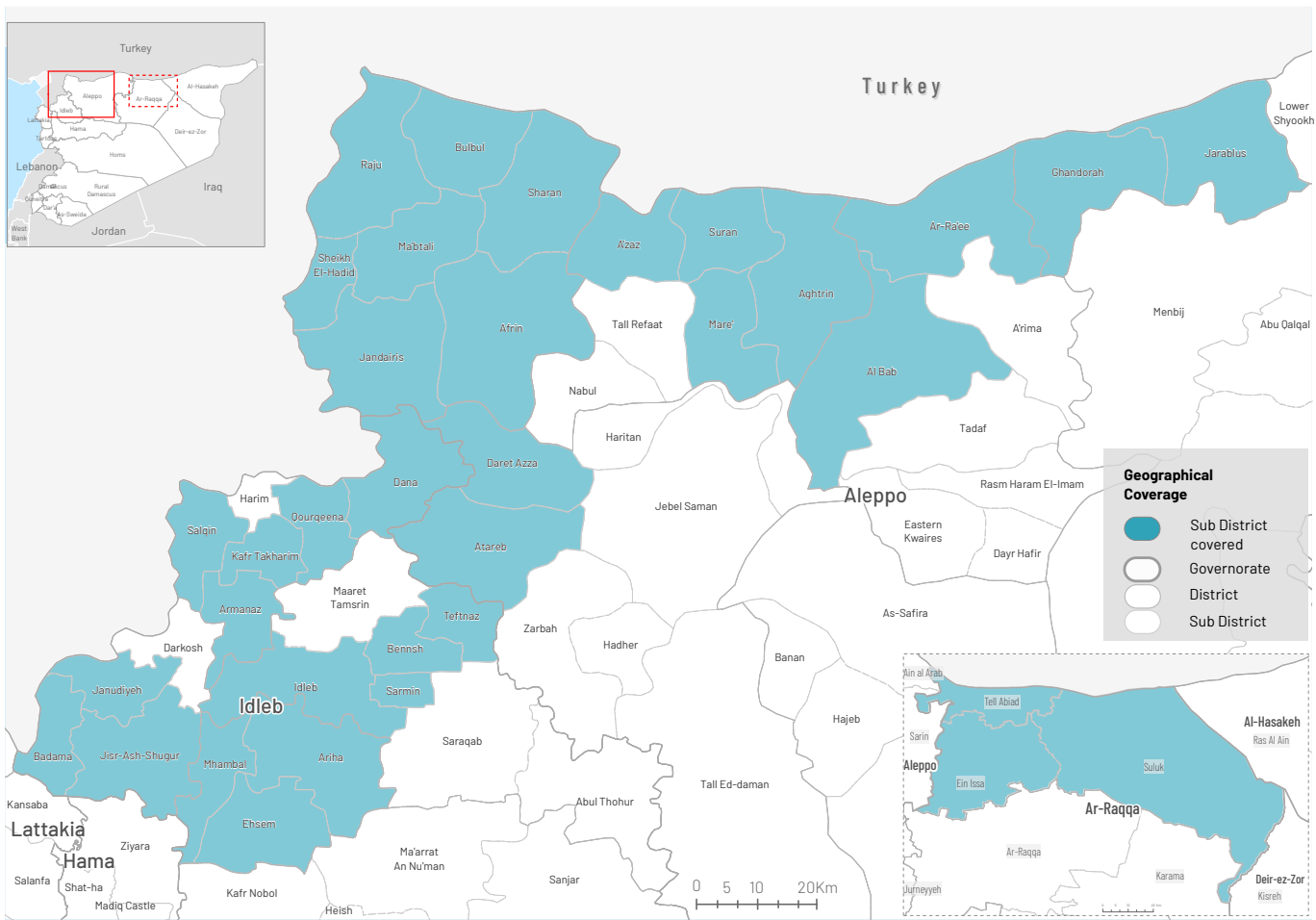
1.2. Data Collection and Geographical Coverage

The study covered ten districts in NWS, where 172 farmers and 92 traders were interviewed. The data collection tools incorporated qualitative and quantitative questions with a focus on marketing trends and challenges.

