

# LEFT OUT IN THE COLD: KNOCK-ON EFFECTS OF FUEL SHORTAGES IN GOVERNMENT-HELD SYRIA

Thematic report

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# Key takeaways

- *Syrian government officials expect a prolonged fuel crisis ahead of winter.*
- *The government's first subsidized allocations of diesel, specifically for heating, is set at 50 liters – sufficient for a maximum of ten days for the average household. The expectation is that either the second round of allocations will be significantly delayed or will not be delivered.*
- *The price of diesel on the black market has increased 510% since October 2020.*
- *According to HAT's affordability calculator, it will require ten hours of work per day for the average daily wage worker to purchase 20 liters of diesel on the black market.*
- *High diesel prices mean households are turning to alternative heating methods; some traditional, including burning firewood, animal manure and nut shells, and olive cakes (made from residue from olive oil production), and some through necessity, including using industrial alcohol for fuel, or burning plastic and other waste.*
- *Firewood, one of the main alternatives to diesel, is becoming scarcer, with increased commercial logging and illicit logging (for commercial and personal use).*
- *In a study of As-Sweida, illicit logging has become a potential driver for social tensions between the Bedouin and Druze communities and in the Lajat area located on the border between As-Sweida and Dar'a governorates.*
- *Forty percent of the communities with winterization needs are located in As-Sweida governorate, the highest proportion of any governorate.*
- *The vulnerability of communities appears to be largely driven by the climate; 44% of communities with winterization needs in Syrian government areas are located in cold semi-arid climates.*



*Households in government-held Syria face a winter of diesel shortages and high prices. Many are turning to alternative methods of fuel to heat their homes. The increased use of firewood is likely to exacerbate deforestation, while commercial illicit logging is contributing to instability in certain areas. HAT identifies the main areas where winterization need is greatest, in order to be able to recommend targeted aid to the most vulnerable communities. (Photo credit: The New Humanitarian)*

# Introduction

Communities in Syrian government-held areas are in the midst of a prolonged fuel crisis. Taking into account the current domestic economic dysfunction as well as global commodity market volatility, a solution to satisfy Syria's demand for basic fuel derivatives appears unlikely. With the onset of winter, government officials have been uncharacteristically candid; several have admitted that shortages appear chronic and would continue for the foreseeable future. The Syrian minister of Petroleum and Mineral Resources, Bassam Tohmeh, [attributed](#) the crisis to a number of factors, including low domestic oil production, saying it was because of these that they would be unable to resolve issues in the short term. A manager at the Syrian Fuel Storage and Distribution Company (SADCOB) reiterated this, [saying](#) that as long as Damascus did not control the oilfields, the government would have to continue attempts to import fuel, a supply chain which has been unstable and prone to sanctions-related complications.

The fuel crisis is part of a steep economic decline in government-held areas (as [explored](#) by the Humanitarian Access Team (HAT) in a September 2022 situation report). Scarce government resources and systematic corruption, persistent sanctions and external geopolitical [developments](#) (of which the Russian-Ukrainian conflict stands out), have severely limited the government's capacity to import essential commodities, and fuel products. The [reactivation](#) of a credit line agreement with Iran in May 2022 has yet to produce a noticeable improvement in fuel imports despite the arrival of more than five oil shipments to date; the scarcity and unaffordability of fuel products have put further pressure on local livelihoods, increasing commercial and industrial production costs, undermining the water and power supply, paralyzing the transportation sector, and threatening the functionality of the education and healthcare sectors.

With winter approaching, the complexity and severity of the fuel crisis is likely to increase as fuel products, specifically diesel, constitute the primary source of heating for the majority of families across government-held areas. With fuel shortages projected to last throughout winter, many families will suffer. Many will struggle to secure and afford sufficient amounts of fuel, particularly diesel, used for heating.

This report tackles the anticipated heating crisis in government-held areas by first analyzing government diesel allocation deliveries and assessing their sufficiency and efficiency, in addition to the price of diesel on the black market, and its affordability amid the ongoing fuel shortages. It then provides winterization needs assessment, conducted by HAT using secondary quantitative data sources, which identifies the most vulnerable communities to help guide winterization programming in government-held areas. With households struggling to source diesel, some have turned to alternative methods for heating – presented here are alternative fuels used for heating, in terms of their benefits and costs. Another mechanism used by households, particularly in forested areas, is increasingly to use firewood for fuel: although this is not new, the logging industry appears to have expanded in recent years, with deforestation threatening the land, and the resource's scarcity acting as a potential driver of conflict (as shown in a study of As-Sweida governorate).

## Methodology

The findings of this report were achieved through mixed research methods. For qualitative research, HAT relied on data from media and social media outlets, official statements and updates by the concerned government entities, and anecdotal evidence from key informant interviews. The HAT also conducted a quantitative analysis of the dynamics of heating diesel affordability, shelter need, and NFI need that informed a composite indicator that identified communities vulnerable to colder temperatures. Satellite imagery analysis was used to measure the level of forest cover in As-Sweida and Quneitra governorates and calculate forest cover dynamics between September 2019 and 2022.

# Fuel allocations, subsidies and deliveries

In preparation for the coming winter, the Syrian government's Ministry of Petroleum and Mineral Resources [announced](#) that citizens who qualified to receive subsidized diesel for heating could register, as of 14 September, via the Smart Card's 'Way-In' application. Smart card holders applied for the first batch of subsidized diesel, amounting to 50L (at a price of 500 SYP per liter), with priority distribution to areas with colder temperatures and individuals with the most recent purchase request.<sup>1</sup> The Ministry further [added](#) that, from 1 October, smart card holders may register for unsubsidized diesel allocations, again of 50L, priced at 2,500 SYP per liter.<sup>2</sup> Local sources explained that the Syrian Company for Storing and Distributing Petroleum Materials (SADCOB, or the Mahrukat Company) delivered the subsidized diesel allocations to residential areas via tankers, whereas in the case for unsubsidized diesel, citizens could designate their favored gas stations (private and public) as pickup locations and would receive their allocations once notified via text messages. The diesel subsidy deliveries are taking place throughout the week, even on Fridays when fuel subsidies for the industrial and transportation sectors are usually [halted](#).

As the situation currently stands, it is difficult to know the progress made with deliveries, particularly in terms of coverage, due to data unavailability and inconsistency, as well as differences between each governorate's diesel allocations and number of smart cards. On 10 October, the SADCOB's assistant manager, Mustafa Haswiya, [stated](#) that around 460,000 families (12% of eligible households) have thus far received their subsidized heating diesel allocations, out of 3.79 million families across all governorates, adding that the highest volume of distribution has taken place in Damascus and Rural Damascus governorates (70,000 and 90,000 families respectively). Faraj Saqer, member of Quneitra's Executive Office for Fuel, [informed](#) media sources on 11 October that 7,000 families out of 28,000 (25%) have received their allocated diesel subsidies. In Homs, the number of beneficiary families [approached](#) 1,500 (out of 398,077), according to Samir Droubi, member of Homs' Executive Office for Internal Trade. In total local sources estimated that subsidy delivery is yet to surpass 10% of the eligible population. Figures for distribution in Dar'a, government-held Aleppo, Lattakia, and Tartous are more difficult to estimate and verify at the time of writing.

