

KEY CONSIDERATIONS: SUPPORTING 'WHEAT-TO-BREAD' SYSTEMS IN FRAGMENTED SYRIA

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Since the end of 2021, the food crisis in Syria has worsened. Humanitarian agencies working in Syria, as well as other experts, have warned the food crisis could rapidly lead to famine unless immediately addressed. This brief describes the social and political dimensions of food insecurity in Syria. It provides insights into how territorial fragmentation affects wheat-to-bread systems, outlines key threats to wheat production, and sets out key considerations for the humanitarian sector, researchers, and donors responding to the crisis.

Sources for this brief include published papers, reports, media articles, and open-source datasets. It also draws on consultations with farmers and other experts that were conducted in November and December 2021. Consultations were held across the three main areas of control in Syria: North East Syria, North West Syria, and territories controlled by the government of Syria.

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KEY CONSIDERATIONS

For the humanitarian sector

- **Localise food programme planning and implementation.** Food programmes should be specific to their implementation site. Local Syrian expertise can provide technical advice on implementation, as well as guide decision-making and coordination of food programmes.
- **Offset the impact of territorial fragmentation on food programmes.** The political division of Syria into different governance zones has disrupted the food system. Some degree of collaboration and cross-territorial programming is still possible across those territories, especially in relation to sharing seed technology and water management.
- **Increase funding for subsidised bread.** Subsidised bread is a crucial food item for growing numbers of Syrians. Lack of access to subsidised bread contributes to political and social instability.
- **Support local farmers.** The humanitarian sector must protect and expand aid for wheat production in Syria. Local farmers can be supported by access to improved seeds, effective agrochemicals and irrigation systems, and information on irrigation techniques. Support is needed for local processing, storage, and production capacity across the bread value chain.
- **Bolster local Syrian expertise in planning and monitoring food programme activities across the territories.** This includes involvement as technical advisors, as well as in decision-making and coordination processes.

For donors

- **Scale up short- and mid-term humanitarian support for bread** for the most vulnerable. This includes directly supporting people's access to bread, providing flour, supporting bakeries' capacity, and supporting local wheat production, storage and milling capacity.

- **Involve a wide range of stakeholders to support recovery based on community needs, including ownership of implementation and monitoring.** Partners should be engaged early and often to design strategies. Access to feedback mechanisms must reach communities.
- **Support sustainable and equitable access to bread and** limit the humanitarian costs of political sanctions on Syria. Consider setting up benchmarks related to food security, including logistical and political objectives – such as transparency and accountability mechanisms and closely monitor if the requirements are met.

For both donors and humanitarian sector

- **Conduct in-depth studies on local wheat production.** Specific areas of focus should include understanding the efficiency of current technologies, barriers encountered by farmers to access of inputs in different locations, impact assessments of factors affecting wheat yield, and other topics identified by local stakeholders.
- **Independently monitor yield** and harvest per area to better inform bread interventions and policies.

BACKGROUND

Food insecurity in Syria has increased dramatically over the last several years. In 2020, an estimated 7.9 million Syrians experienced food insecurity. As of January 2022, 12.4 million Syrians – or 60 percent of the population – were estimated to be food insecure. At the same time, food price indicators reached a record high, increasing 34 percent compared to six months before.¹

The rising food costs in Syria have amplified pervasive poverty. An estimated nine out of ten people in Syria live below the poverty line – USD 1.09 per day per person – and an estimated 60 to 65 percent live in extreme poverty.⁴ Additionally, as a result of conflict, some 6.7 million Syrians are considered internally displaced persons (IDPs) and have no prospect of returning to their homes. IDPs who have lost their livelihoods and are dealing with compounding hardships overwhelmingly rely on limited international aid.

The food crisis is the result of many factors intersecting simultaneously in the context of the ongoing conflict in Syria: political and social violence, a deepening financial crisis, the global COVID-19 pandemic, international sanctions, and growing donor fatigue. All of these interact to limit people’s ability to produce and/or procure food, particularly bread. Nevertheless, the roots of the food crisis can be traced to the decade before the conflict in Syria, which was characterised by a rearrangement of the social contract and a coercive redistribution of wealth and power.