Figure 1: Number of Key Informant Interviews per Subdistrict



Map 1: Data Collection Coverage Map



2. Market Environment

2.1. Seasonal Rainfall and Climate Change

Syria and the region faced an unprecedented and extremely low rainfall level in the 2020 – 2021 winter season that highly threatened the growth of staple crops, i.e., wheat and barley. Rainfall during the 2020/21 cropping season was markedly worse than in recent years in terms of both amount and distribution. Across the country, the first substantial rainfall of the season was recorded with almost a two-month delay in November. Rains ceased by early April, about six weeks earlier than usual, hampering grain formation in all governorates, even in western parts of the country¹. Majority of study respondents described the rainfall of the 2020-2021 season to be low compared to the 2019-2020 season. Moreover, 30% of farmers who reported a decline in the crop yield in the 2020-2021 attributed it to the low rainfall levels. Figure 3 illustrates Syria WFP VAM rainfall data where it shows that the actual rainfall levels were less the annual average in Idlib governorate from the second quarter of November 2020 till the end of March 2021.

Figure 2: Farmers' Rainfall Levels Description

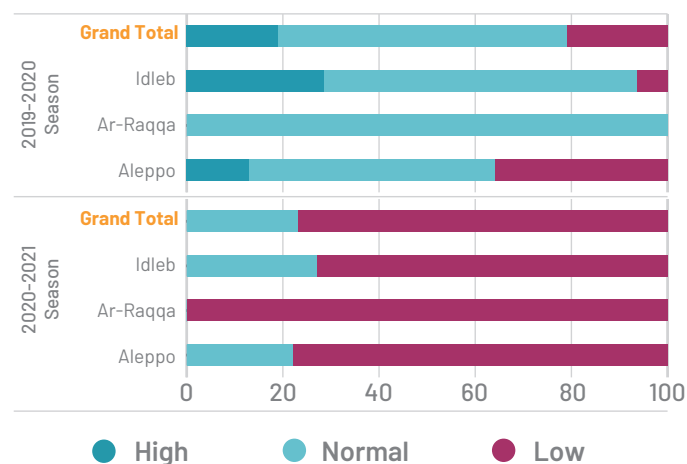
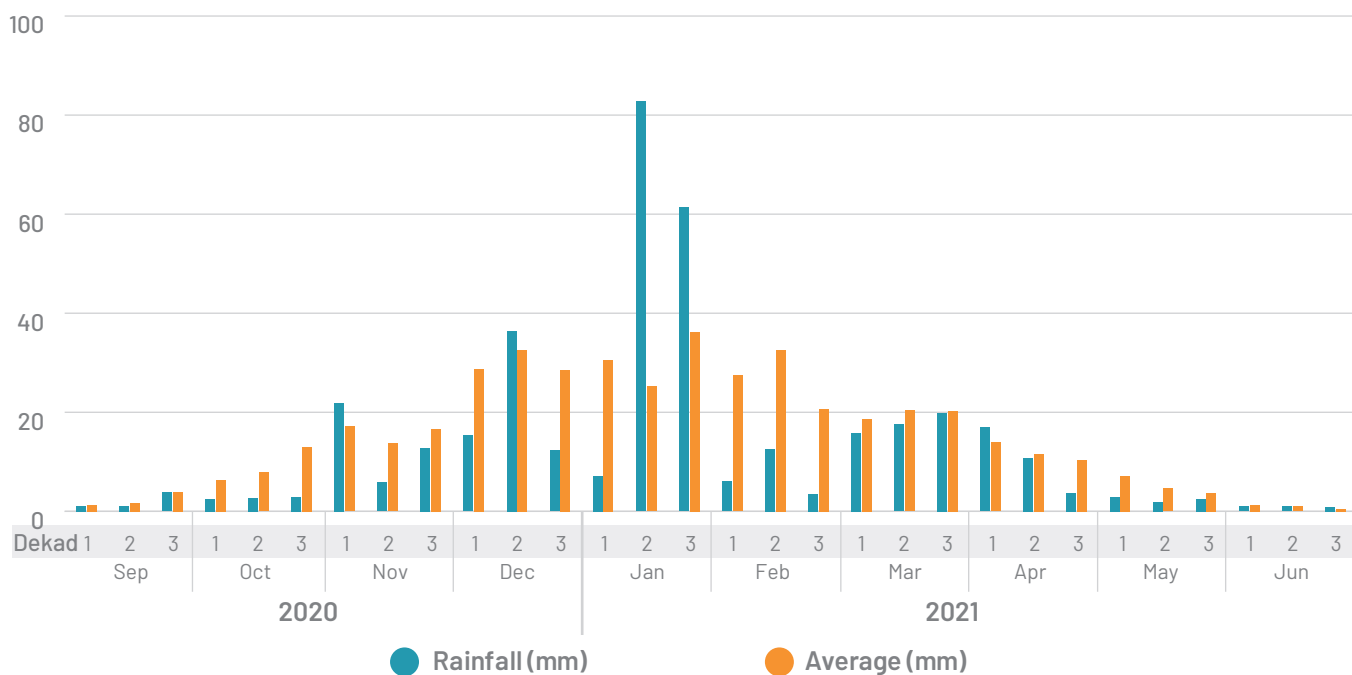