While certain communities have received their first batch of subsidized diesel for heating, there is growing uncertainty among government officials regarding the second batch's delivery schedule. The Ministry of Petroleum and Mineral Resources has not provided clear information concerning the total quantity of subsidized diesel allocations planned for distribution during 2022–2023, nor has it offered a timeline for distribution, except for indicating its intention to complete distribution of the first batch by the end of this year. For the past 2021–2022 season, only [30%](#) of families received their second batch across government-held areas. This ambiguity at the official level has generated concern among locals already wary of the government's rationing of fuel subsidization and the increasingly unaffordable prices on the black market.

At the present pace of subsidy distribution, citizens in Quneitra could all receive their diesel allocations (currently at 25%) by the end of the year, while locals in As-Sweida and Homs may face [delays](#). Nonetheless, the Syrian government's ability or failure to reach its self-declared objective will have a crucial impact

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1 Individuals who applied for but did not receive their second and third batches of subsidized heating diesel last year are prioritized when it comes to the distribution of this year's first batch

2 This is the official price of unsubsidized diesel per liter, while the black-market price varies between 7,000 and 9,000 SYP

on local livelihoods. Despite discontent with the rationing of diesel subsidies, the 50L allocation remains vital to the majority of families who cannot afford to buy diesel at the black-market price. Indeed, local sources registered increases in the commodity's price following reported delays in notifications for subsidy deliveries, which indicates that more delays might further drive diesel's black-market value.

Unfortunately, even if the first batch of diesel allocations is delivered, it is likely that the amount provided via the subsidy program will be insufficient for the local heating needs for the upcoming winter season. Meanwhile, it remains uncertain whether the government will proceed to issue a second subsidy let alone deliver it on time, with the activation of the second batch dependent on completion of the first stage of distribution. The Operations and Maintenance manager at SADCOP, Issa Issa, has already [questioned](#) the prospects of a second diesel subsidy, emphasizing that it will depend on the available governorate-level allocations. Increased heating allocations could be made possible by increasing the shares governorates designate for heating purposes, but such a move will likely take place at the expense of allocations channeled towards the agricultural, industrial, education, and transportation sectors.<sup>3</sup> Securing allocations through the import of fuel products remains an insurmountable challenge – the government's capacity to fund imports remains paralyzed by the shortage in foreign currency reserves and economic sanctions.

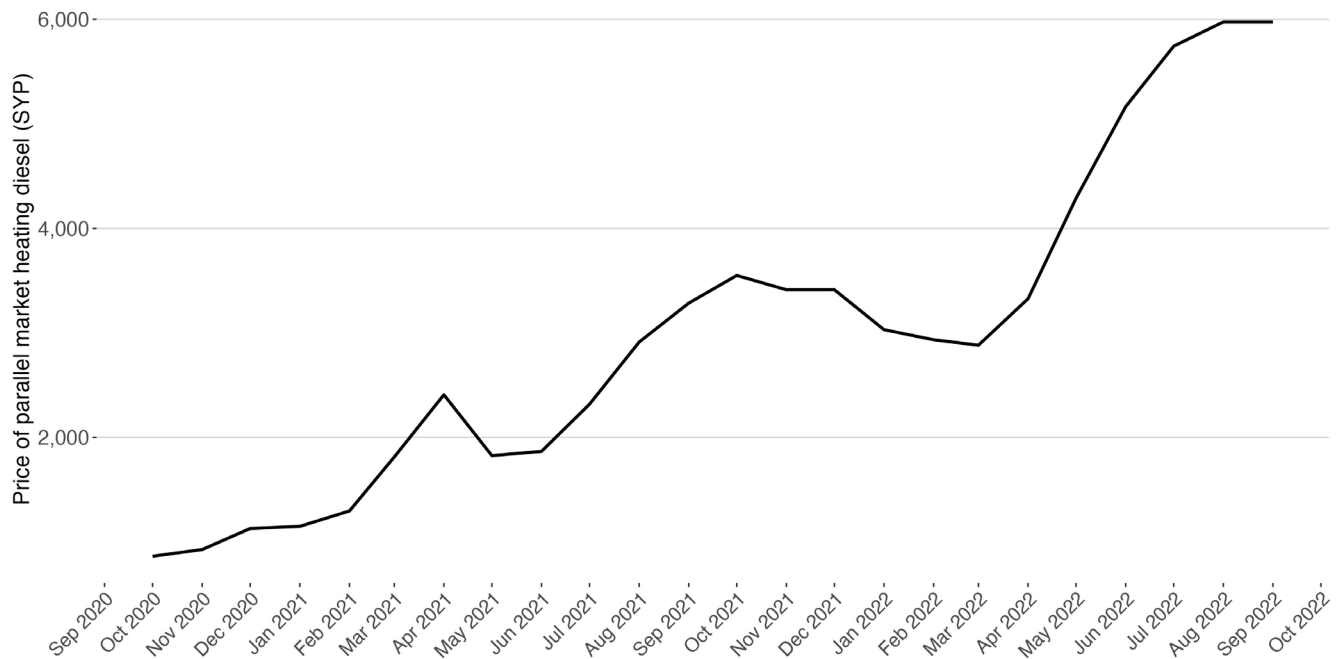
The government's mechanism for the delivery of diesel has not been uniform across governorates. Local sources in Rural Damascus and Damascus stated that subsidized diesel allocations are directly delivered via tankers to residential areas on a daily basis, whereas in As-Sweida, and in eastern Aleppo, allocations are reported to be distributed from designated gas station. Some residents in eastern Aleppo have pointed out that the gas station which distributes fuel allocations lies 25km away from their town, with transportation to the station [costing about 20,000 SYP](#) – almost equivalent to that of the subsidized diesel allocation (25,000 SYP). Media sources have also [highlighted](#) that gas station owners are manipulating the allocations, and contributing to the amount of fuel products on the black market. This is not to mention the Ministry of Domestic Trade and Consumer Protection's poor monitoring policies over the fuel allocations channeled into the public sector, where the potential for funneling subsidized diesel to the black market is high, given the soaring prices.