Box 1. Food Insecurity

Food insecurity is defined as ‘a lack of access to the kinds and amounts of food necessary for each member of a household to lead an active and a healthy lifestyle’.² Acute food insecurity is ‘when a person’s inability to consume adequate food puts their lives or livelihoods in immediate danger’.³

A HISTORICAL PERSPECTIVE ON THE BREAD VALUE CHAIN IN SYRIA

Bread offers an important example of the multi-layered food crisis. In Syria, subsidised bread is both an essential daily food item and an emblem of state responsibility to feed its citizens. People use the term ‘State Bread’ to refer to the bundle of salted, flat loaves packaged by the dozen, backed by public bakeries and sold by public vendors at a low price. As of February 2022, a package of state bread costs USD 0.10 in regime-controlled areas. A package is enough for a family of five for one day. State bread is different from the slightly more expensive bread baked and sold by private bakeries. However, for both public and private bakeries, the flour and fuel needed to produce bread is provided by the state at subsidised prices. The term ‘state bread’ has become a synonym for urbanisation, the welfare state, and

minimum daily wages.⁵ Even after years of conflict that has eroded social and political institutions, people living in Syria expect access to their daily ration of bread. They attribute this responsibility to whoever claims political representation or control.

Traditional bread production, reforms and subsidies before the conflict

Traditionally, the wheat used for bread in Syria was locally grown, mainly by private landowners (holders). It was then purchased, milled to flour, and transported by the public sector. The government promoted self-sufficiency by supporting local wheat farmers through a complex system of subsidies. These included providing seeds, pesticides, fertilisers, and water at a fraction of their cost, as well as credit lines and disaster insurance. The government in return claimed a monopoly over the harvest and bought it in its entirety.

Following agricultural reforms enacted in the 1960s, farmers were made subcontractors of the state, which led to misappropriation of resources. Eventually, the financial burden imposed by the subsidy system became unsustainable. Bashar al Assad, who took power in 2000, aimed at cutting down the subsidy system. In 2003, representatives of the farmers' union were excluded from the political leadership. Starting in 2005, austerity measures were introduced to cut subsidised agrochemicals (fertilizers and pesticides), which directly affected wheat cultivation. Further, government priorities shifted from supporting wheat-to-flour production to subsidising flour prices at purchase. In 2008, fuel subsidies were suddenly removed, leading to bakery strikes and long queues for bread. In response, the government compromised and assigned quotas of subsidised fuel for bakeries.

Bread at the frontline of the conflict

Although the 2011 uprising in Syria was not directly about bread, the austerity measures implemented during the decade leading to the uprising disproportionately hurt the vulnerable poor. In rural and peri-urban communities, these vulnerable poor are both producers and consumers of state bread.⁶ As a result, areas like Hama, Daraa, and Eastern Ghouta became strongholds of the revolt. Later, when these areas attempted to break away from the central government in Damascus, the ability (or inability) to provide bread for residents became a decisive issue for their ability to self-govern.

Bread has consequently been a target of political violence throughout the conflict. Since March 2011, at least 801 civilians have lost their lives in 174 attacks targeting bakeries and bread queues, with most attacks instigated by the Syrian government and Russian allies. More recently, as standards of living have fallen in Syria, people have protested the high bread prices and long queues at bakeries. In response, governing political parties have increased violent crackdowns on civilians protesting against bread prices and food insecurity as a way to discourage self-governance and independence.^{7,8} The Syrian government declared the 2020-2021 growing season a 'wheat production year', and used this declaration to justify land expropriation in North Hama and Southern Idleb. These lands had been retaken by regime forces in 2019,⁹ illustrating how bread has been used as a political instrument during the conflict.

Parties to the conflict have engaged in what commentators in Syria have called a 'wheat war' to gain access to wheat produced in other territories and to deny others access to wheat. Tactics used range from torching wheat fields in the other sides' territories, to buying wheat at higher prices than are in local markets, to appropriating fertile land, to using smuggling networks to access wheat from other territories.