Figure 3: Rainfall Levels for the 2020-2021 Winter Season - Idlib



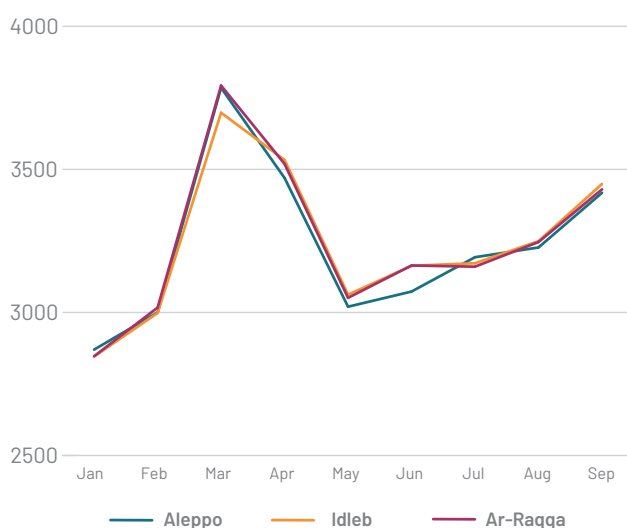
2.2. Currency Depreciation

As a result of the high fluctuation of the Syrian pound in the last three years, US Dollar (USD) and the Turkish Lira (TRY) became more dominant in NWS. Amongst wheat farmers and traders, the majority of trading transactions use USD or TRY. However, in 2021 the Turkish Lira faced major instability and with all-time significant drops. This has impacted the economic activities in the NWS region,

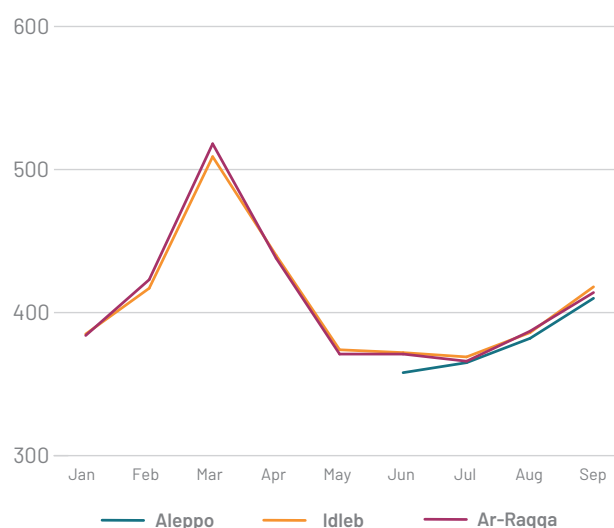
particularly for end consumer goods like bread, since in certain areas bread is sold using Turkish Lira. **For this study, 86.5% of all reported wheat input prices were provided in USD**, followed by 8% used SYP and only 5% reported in Turkish Lira. In Idleb governorate, none of study respondents reported prices in SYP.