## Fuel shortages and price hikes

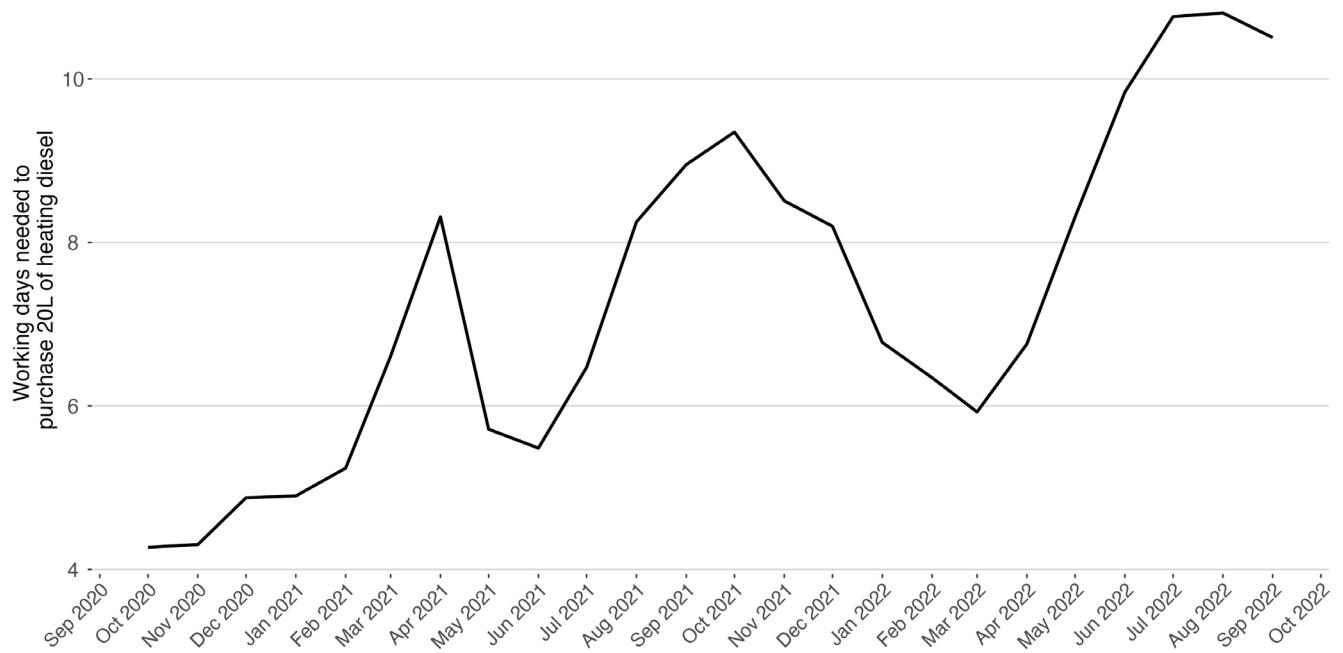
The deteriorating economy and consequent fuel crisis have had a profound impact on diesel's availability and price. The Syrian government accelerated its [subsidy removal policy](#) back in February to cut its expenses in the state budget. This resulted in many Syrians being excluded from the overall subsidy program, and an increase in the price of several items, including fuel derivatives, for those still enrolled – the price of subsidized diesel increased from 180 to 500 SYP per liter in July 2021 and the price of unsubsidized diesel from 1,700 to 2,500 SYP per liter in May. Additionally, the Ministry of Petroleum and Mineral Resources reportedly halved the total and subsidized heating diesel allocations to 100L and 50L, respectively.

According to local sources, 50L of diesel, if used only for heating, is reportedly enough to last a maximum of ten days during the winter, forcing cash-strapped Syrian families to purchase diesel on the black market. However, consumers are finding it increasingly unaffordable to purchase black-market diesel (shown in Figure 1) as prices have increased 510% since October 2020. The average daily wage laborer would have to work ten hours per day to afford 20L of diesel at the black-market rate, a luxury which many do not have given the [average](#) monthly salary is 150,000 SYP – half of 50L of black-market diesel purchased at 7,500 SYP per liter. The increase is more acute in some areas such as As-Sweida, where the price of one liter has increased 44% in the last four months alone, reaching an inflated 9,000 SYP per liter.





**Figure 1.** Price of black-market diesel in Syrian government-held areas, calculated using [WFP's monthly price data](#).



**Figure 2.** Average heating diesel affordability in Syrian government areas, calculated using [WFP's monthly price data](#).

For the most vulnerable families, the struggle to secure diesel is not only limited to the commodity's unaffordability on the black market, but also extends to the lack of cash needed to purchase subsidized and unsubsidized diesel allocations via the Way-In application. Local sources indicated that a significant number of smart card holders, who cannot afford to purchase their allocations when notified of their delivery, opt to sell these allocations to others who can. In this manner, they secure the funds needed to afford the next anticipated batch of subsidized diesel, although a second diesel subsidy remains uncertain.

Other smart card holders reportedly purchase their subsidized allocations (for example, 50L of diesel priced at 500 SYP per liter) only to offer them for sale at higher prices on the black market (ranging between 7,000 and 9,000 SYP per liter depending on area); subsidized, unsubsidized, and black-market fuel products of all types, including diesel, constitute a vibrant market on local social media outlets, particularly [Facebook](#) and [Telegram](#). A close observation of several Facebook pages and Telegram channels reveals a highly active marketplace for subsidized and black-market diesel, with users also sharing information about the Way-In application's usage and the locations of gas stations known for less traffic and better quality.

## Limited supply or limiting supply?



*The Banyas refinery (Source: [Syrian Prime Minister's website](#)).*

Recent events in government-held areas have raised questions about the veracity of the fuel crisis and whether the low supply is instead the government intentionally limiting distribution. The fuel crisis currently taking place in government-held areas comes amid the arrival of at least five Iranian oil tankers which reportedly carried more than 3m barrels of crude oil since the reinstatement of the Iran credit line in May. Additionally, the Banyas refinery's general manager, Mahmoud Qassem, [stated](#) in September that the company's storage tanks' capacity has been exhausted,

adding that the production of fuel derivatives has not stopped, and that the arrival of new oil shipments will not have any impact on the production process — possibly implying that production is at maximum capacity. Moreover, Minister of Petroleum and Mineral Resources, Bassam Tohmeh, [stated](#) that oil offloaded to the Banyas refinery should be redirected and pumped to the Homs refinery, possibly due to the former reaching its maximum storage capacity.

These developments and statements generated controversy regarding the argument for low supply as the government struggles to find storage space for its crude oil and is continuously producing fuel derivatives. The controversy has prompted an official response concerning the state of production in Banyas. SADCOP's assistant manager, Mustafa Haswiya, [stated](#) that the fuel derivatives production in the Banyas refinery is insufficient to meet domestic needs even if production is continuous and that the Iran credit line does not offer the bare minimum amount of oil needed to meet domestic needs and that it is susceptible to disruption.



# Winterization needs assessment

The increase in price and reduction in availability of black-market diesel is likely to leave people with significant winterization needs. UN spokesperson for the Secretary-General, Stephane Dujarric, stated on 10 October that nearly six million people throughout Syria (in all zones of control) will need [humanitarian assistance](#) to cope with harsh winter conditions, an increase of 33% over last year. Dujarric added that around \$200m is urgently needed to close the funding gap and allow humanitarian partners to meet winter-related needs between October and March.