Given the importance of bread to daily life, and considering its use in conflict, from 2012 onwards international support sent to Syria has included daily bread rations. For example, the USAID programme 'Bread for Peace' has delivered 122,000 tons of flour or 300 million daily bread rations since its start in 2013. Indeed, responsibility for the subsidy system in opposition-held areas has partially shifted from local councils to NGOs. Support for wheat, flour, and bread production has become a critical activity for NGOs that address food security in Syria.

THE POLITICAL AND PUBLIC STRUCTURES CONTRIBUTING TO CURRENT BREAD AVAILABILITY AND PRICES IN SYRIA

As of January 2022, bread is subsidised by all political factions governing every area of control in Syria. Governing parties either distribute flour and fuel to bakeries at a fraction of the cost, or directly subsidise the price of bread for consumers, or both. In addition, NGOs contribute to the subsidy system in areas outside of Syrian government control, either by distributing flour as part of a package of cross-border aid and support for bakeries or by distributing free bread to vulnerable groups.

North West Syria (NWS)

North West Syria is divided into two areas of control: north of Aleppo is controlled by the Turkey-affiliated National Army and Interim Government, and North Idlib is controlled by Hay'at Tahrir al-Sham (HTS) and its affiliated Salvation Government. The total population is 4.4 million, of whom 2.8 million are IDPs, and 1.7 million live in camps and informal sites.¹⁰ These vulnerable groups rely on aid, either as public subsidies from the Salvation and interim governments for daily bread rations, or direct humanitarian aid by NGOs.¹¹

NWS continues to be a very volatile political and security environment. This volatility is shaped by uncertainty surrounding the renewal of cross-border aid (now a biannual stress), infighting between opposing factions, and sanctions against the jihadist factions and Turkey's internal politics. All these factors make access to aid unreliable.

Turkey influences politics and security in NWS and as a result the price and availability of bread are also dependent on the Turkish commodity market. Flour is imported from Turkey both commercially and as cross-border aid.¹² In May 2021, only 10 percent of flour in NWS was locally sourced from Syria, while 90 percent was imported from Turkey. This is a dramatic decrease in local production compared to November 2020, when locally sourced flour represented 32 percent of the market and 68 percent of flour was imported. Given this reliance on Turkish flour, rapid inflation in Turkish markets in 2021 led to sharp increases in the cost of bread in NWS, including the cost of state bread.⁸

Given these factors, in June 2021, it was estimated that 46 percent of the population in the NWS did not have access to affordable bread.¹³ The bread crisis in NWS prompted public anger and protest. Additional aid flour was distributed to bakeries¹³ to lower bread prices, and bakeries in Idlib reduced the weight of a state bread bundle to help maintain prices.¹⁴ In November 2021, HTS and its government held an emergency meeting where HTS commander al-Jaulani pledged USD 3 million (SYP 11 trillion) to subsidise prices 'until the end of the economic crises'. In December 2021, the Salvation Government declared a budget of USD 3 million (SYP 11 trillion) to subsidise flour and fuel for '85 supported bakeries' in an effort to stabilise the price of the state bread bundle.

North East Syria (NES)

North East Syria is controlled by the Syrian Democratic Forces (SDF), a coalition of armed groups dominated by the Kurdish People's Protection Units (YPG) and governed by the Autonomous Administration of North and East Syria (AANES), led by the Kurdish Democratic Union Party (PYD). The region has a population of 3 to 4 million people (numbers are contested), with a high number of IDPs. Continued political violence, including water cuts by Turkey, has led to ongoing movement of IDPs into the region, adding pressure on land and resources.¹⁵