Figure 4: Syrian Pound Exchange Rate Against USD and TYR

Average SYP against USD Value by Governorate



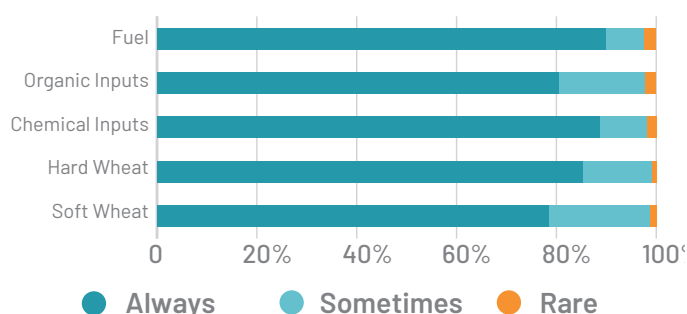
Average SYP against TRY Value by Governorate



2.3. Availability of Wheat Production Inputs

Most interviewed farmers reported that wheat production inputs were considered available, however, affordability of inputs remained the biggest challenge which was related to the continuous increase in prices and exchange rates. The farmers who reported limited availability of wheat seeds (rarely or sometimes available) were in Ar-Ra'ee, A'zaz and Ghandorah sub-districts in Aleppo governorate, Ein Issa, Suluk and Tell Abiad in Ar-Raqqa governorate, and Ariha and Jisr-Ash-Shugur in Idleb governorate.

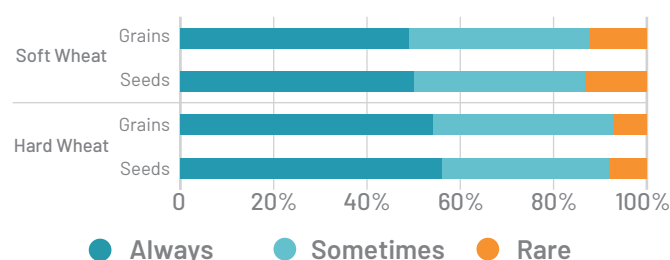
Figure 5: Availability of Wheat Production Inputs - Reported by Farmers



Despite the increase of prices, the use of chemical inputs (pesticides and fertilizers) was highly present amongst interviewed farmers (96%), whereas the use of organic inputs was much lower where only 48% of farmers reported the use of organic inputs. This was particularly low in Ar-Raqqa governorate where only 1 out of 10 farmers reported the use of organic inputs.

From the traders' point of view, a higher percentage reported wheat grains and seeds to be rarely or sometimes available. Therefore, **sourcing wheat seed and grains was considered a challenge where the majority of traders** attributed the limited availability to the considerably low crop yield levels of the 2020-2021 season because of the drought in the region.

Figure 6: Availability of Wheat Grains and Seeds - Reported by Traders



3. Market Infrastructure

3.1. Storage Facilities

Many farmers reported storing wheat grain either to be sold later in the season for higher prices, or to be used as retained seeds in production in the next season. The majority of farmers store the seeds in their own farms, homes, or private storage facilities. There was a small number of farmers (n=9) who reported not having access to storage facilities, particularly in Afrin and Jarablus subdistricts in Aleppo governorate, and Tell Abiad subdistrict in Ar-Raqqa governorate, and Jisr-Ash-Shugur subdistrict in Idlib governorate. The same applies to traders where the majority reported having access to private storage facilities.

As for the strategic storage capacity in NWS, iMMAP Wheat to Bread Processing Facility mapping studies reported that one out of the five silos in NWS was operational in November 2021. The non-operational silos need rehabilitation of their facilities, equipment, and machines. The operational silo facility is in A'zaz subdistrict in Aleppo governorate with a storage capacity of 12,000 MT of wheat.

3.2. Irrigation

Farmers who produce irrigated wheat crops face major challenges related to the high increase in the cost of pumping and water extraction (around 83% interviewed farmers). Around 48% of farmers depend on water wells and artesian aquifer to irrigate their crops. This is directly related to the significant increase in fuel prices. According to WFP, the informal butane gas cylinder price and the price of informal diesel used for transport throughout the cross-border region, increased m-o-m by two and 13 percent². Moreover, farmers in Afrin and Jarablus subdistrict reported an increase in maintenance prices of irrigation networks, and disruptions in irrigation lines.

4. Value Chain

4.1. Wheat Production

Most farmers (around 59%) reported producing rainfed wheat, whereas the percentage in Aleppo governorate was 59% of farmers produce irrigated wheat. Hence, the most dominant type of seed produced was hard wheat with 57% of farmers reported using hard wheat, and 10% use a mix of hard and soft wheat.