Colder temperatures increase needs, for organizations to distribute non-food items (NFIs), such as warm clothing, blankets, gloves and winter boots,<sup>4</sup> and material to insulate shelters. Therefore, communities with high and increasing levels of shelter and NFI needs should be considered a priority for humanitarian assistance. The affordability of diesel used for heating can be used as a measure of the pervasiveness of alternative heating methods. As a result, to assist in identifying communities already vulnerable to cold weather, HAT developed a community-level winterization vulnerability indicator consisting of the following components:

1. The level of and year-over-year change in shelter and NFI need; and
2. The affordability and change in the affordability of black-market diesel.

The combinations of high levels of, and change, in these indicators are ranked among all communities in Syrian government-held areas and aggregated to provide guidance on where to target winterization programming. Needs levels were extracted from H NAP's Monthly Needs Monitoring assessment, and diesel prices and daily wages for unskilled laborers were obtained from WFP's monthly price monitoring dataset. The affordability of diesel used for heating was calculated as the price of diesel divided by the reported daily wage for unskilled laborers.<sup>5</sup>

The percent of residents reporting shelter or NFIs as a priority need in September 2022 was used to measure the level of need in the community; further, the affordability of black-market diesel in the same month was used for the calculation.<sup>6</sup> The percentage point change from September 2021 was used to measure the change in those needs levels and affordability. The logic behind measuring the level and change in an indicator is that communities with high needs levels ( $\geq 60\%$ ) or low affordability should be highlighted, with special concern for communities that recently fell into a high level of need or experienced a rapid decrease in purchasing power for diesel because residents have had relatively less time to cope with the deteriorating condition.

**Table 1.** Categorization of priority shelter and NFI needs for the winterization vulnerability indicator.

Shelter/NFI need (Sep '22)	YoY change in Shelter/NFI need	Score
$\geq 60\%$	+/- 5%	1
$\geq 60\%$	5% to 20%	1.5
$\geq 60\%$	Over 20%	2

These measures were categorized, ranked, and aggregated to produce the winterization vulnerability indicator. The level of need was ranked according to Table 1 and Table 2. The three components are summed. Communities that did not meet the criteria of a given component were assigned a score of zero. Communities in the top quartile of total scores are considered vulnerable, and those scores are assigned vulnerability levels based on the quartile ranking.

<sup>4</sup> [Guidance Note on Winterization for Northwest Syria.](#)

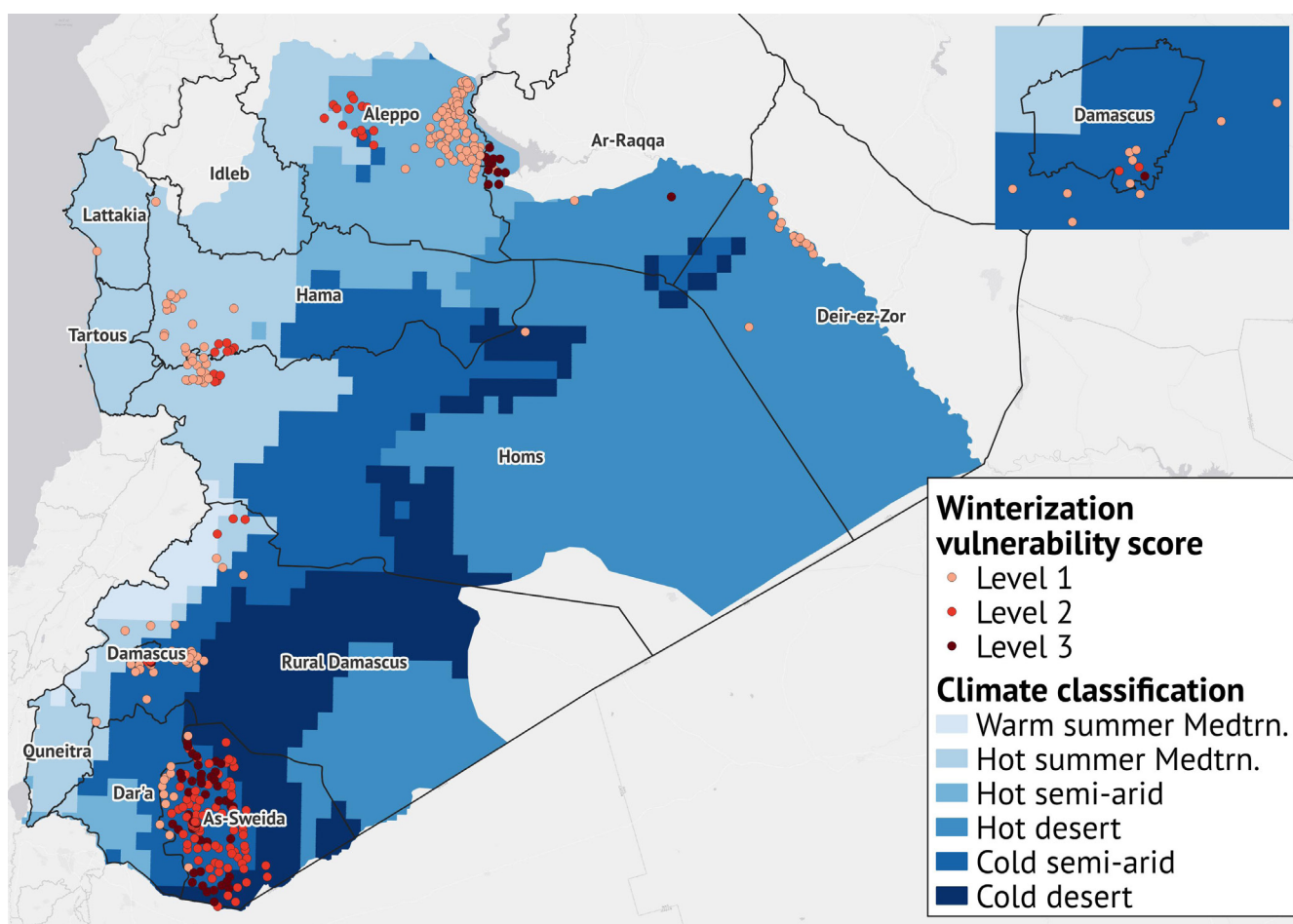
<sup>5</sup> Communities were assigned the price data of the nearest WFP market.

<sup>6</sup> Only resident priority needs were included in the calculation of this indicator.