There is an abundance of wheat and oil in NES. However, a long history of exclusion and marginalisation¹⁶ has resulted in limited infrastructure to refine light fuel. As a result, NES has remained largely dependent on fuel imports.¹⁷ Furthermore, relations between the AANES government and Syria's neighbours have historically been tense, contributing to fuel shortages and high fuel prices (See figure 1). Fuel is needed to harvest, transport, and mill flour. Given that 91 percent of the flour used to produce

bread in NES is locally sourced, ensuring enough fuel to maintain affordable production remains a challenge for the AANES government. For example, due to fuel shortages, the average cost of bread production in USD increased by 28 percent between March and July 2021. However, this translated to a 96 percent increase in the price of subsidised bread for consumers in SYP during the same period. This increase reflects not only general inflation, but also the broader impact of fuel prices on the bread value-chain.¹⁸

The AANES government directly subsidises flour and fuel in the region. There are no publicly available numbers on the volume of flour supported by the AANES, but they claim to cover the needs of the territories under their control. Yet AANES struggles to cover the costs and supply the ingredients, especially fuel. AANES has blamed war profiteers for shortages of subsidised flour and fuel.¹⁹ Meanwhile, the population has grown angry that bread is of low quality, at high prices, and in low supply.

Government of Syria

The Syrian regime has succeeded in retaking control of most of the country. Today, more than 16 million people live under its control. Despite disruption caused by the conflict, the Syrian government maintains an elaborate bread subsidy system. It subsidises quotas of flour and fuel for private bakeries, while also directly producing bread through its public bakeries. In 2022, 18 percent of the total SYP 13.3 trillion budget has been allocated to subsidise bread costs for consumers, an increase from 10 percent of the total 2021 budget. Another 20 percent of the budget is planned for fuel subsidies to support milling, transportation, and baking, a decrease from 32 percent in 2021.^{20,21,22,23} By shifting subsidies, the government is attempting to gain control of the black market for both fuel and flour and increase direct support for consumers.

However, the government of Syria faces challenges in supplying bread. The government has been cut off from domestic wheat and oil sources in NES, and now must buy flour and fuel. Despite Russian and Iranian willingness to supply resources, the government of Syria has limited ability to secure foreign currency to pay for supplies. Instead, the regime leased important assets such as the port of Tartous, and it gives other privileged access to Russian and Iranian investors in exchange for support. However, in doing so, the government is deprived of further resources and income.

Political affiliations increasingly decide the level of household food security in government areas. In February 2022, the government began long-planned reductions in the number of people receiving direct subsidies for fuel, bread, and staple foods.^{23,24} The measures limit subsidised bread to those carrying digital consumer identification cards, which replace the old paper household ID (the Syrian government recognizes a household as the family of a father and mother and their unmarried children). The digital ID requirement has caused widespread public anger.²⁵ Those who are allowed to buy bread from non-subsidised sources must register their names, nationalities, and phone numbers with local authorities. Mandatory registration using official identification ultimately excludes those without government-issued identification documents. However, in the Syrian government areas, the legal system is largely weaponised and securitised, resulting in hundreds of thousands of individuals living without legal identification for various reasons. This includes individuals who are perceived as enemies of the state, those from former opposition enclaves, returnees from a neighbouring country or from NWS, and others with issues related to military service status. The subsidy system has been made another form of political leverage, which is used to control populations and to negotiate with NGOs and other actors.

Overall, the Syrian government dominates the bread market in its territories. Indeed, the regime's recent reassertion of political and security authority has restarted subsidy reform policies. However, at the same time, racketeering is common. The regime and its allies make substantial profits by illicitly trading subsidies in the parallel black market, which highlights politically driven vulnerability under regime control and contributes to widespread food insecurity in the region.

WHEAT PRODUCTION IN SYRIA

Reporting the volume of local wheat production

It is difficult to quantify the current production of wheat in each of the territories. Local authorities usually report the amount of wheat purchased from farmers by the end of harvest. During the rainy season, agriculture authorities forecast wheat production by multiplying the area of cultivated land by the optimum yield in that area. The calculated outcome is then balanced against the estimated population needs in each area (daily consumption per capita of a kilo of bread).