Figure 7: Wheat Production Methods

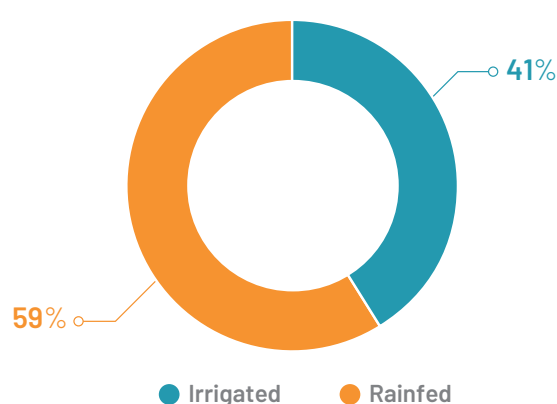
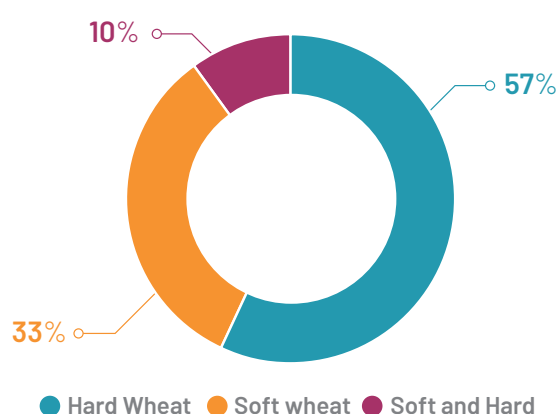


Figure 8: Types of Wheat Seeds Planted



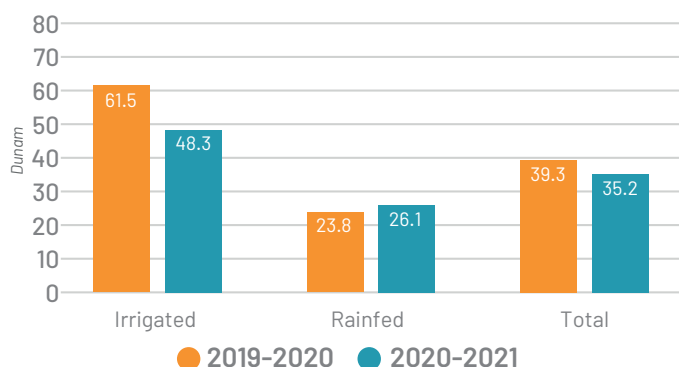
The overall land area cultivated with wheat crop decreased amongst interviewed farmers by 10.4% compared to the 2019-2020 season, and that decrease was more evident amongst irrigated crop land with 22.4% less than the previous season. The reported total rainfed land area was higher in the 2020-2021 compared to the 2019-2020 season, however the average reported rainfed crop yield per dunam was lower in the 2020-2021 season compared to the 2019-2020 season by 14.5%. Table 1 shows the percentage change in the reported average wheat yield per dunam. FOA's 2021 Crop and Food Supply Assessment showed that the wheat yield in Idleb governorate decreased by 37.5% in the 2020-2021 season compared to the 2019-2020 for irrigated wheat. The same negative trends were reported for other governorates.³

Table 1: Reported Change in Wheat Yield - 2020-2021 Season vs 2019-2020 Season

Production Method	Average Reported Wheat Yield (MT/ dunam) - 2020-2021 Season	Average Reported Wheat Yield (MT/ dunam) - 2019-2020 Season	Percentage Change
Irrigated	0.340	0.363	-6.2%
Rainfed	0.258	0.302	-14.5%

The main reported reasons behind the decline of wheat yield in the 2020-2021 seasons was linked to drought, and the increase in the prices of agriculture inputs which increased the tendency to grow cash crops like cumin, and nigella. Farmers were asked about their plan for the 2021-2022 season; 30% reported their intention to reduce the land cultivation under wheat crop for upcoming season, and 55% reported no plans to change.