**Table 2.** Categorization of black-market diesel affordability for the winterization vulnerability indicator.

Diesel affordability (Sep. '22)	YoY change in diesel affordability	Score
Quartile 3	Quartile 3	1
Quartile 3	Quartile 4	1.5
Quartile 4	Quartile 3	1.5
Quartile 4	Quartile 4	2

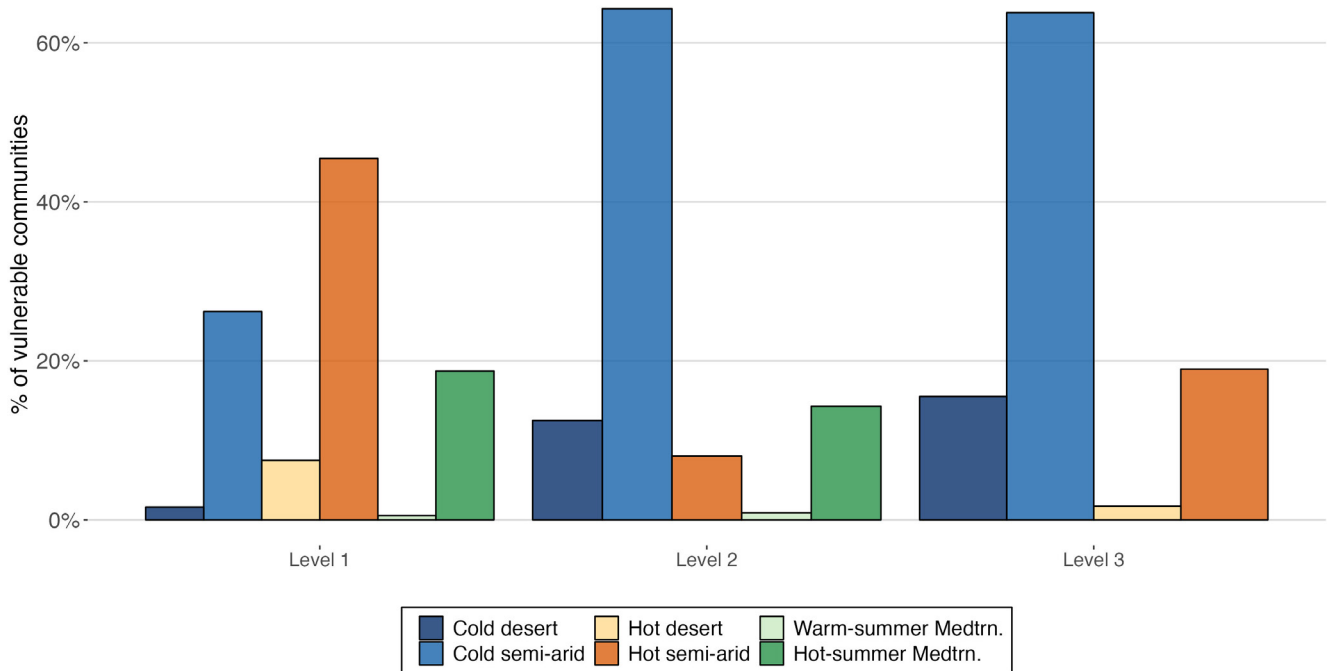
Communities in the top quartile of winterization vulnerability scores are shown in Figure 3. Approximately 40% of the vulnerable communities are located in As-Sweida, the highest proportion of any governorate; in fact, 93% of communities in As-Sweida were identified as vulnerable. Therefore, As-Sweida should be considered the primary location to target winterization assistance. There are other clusters of vulnerable communities in southern Damascus and the surrounding suburbs, eastern Menbij district, northwestern Mansura subdistrict (Ar-Raqqa), As-Safira subdistrict (Aleppo), and northwestern Homs and southeastern Hama governorates. A list of all communities in the top quartile can be found in Appendix I.



**Figure 3.** Communities in the top quartile of winterization need. Only Syrian government areas are mapped.

The vulnerability of communities appears to be largely driven by the climate – allocation of resources should prioritize communities in colder climates (however the concentration in As-Sweida suggests that other local factors have exacerbated the vulnerabilities comprising the indicator). This is shown in Figure 4, which visualizes the disaggregation of vulnerable communities by their Köppen-Geiger climate classification.<sup>7</sup> In aggregate, communities with cold climate classifications are greatly overrepresented compared to their total prevalence in government-held areas; specifically, about 1% of communities have cold desert

climates but comprise 7% of vulnerable communities, and about 17% of communities located in cold semi-arid climates but comprise 44% of vulnerable communities. Communities with hot desert and hot semi-arid climate classifications are also disproportionately represented, with an approximately 97% and 19% greater prevalence than their proportional occurrence. Unsurprisingly, communities with warm and cold Mediterranean climate classifications are underrepresented.



**Figure 4.** Vulnerable communities by their associated Köppen-Geiger climate zone.

## Alternatives to diesel

Because of the unaffordability and scarcity of diesel, households have been looking to alternative sources of heating for their homes ahead of winter. Through open-source data and responses from interviews with local sources, the HAT presents a variety of coping mechanisms shaped by rural and urban dynamics, affordability and accessibility of alternatives and of burners or heaters, and citizens purchasing power. The anticipated heating crisis has simultaneously brought new heating sources to the market while also reviving traditional heating methods. Below (and Table 3) provides a summary of the identified heating alternatives, their specifications, and their affordability compared to black-market diesel.

### Firewood

Firewood is a common heating source in government-held areas, particularly among families living in rural areas where temperatures drop significantly during winter.<sup>8</sup> The use of firewood for heating is widespread in forested areas, in Lattakia, Quneitra, As-Sweida, and some parts of rural Hama and Homs governorates. It is also in demand in urban centers, as media and local sources indicate that there’s a [large supply](#) of firewood-based heaters in the Manakhliya market of Damascus. Yet the increased supply is largely a response to the [increasing demand](#) for firewood in the major cities of Damascus, Aleppo,

<sup>8</sup> This report refers to firewood on a macroscale and as a resource without diving deep into the different and specific types which are not within the scope of this report.



and Homs. Firewood as a heating resource requires a wood burner, which currently cost [between](#) 55,000 and 1,500,000 SYP depending on their quality.<sup>9</sup> Sources also indicated that diesel heaters can be locally converted to burn firewood, an option for families given diesel's unaffordability. A public employee and a father in a family of five living in Damascus suburbs, explains:

*“Last winter, I relied on gas canisters to secure my heating needs; the black-market price back then was 70,000 SYP per canister. I cannot depend on my gas heater this year, as the canister’s price jumped to 150,000 SYP. Instead, I converted my diesel heater to a firewood-based one and will be seeking to sell my gas-based heater in order to purchase firewood.”*

A housemaid from Damascus in a family of seven indicated that she can only afford to buy 2L of diesel from the black market per week and does not intend to use them for heating purposes. She states:

*“I will rely on firewood, nylon, and anything flammable (cardboard and wood chips from carpentry workshops) to keep myself and family warm. I converted my diesel heater into a firewood heater years ago. I use the diesel for my water heater to warm the water for showering and cooking.”*

The price of firewood varies across governorates in government-held areas. In rural Homs and Hama, both rich in forested areas, the price per tonne is [estimated](#) around 900,000 SYP. The situation is similar in Lattakia governorate, where the price per tonne is slightly higher, reportedly [ranging](#) between 475,000 and 600,000 SYP. Interestingly, in a one-of-its-kind policy in government-held areas, the Department of Agriculture in Lattakia allocated a 500kg bundle of firewood at a [subsidized price](#) of 225,000 SYP per household to be distributed to families in the governorate. It is not clear whether this decision includes the entirety of the governorate, but it is more likely it will be limited to the governorate's mountainous regions where families operate firewood heaters throughout the day due to the cold temperatures.