For example, one projection of needs against production for the year 2021 was as follows:²⁵

- In the Government of Syria territories, the needs are estimated at 1.2 million tonnes of wheat and production is estimated at 200,000 tonnes.
- In NES, the needs are estimated at 300,000 tonnes and production is estimated at 600,000 tonnes.
- In NWS, the needs are estimated at 500,000 tonnes and production is estimated at 150,000 tonnes. However, actual production was reported at only 30,000 tonnes,²⁶ 20 percent of projected production and 10 percent of projected needs.

These calculations exclude the free market and the black/informal market, which are driven by supply, demand, and the resale of subsidised items after embezzlement by state officials, warlords, and profiteers. For example, the Syrian government now uses the services of private merchants to purchase wheat from farmers in NES. The volume of this trade, considered smuggling by the AANES,²⁷ is then missing from their self-reported quantities of purchased wheat, and can be interpreted as low yield per area per season.

Therefore, more scrutiny is needed to assess the numbers formally reported by authorities in Syria, especially when low production/yield is key to requesting further aid and subsidies.

Estimating current wheat production

A more accurate assessment of wheat production can be obtained on a per field or per producer basis. When asked, producers and experts across Syria who were consulted for this brief reported that the 2021 wheat harvest was extremely poor. In some areas yield was as low as 10 percent of their optimal yield. Communities reached for the purpose of this brief were selected to reflect all territorial and contextual divisions in the country. The tables below were produced by the authors, using data provided by farmers and agricultural experts consulted.

Available data from North East Syria, the largest wheat-producing region in Syria, shows that crop areas declined sharply in 2021.²⁸ In some areas of Hasakah, the decline was as high as 95 percent. The total production in NES was estimated at 400,000 tonnes (post 2021 harvest), down from 950,000 tonnes in 2020. Even then, the AANES reported purchasing only 200,000 tonnes of the harvest.²⁹

Table 1. Yield estimated in kilogram per dunam (approx. 0.25 acre) by local experts for the years 2021 and 2020, and the optimal yield in the area

	Year	Hama	Hasakan	Idlib	N. Aleppo
Rain fed	2021	25-50	25-100	60	50
	2020	50	100-200	-	-
	Optimal	125	250	200	200
Irrigated	2021	50-100	50-200	300	100
	2020	100-200	350-400	350	-
	Optimal	200	500	350	350

Table 2. Yield reported in kilogram per dunam (approx. 0.25 acre) by producers for the years 2021 and 2020, and the optimal yield of the field

	Year	Hama	Hasakan	Idlib	N.Aleppo	Raqa
Rain fed	2021	40	80	60	-	63
	2020	60	75	83	-	150
	Optimal	125	250	200	200	250
Irrigated	2021	65	-	-	190	220
	2020	90	233	275	216	200
	Optimal	200	450	350	350	450

* Yield values were given by farmers and agricultural experts in consultations during November and December 2021. The experts gave rough estimates for the areas of operation; farmers reported their fields' total production and yields were deduced by research team. Optimal numbers are given as reference for the highest yield possible in each area.

Threats to wheat production in Syria

To understand declines in wheat production, we need to consider threats across the entire wheat production system. For that purpose, key factors that threaten wheat production may be classified into four groups:

- 1. Direct conflict-related damage:** Material damage affects farmers ability to grow wheat crops. Such damage includes the loss of assets, crop fires, destruction of irrigation systems resulting from the war with ISIS, and other results of conflict. In addition, agriculture is stymied by social damage, such as the violence against, and displacement of, agrarian communities, as well as by pressure on young men to flee or join militias (e.g., Southern Idlib), which undermines the agricultural workforce.
- 2. Environmental damage:** Wheat production in Syria is vulnerable to climate and environmental changes, particularly water availability. Declining and irregular rainfall has increased the frequency and intensity of drought. While 60 percent of Syria's water flows through Turkey via the Euphrates River, this supply is unreliable as Turkey controls the flow of water into Syria.¹⁵ These factors ultimately increase dependency on groundwater irrigation to sustain wheat crops. Groundwater is commonly accessed through unregulated boreholes dug by farmers, which further deplete groundwater sources.²⁸ Agricultural practices such as furrow irrigation also disrupt groundwater table replenishment. As a result, water table levels are dropping steadily across the country.³⁰
- 3. Failure of institutions and organisations:** Farmers who grow wheat lack support to sustain their livelihoods. Governments devote few resources to agriculture and are not investing in institutions and social organisations to support wheat production. Interventions by non-governmental actors benefit few farmers and have insufficient project life spans. Farmers have limited options to sell their harvest and prices are largely controlled by government actors and merchants. The relative economic and