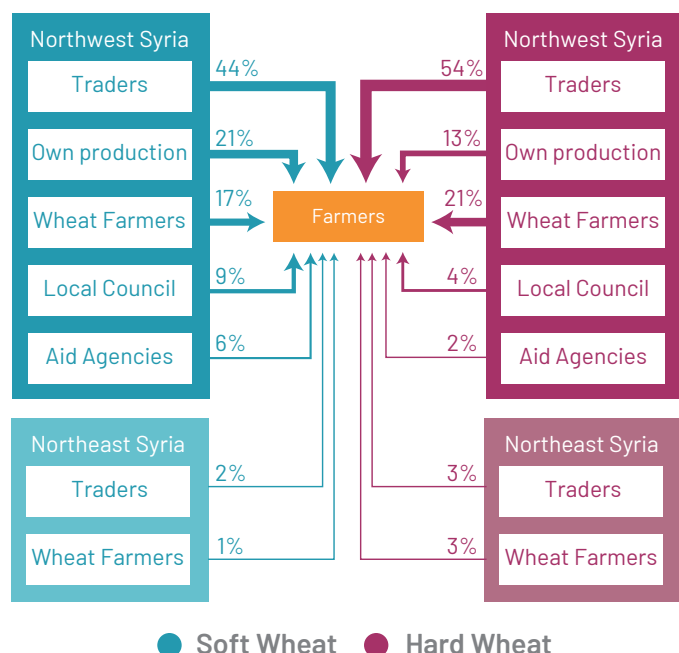
Figure 9: Land Area Cultivated with Wheat (Dunam)



Sources of Wheat Seeds

Most farmers reported sourcing their seeds from local traders in NWS, both for hard wheat seeds and soft wheat seeds. This was followed by using own production, where 21% and 13% of farmers reported using retained seeds from previous season for soft and hard respectively. There were some evidence that a small number of farmers source their seed supply from the Northeast Syria region.

Figure 10: Farmers' Sources of Wheat Seeds



On the other hand, most traders reported sourcing their wheat seeds and grains from local farmers in northwest Syria. However, there is a distinct number of traders who buy from importers or from wheat farmers in northeast Syria region.

Figure 11: Traders' Sources of Wheat Grains

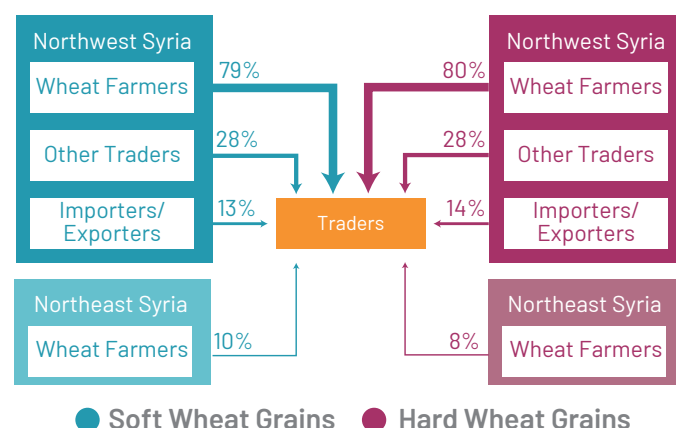
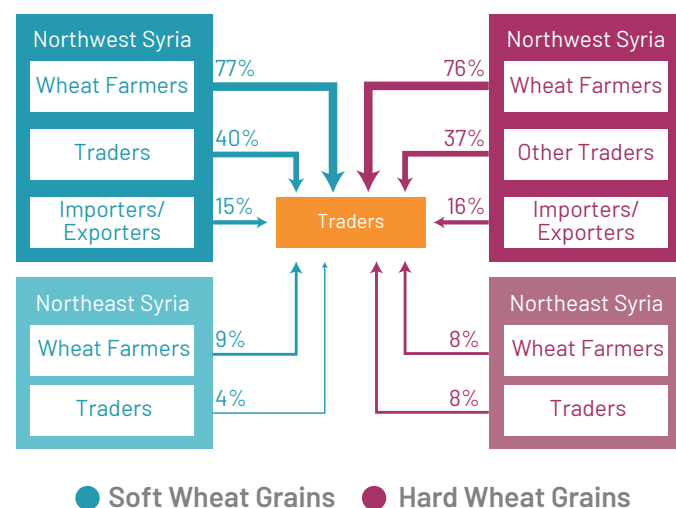