The affordability of firewood is comparably lower in Damascus, Rural Damascus, and As-Sweida where the price per tonne currently hovers between SYP 1m and 1.5m, and it is likely to further increase during winter season in line with demand. At an average weekly consumption of 90kg, according to local estimates, the weekly cost would range between 90,000 and 135,000 SYP; it is already clear that a significant number of families will struggle to afford a total reliance on firewood for its heating needs, given that the average monthly salary sits at 150,000 SYP. Families who managed to secure firewood during summer and the early winter season will benefit the most.

Local sources have also reported that not all families who consume firewood buy it, as agricultural households for instance try to secure firewood within the context of their business, while others may seek to secure firewood through illicit means, as discussed later.

## ***Animal manure***

Described in one [media source](#) as the ‘alternative’s alternative’, animal manure, locally known as *kaseh* or *jalla*, is an agricultural byproduct that has managed to resurface as a heating source amid the soaring prices of diesel and increasing unaffordability of traditional alternatives such as firewood. Animal manure tablets are composed of camel, cow, sheep, or goat manure collected from animal pens during the summer; the [manure](#) is sundried, mixed with hay and tree branches, and then pressed into tablets which can be used as a heating material. An agricultural worker in a family of four living in Damascus suburbs, stated that she did not receive any subsidized diesel allocations last winter and is yet to receive any recently. When asked about her plan to secure heating resources for the upcoming winter, she answered:

<sup>9</sup> More expensive firewood-based heaters, estimated around 2000,000 SYP, also include a stove which can be used for cooking purposes.

*“We have a good-quality and efficient firewood fireplace at home. However, we cannot use it as the price of firewood is very high (850,000 SYP per tonne). Recently, I worked on collecting animal dung, dried and compressed it with sawdust, then stored it. We use it as a heating fuel; it gives a good level of warmth, but the quantity we have is very limited and will only be used for particularly cold days. Also, the odor it emits is terrible and so we will avoid its frequent use.”*

Animal manure tablets are almost exclusively relied upon in rural areas and by families with an agricultural background, for personal use, and are not generally sold as commodities. Local sources in Damascus reported that the resource is rare and virtually absent in the capital, which is quite common given that the option may seem very [alien](#) to families in urban areas. Outside of urban centers, media sources indicated that the resource is [gaining favor](#) among locals in northern As-Sweida countryside, particularly tent dwellers and residents of distant rural villages who work in farms and breed livestock. Local sources in the Eastern Ghouta region and As-Sweida estimated the value of animal manure tablets at 600,000 SYP per tonne but added that they are not typically sold as a market commodity. Concerning usage, the same sources added that the tablets can be accommodated in the same heaters that burn firewood, nutshells, and olive cakes.

### ***Olive cakes***

An [olive cake](#), also known as *tamz* or *perene* is a byproduct of olive oil production; a combination of olive kernels, stuffing, hard crushed seed, and a small percentage of oil, which is manufactured in specialized machines into highly flammable cubes or cylinders. Olive cakes are similar to animal manure tablets in that they constitute an agricultural byproduct that is used for heating purposes in rural areas, with an [emphasis](#) on localities where olive cultivation takes place, such as Lattakia, Tartous and northwest Syria. Media sources [indicated](#) that olive cakes represent an attractive heating alternative for many families, given their slow-burning nature, the considerable level of warmth they guarantee, and their relatively affordable price. Yet, the availability of olive cakes are highly limited to rural areas, as local sources failed to identify the product in the markets of Damascus and As-Sweida cities; meanwhile, sources in Eastern Ghouta reported that they cost 750 SYP per kilogram, with a weekly heating cost ranging between 75,000 and 90,000 SYP, making it more affordable than both diesel and firewood. Using olive cakes for heating does not require a special type of heater, and they can be burned using regular firewood heaters.

### ***Cypress pine cones***

Cones from cypress trees, a species of pine, are used for heating purposes primarily in its native areas, such as rural Homs and Hama, in addition the mountainous regions of Rural Damascus governorate. For heating purposes, cypress cones are gathered and then dried whole before use; and in rural Hama, workshops grind the cones into small pieces and store them in 25-kilogram bags to sell. Cypress cones can be used as a heating source in diesel heaters, firewood heaters, pellet and nutshell heaters.

### ***Nutshells***

Nutshells are another alternative heating source. The shells of pistachio and other common nuts are usually purchased from peanut shops, as leftovers of production, at a cost of between 2,300 and 2,400 SYP per kilogram. With an average weekly consumption of 52–65kg, the cost of using nutshells for heating would range between 119,000 and 156,000 SYP, a more affordable price than diesel and firewood. Yet, local sources indicated that heaters designed to burn nutshells are relatively costly, as their price ranges between 750,000 and 1,350,000 SYP.

## Alcohol-based fuel

Alcohol-based fuel is a newcomer on the market, as media sources have identified an [emerging variety](#) of the product since September 2021, under the name alcoholic gel fuel, initially sold as a [cooking alternative](#) amid the soaring prices of gas canisters. For heating purposes, media sources indicate that locals have been using industrial alcohol at a cost of 9,500 SYP per 1.5 liter, or [alcohol cocktails](#), which usually combine alcohol and kerosene at a price of 2,300 SYP per bottle. Local sources from the Manakhlia market of Damascus estimated the weekly cost of heating to be around 67,000 SYP while sources from As-Sweida indicated a much larger cost of 800,000 SYP. The discrepancy likely has to do with the fact that different sizes and types of alcohol-based heaters are available. They include [small-sized](#) easy-to-carry heaters with very limited warming capability (one meter square), priced between 35,000 and 100,000 SYP, or larger custom-made ones whose cost rises to 600,000 SYP. Heaters which burn alcohol mixed with kerosene may have a detrimental health impact, as studies have [associated](#) household kerosene usage with impairment of lung functions, asthma, and an increased susceptibility to infectious diseases.

**Table 3.** Heating alternatives to diesel, their properties, and their weekly operational costs, then compared to 50L of diesel purchased at 7,500 SYP per liter .

Alternative	Description	Weekly operational cost (SYP)	Price higher or lower than black market diesel
Firewood	Collected through tree pruning during the summer months, purchased from traders, or illicit logging.	200,000	Lower
Nutshells	Primarily shells of pistachio nuts, are usually purchased from peanut shops who have the shells leftover from the production process.	119,000 - 156,000	Lower
Cypress cones	Cypress cones, collected from cypress pine forests, are dried, and sometimes later ground.	N/A	N/A
Olive cakes	Olive cakes are made up of waste from the olive oil production, pressed together into a cube or cake. These cakes are flammable and can be used as a heating source.	90,000	Lower
Alcohol	Industrial alcohol and alcohol gel fuels can be purchased from the market and used with a special heater.	800,000	Higher
Animal manure	Animal manure tablets ( <i>Al-Kaseh</i> or <i>Jalla</i> ) are tablets composed of camel, cow, sheep, and goat manure collected from animal pens during the summer, mixed with hay, and then pressed into tablets.	N/A	For communities working in agriculture and livestock, animal manure is an agricultural byproduct and is therefore available for free



## Waste and plastics

Heating alternatives have become essential and will only continue to proliferate during the winter months as the fuel crisis drags on. However, as mentioned above, the alternatives themselves are becoming increasingly expensive; two out of the seven alternatives listed in this report are already more expensive than diesel (shown in Table 3) and it is expected that others will follow suit as demand for them grows in the winter months. This has forced many families to use other unconventional and hazardous items for heating alongside the safer alternatives listed above. Interviewees in Damascus and As-Sweida said they would burn any flammable waste products, including plastics, old clothes and trash, to keep warm.