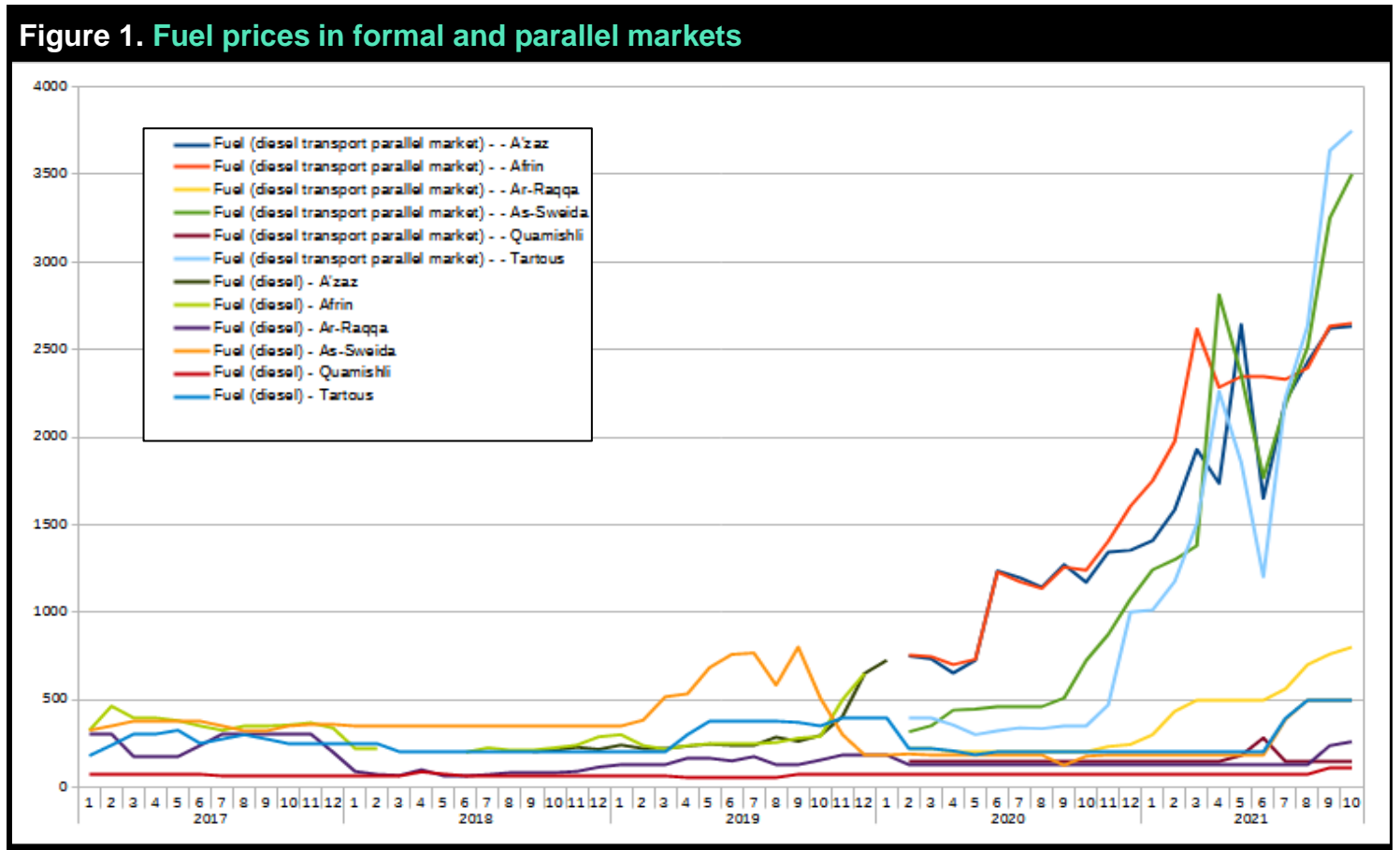
social security that was once associated with wheat farming has disappeared along with the generous subsidy system that existed for decades prior to recent conflict. In turn, farmers have turned to other cash crops to support their livelihoods.