Figure 12: Traders' Sources of Wheat Seeds

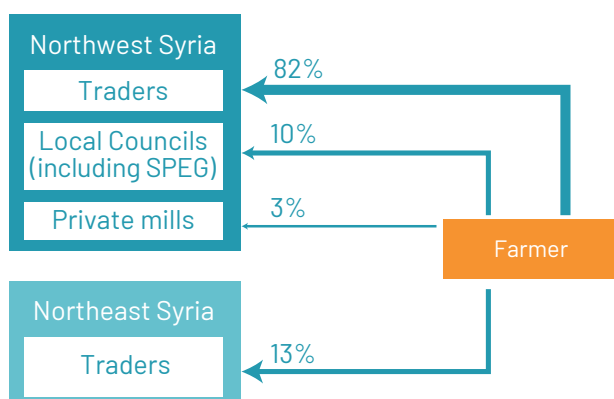


4.2. Post-Crop Harvest Activities, Trading and Marketing

Most farmers (97% of interviewed farmers) reported that on average 87% of their wheat grain harvest is directly sold in the market, while only 5% of interviewed farmers reported storing part of their harvested wheat grain to be sold after the harvest for higher prices. This low percentage gave an indication to the weak market power that the farmer holds, meaning that farmers need immediate cash post-crop harvest. The second most reported post-crop harvest activity was storing selected wheat grain and retained as seed to be used in production in the next season.

Farmers' main market outlets were through local traders where 82% of farmers reported selling directly to local traders, this was surprisingly followed by **13% of farmers reported selling their crop produce to traders in NES. This finding along with the previous findings related to sourcing show that there are market linkages between actors in NES and NWS.** The most dominant selling modality among all farmers was cash, and the transportation cost is usually covered by the customer.

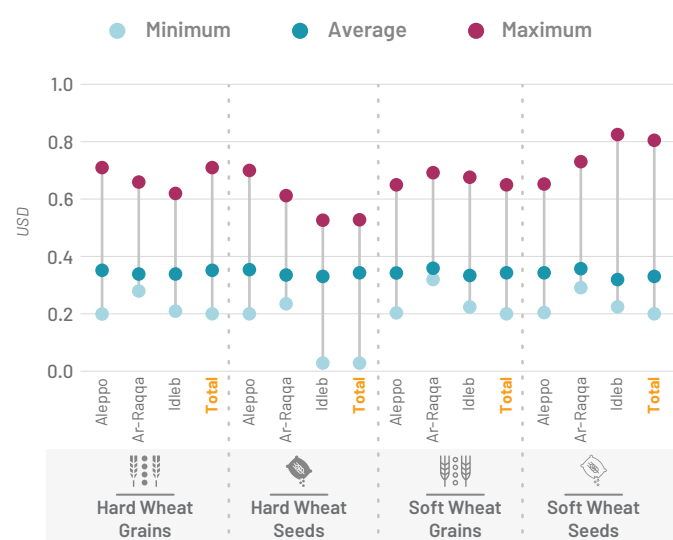
Figure 13: Farmers' Customers



The reported prices of wheat grains and seeds were alarmingly high compared to the previous season. Figure 14 provides a breakdown for the ranges and averages of reported prices for the different types of wheat seeds and grains. In June 2020, the Ministry of Economy for the Syrian Interim government set the purchase price of wheat from farmers at \$220/MT and \$210/MT for hard and soft wheat respectively⁴.

The overall reported purchase price from interviewed farmers in November 2021 was at \$347/MT for hard wheat and \$339/MT for soft wheat, which is 58% and 61% higher than the previous season.

Figure 14: Reported Wheat Prices(USD per Kilogram)– November 2021



4.3. Processing

The local wheat processing is low compared to the local milling capacity. The Wheat-to-Bread Processing Facilities Mapping conducted by iMAP in November 2021, reported that the weekly milling capacity of all operational mills in NWS was 2,833 MT, whereas the actual reported weekly milling capacity of all operated mills in NWS was 1,166 MT⁵. When comparing this finding with the bakeries' usage of local flour; the local milling capacity is five times more than the bakeries' usage of local flour. The same study showed that on average the mills' functionality stood at 41% across the assessed operational mills in the NWS region.