Burning waste, particularly plastics, negatively affects people's health – burning natural and synthetic polymers (eg, plastic containers, foam cups, nylon bags) [releases](#) toxic fumes such as styrene gas, which is easily absorbed by the lungs and through the skin. Inhaling the fumes can damage the respiratory system causing asthma and emphysema, increase the risk of heart disease, damage the nervous system, and cause rashes, nausea, or headaches. Even burning firewood can result in respiratory [issues](#) if the smoke is not properly siphoned; firewood smoke can cause coughing, asthma attacks, wheezing and potentially heart attacks, lung cancer, and premature death in the long term.

## Alternative fuels within the war economy



*Worker gathers olive waste outside a factory in Homs governorate to turn into olive cakes (Source: Arabic News).*

Noting the demand for heating alternatives, war economy actors have been increasingly involved in the trade. Sources stated that illicit logging and the firewood trade predominantly became part of organized crime in As-Sweida in 2017 following a notable deterioration in the economic situation and reduction in fuel availability. Local militias affiliated with Military Intelligence began logging, selling, and directing the firewood trade in the governorate. Their activities increased in 2020 after sales increased with fuel shortages, and economic deterioration accelerated. Additionally, officers in the 4th Division and the

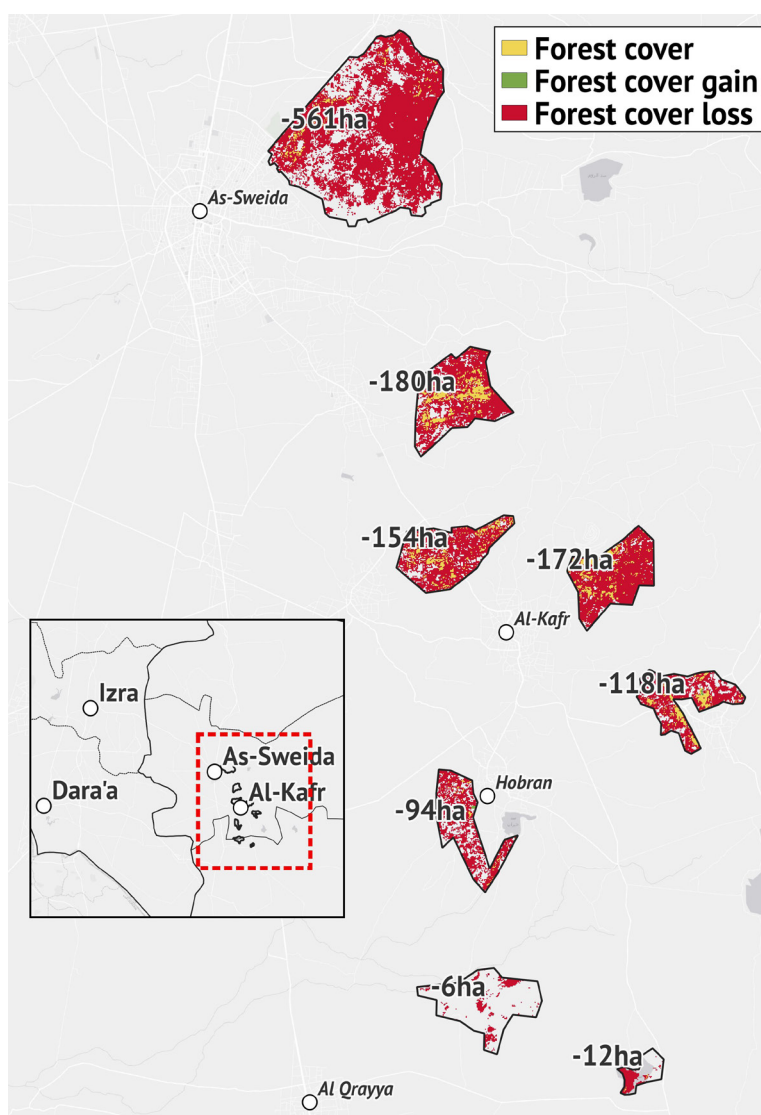
Republican Guard were the guarantors of the firewood trade in Rural Damascus; sources stated that their combatants, alongside military units, would cut down entire orchards and forested areas, which they would later sell at the market. Traders who were not directly affiliated with security agencies and in the business of illicit logging and the firewood trade, operated under the guidance and approval of the abovementioned officers.

In addition to firewood, olive cakes became a popular heating alternative in government-held areas where olive orchards are largely present, such as Hama and western Rural Damascus countryside. Following their return to Rural Damascus during and after 2016, the 4th Division confiscated abandoned agricultural lands containing olive orchards and rented them to farmers who would cultivate the land. The farmers were then directed to take their olive produce to designated olive presses whose owner would give them residue that would later be made into olive cakes and sold. Sources have also stated that olive presses in Rural Damascus in general have been instructed to save the olive residue and exclusively give them to the 4th Division.

# Deforestation, climate and security

Findings in the winterization assessment prompted the HAT to focus on As-Sweida to investigate the potential impact of a reliance on heating alternatives, particularly firewood. In As-Sweida, two impacts in particular were determined: the environmental impact of deforestation seen following extensive logging, and the societal impact following clashes resulting from Druze and Bedouin communities fighting over forested areas.