4. **Global and regional crises:** As Syria has grown more dependent on wheat imports, bread production is increasingly vulnerable to global events. For example, the Russian invasion of Ukraine in February 2022 is threatening to cause a global wheat shortage. With little recourse to manage price increases or supply shortages, restoring local wheat production systems in Syria is all the more urgent. Effects of the Russian invasion of Ukraine pose further challenges to bread production in some parts of Syria. For example, in NWS, HTS monopolises the fuel trade through Watad, an HTS-owned company. Up until February 2022, fuel was imported from Ukraine through Turkish companies. It is expected that the impact of the war on fuel supply and prices will further increase bread prices in NWS. In areas controlled by the Government of Syria, the Russian invasion of Ukraine is likely to further restrict access to flour and fuel. While the government can buy supplies at a higher cost from NES areas, the amount available is insufficient to meet population needs.³¹

In the context of the social and political crisis and the military conflict in Syria, these compounding factors are causing a failure in the wheat production system, as illustrated by the low yield, which is below the profitable threshold for wheat farmers. This context of overlapping crises also limits the effectiveness of interventions designed to offset individual factors.

Informal markets and the cost of wheat in Syria

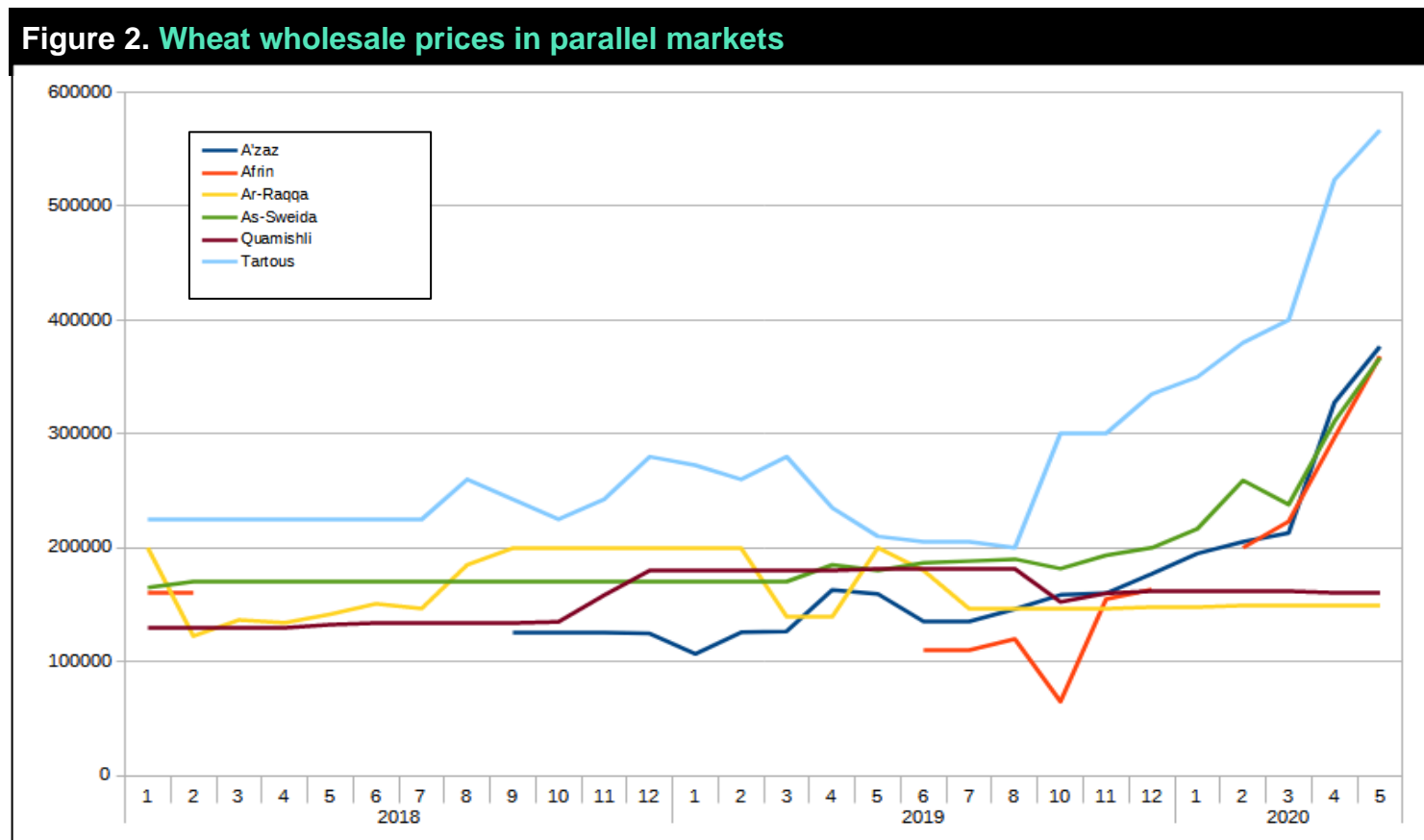
Publicly subsidised commodities, such as fuel, wheat, fodder, and fertilisers, are important items across Syria’s sprawling illicit trade networks. Commodities embezzled from warehouses by officials are quickly monetised with large profit margins through an extended network of warlords and merchants. These commodities are then traded across territories.