The average reported selling price of 1 kg of subsidized bread in NWS in November 2021 was 643 SYP/kg which is 113% higher than the price of May 2020⁶. The same applies to locally milled flour where prices increased by 40% in November 2021 (376 USD/MT) compared to the price of May 2020. The prices of flour and bread were expected to continuously increase over the next years, the impact of the drought induced shock on wheat production for the 2020-2021 on bread and flour prices will continue to be more prevalent within the next months till the wheat harvesting time of the winter cropping season.

5. Discussion and Recommendations

Low Rainfall Levels and Agricultural Inputs Prices

The low rainfall levels and water scarcity undoubtedly had a major impact on wheat production for the 2020-2021 season, which is expected to have a ripple effect on the prices of wheat flour and bread in the upcoming months. However, the continuous rise in the prices of wheat production inputs remains the key driver behind the increase in production cost. This explains the increase in land area cultivated with rainfed wheat in 2020-2021, while irrigated land areas faced a decrease. At the beginning of the 2020-2021 season, farmers shifted their focus on rainfed crops at the expense of irrigated crops to reduce cost. However, that shift was not in the favor of the farmer due to the unexpected low rainfall levels, which intensified the negative impact on wheat yields for the 2020-2021 season. Trends of abandoning wheat production and shifting to cash crops is expected to be evident in the upcoming season, for this study 30% farmers reported their intention to reduce the land cultivation under wheat crop for upcoming season.

Market Power and Market Outlets

The economic instability and the recent drought events have placed wheat farmers in a weak market position with limited bargaining and purchase power. Farmers' main market outlets are private traders who tend to control the prices, and have the capital, cash, and access to higher value markets. The study highlighted that the support farmers had received from NGOs or local councils was relatively insignificant compared to the increase in production cost and input. At the same time, interviewed traders described the availability of local wheat seeds and grains to be less compared to previous season, accordingly more than 15% of traders reported sourcing from importers, and traders and farmers in NES region.

Collapse of the Turkish Lira and Increase in Fuel and Electricity prices

The deterioration of the TRY against USD has induced more stress on farmers, as in some areas TRY used to be the primary currency used for market transactions. The USD is the main reference point for adjusting local prices, and the recent continuous volatility of TRY and SYP is threatening the stability of local food and input prices. For this study, 86.5% of all reported wheat input prices were provided in USD. As a result of the currency fluctuation and shortage of fuel supply, fuel prices have been on the rise since the beginning of 2021 which was one of the top challenges reported by wheat farmers.

5 iMAP. (2021, November). Wheat-to-Bread Processing Facilities Mapping

6 iMAP. (2021, November and 2020, May). Wheat-to-Bread Processing Facilities Mapping

Recommendations

- Support farmers with agricultural inputs (including fuel and water) and improve access to quality seed to ensure that they can produce in future seasons and implement agronomic strategies to adapt to erratic rainfall patterns.
- Accompany agriculture input support with food assistance to Support agriculture households who faced yield reduction, to ensure food security before the next harvest season.
- Given the reported high frequency of long dry spells with poor rainfall pattern across NWS, thus, for wheat cropping based livelihoods, it is recommended to implement activities designed to improve efficiency of irrigation at the community level, including forecasting requirements of wheat crop water use; wheat crop irrigation scheduling; support for local water user associations and promoting increased use of in-field climate smart agriculture technologies like zero-tillage, drip irrigation, use of herbicides, and use drought tolerant wheat cultivars to mitigate the climate induced aridity and its negative impacts on wheat crop production.
- Farmers must be encouraged to adopt the use of organic manure to complement or reduce the use of the expensive chemical fertilizers. This practice will improve soil structure and help crop retain soil moisture by limiting evaporation from the soil surface. Improving soil structure will also regulate soil temperature.
- Continue promote farmers to access inputs for wheat production through cash/voucher assistance to improve access to inputs, while supporting farmers' choice on agricultural inputs packages.
- Promote the establishment of agriculture cooperatives where farmers can pool their resources to increase revenues, reduce overall cost and share risks. This might strengthen the market power of farmers within the value chain.