Data source: World Food Programme Vulnerability Analysis and Mapping (VAM) and country prices data.³⁴

Merchants are integral to the political and security regimes in all territories.³² Merchants are also associated with cross-border actors, including Hezbollah and affiliated Iraqi militia, the Turkish government, and its local affiliates.

The Syrian government acknowledges that up to 20 percent of flour goes directly to the black market.³³ One kilo sold to the public at SYP 40 is sold for SYP 1200 on the black market. Periodically, the government confiscates smuggling trucks and small operations, but the networks that trade flour, fuel, and other valuables are affiliated with the regime.⁶ These informal market dynamics are reflected in the increased prices of fuel (figure 1) and wheat and flour (figure 2). Markets for these figures were selected to reflect all territorial and contextual divisions in the country.



Data source: World Food Programme Vulnerability Analysis and Mapping (VAM) and country prices data.³⁴

CONCLUSION

Food insecurity is deepening in Syria. Current trends show a decrease in the local share of wheat used for bread production and an increase in production costs (for flour and fuel), leading to increasing bread prices. At the same time, fewer public funds are available to subsidise bread. Yet bread is a daily need, and people in Syria are faced with flour shortages, rising costs, unequal access to subsidies, extortion, and other forms of war taxation. In addition, local wheat harvests escape local markets, either because of lack of resources or because of unfair competition. This loss of domestic production and access exacerbates the discriminatory distribution of bread.

Food system fragmentation, including contributions from the non-governmental sector, is benefitting the actors participating in the conflict. Indeed, alliances between political, security, and merchant elites shape access to bread for populations across all Syrian territories. These elites generally favour

importing wheat rather than subsidising local production, resulting in further political and economic marginalisation of farmers and local producers. Without political support it will be increasingly challenging for farmers to cultivate wheat; more so given the intersecting challenges – environmental, political, and social – shaping the bread value chain in Syria. Ultimately, farmers who have the option will cultivate other crops, creating even greater dependency on wheat imports to meet bread needs in Syria.

Thus, aid agencies are faced with four interrelated challenges: prolonged high costs for subsidised bread, fewer donations, higher operational costs, and ever-increasing numbers of people in need. However, given that aid is contributing to the different subsidy systems across territories, and in turn to those governing these systems, it should be recognised that offering bread assistance may reinforce the position of actors currently in power.

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