## Reliance on firewood leading to deforestation



**Figure 5.** Change in forest cover in selected forests in As-Sweida, from September 2019 to September 2022.

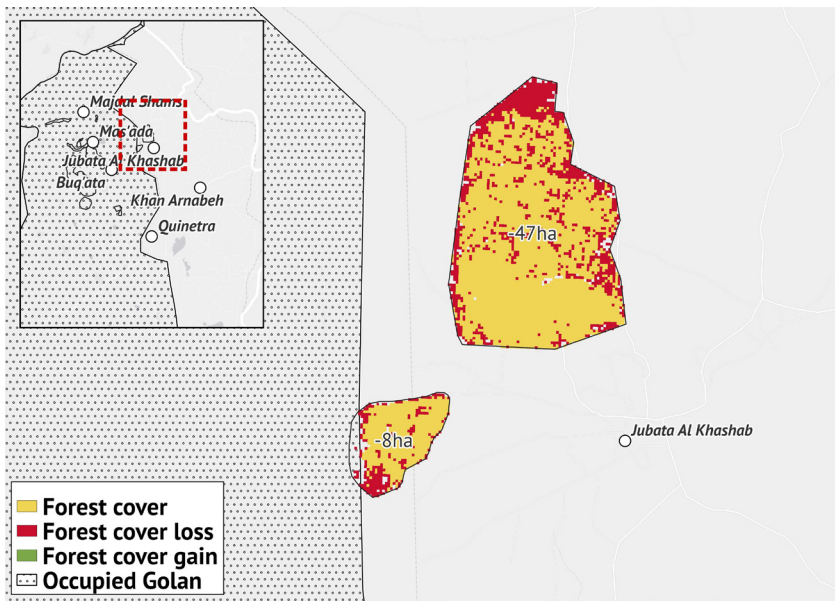
Families in forested areas source their firewood by collecting fallen branches or taking wood from trees which have been pruned, and through illicit logging. This can be sufficient for personal use, however with the huge increase in demand for firewood following the hike in diesel prices, businesspeople and organized crime groups have turned to logging as a profession and trade.<sup>10</sup> Illicit logging has seemingly become a frequent practice with the absence of effective forestry monitoring and measures to stop [entire forests](#) being cut down – it has been taking place in Hama, As-Sweida, Tartous, Lattakia, Dar'a and Homs governorates over the past few years, resulting in deforestation and increasing the threat of soil erosion and desertification.

The HAT conducted a remote sensing analysis of forests<sup>11</sup> in As-Sweida and Quneitra governorates. The analysis used Sentinel-2 satellite images in September 2019 and September 2022. Forest cover was estimated using a threshold of the Normalized Difference Vegetation Index (NDVI).<sup>12</sup> Figures 5 and 6 map the forest cover change in selected forested areas in As-Sweida and Quneitra governorates and the number of hectares lost during the past three years. The drastic reduction in

<sup>10</sup> While local sources report that illicit logging is the result of individual attempts by locals to secure firewood, media sources also indicate that some logging is by medium-to-large scale ventures, run and protected by government-affiliated military and security figures.

<sup>11</sup> Areas identified as forests on <http://wikimapia.org/>.

<sup>12</sup> NDVI  $\geq 0.2$ ; as suggested by Drori, R., et al. 2020. Precipitation-Sensitive Dynamic Threshold: A New and Simple Method to Detect and Monitor Forest and Woody Vegetation Cover in Sub-Humid to Arid Areas. *remote sensing* 12(8), Article 1231.



**Figure 6.** Change in forest cover in selected forests in Quneitra, from September 2019 to September 2022.

forest cover, by 20% in Quneitra and by 81% in As-Sweida, is most likely the result of firewood harvesting.<sup>13</sup>

Indeed, media sources indicated that these activities have wiped out significant forested areas in the governorate’s southern countryside, most notably [Al Ain](#) and [Al Kafr](#) forests, adding that the government has failed to take adequate measures to address this issue; consequently, efforts to curb illicit logging activities have been spearheaded by local religious leaders. For instance, the religious assembly and sheikhs of Habran, a town in As-Sweida’s southern countryside, issued a religious and social [sanction](#) banning logging in

the forested area near Habran Dam. Such efforts, though important, cannot substitute the need for serious law enforcement by the government, particularly at a time when logging is equivalent to surviving winter for many households.

## Illicit logging as a conflict driver

The exploitation of forested areas to secure firewood is naturally a competitive enterprise and can quickly deteriorate to a violent one, especially with firewood becoming a scarce resource due to years of extensive logging.

The current situation in the area between As-Sweida and Dar’a governorates is a case in point. On 8 September, local media outlets from As-Sweida [reported](#) that unidentified gunmen attacked a group of young men cutting trees in a forested part of the Lajat region, which lies between northwest As-Sweida and the eastern Dar’a countryside. Consequently, two were killed while two others were kidnapped. In the following days, the incident sparked [social tensions](#) as an armed group affiliated with Laith al Bal’ous<sup>14</sup> abducted a member of a tribe living in Mazra’a, western As-Sweida countryside, suspecting the tribe’s involvement in the attack. Accusations were denied, and the kidnapped party claimed that the perpetrators are likely to be the Bedouin tribesmen of the Lajat.

Local media outlets from the Lajat region stated that a group from As-Sweida infiltrated the forested areas near Hawsh Hmad in Masmiiyeh subdistrict and engaged in illicit logging, despite multiple [warnings](#) by local Bedouin figures and appeals to the Druze leadership to take action and address these violations. Similarly, on 14 October, local sources reported that a group affiliated with Bedouin tribes infiltrated private property in the Nimret Qrayya village in southern As-Sweida countryside, cut an estimated 120 olive trees before loading the firewood and withdrawing to their territory of control. The same sources added that locals did not pursue the perpetrators for fear of getting ambushed.

<sup>13</sup> Though some measurement error may be present because rainfall in As-Sweida and Quneitra was higher in 2019 than in 2022, which may cause false-negatives via drier foliage.

<sup>14</sup> A notable figure in As-Sweida and son of the late Druze Sheikh Wahid al Bal’ous, founder of the Men of Dignity Movement (Harakat Rijal al-Karama)



These developments become more worrying when examined in light of the historical context of the Bedouin–Druze relationship. Tensions over natural resources, specifically herding rights, have previously taken place between the Bedouin and Druze communities in As-Sweida governorate, [peaking](#) in late 2000 when clashes killed dozens and wounded hundreds. The sensitive Bedouin–Druze dynamics gained saliency again during the conflict, with emerging reports about Bedouin [cooperation](#) with the government’s security services as well their [involvement](#) in ISIS and Jabhat al-Nusra attacks in As-Sweida. That said, the potential transformation of illicit logging activities into a conflict driver between the two communities is high, particularly if the government decides to capitalize on such tensions to increase its presence and influence in the governorate. Therefore, the role and efforts of community leaders within the Bedouin and Druze leadership will be key in mediating these conflicts and preventing their violent escalation.

## Conclusion

The fuel crisis, coupled with the continued economic deterioration, have made diesel both difficult to procure and unaffordable. The deterioration of the Syrian economy, and the depreciation of the Syrian pound have decimated many Syrians’ purchasing power, forcing them to limit their spending to essential items, which they are already struggling to afford. In addition to rent, food, clothing, water, and electricity, families now have to worry about heating as an additional expense with the approaching winter months. Through the winterization assessment developed by the HAT, communities across government-held areas were identified as vulnerable: these included Damascus, Rural Damascus, Homs, Hama, Tartous, Lattakia, As-Sweida Aleppo, Deir-ez-Zor, and Ar-Raqqa, with As-Sweida governorate registering the highest number of communities in need (93% of communities).

The increased diesel prices and winterization needs prompted many residents to resort to more affordable traditional heating alternatives such as firewood, animal manure tablets, and olive cakes in addition to more inventive ones such as alcohol, nutshells, and cypress cones. Families have also resorted to burning hazardous materials, such as nylons and plastic, which could lead to adverse health effects in the long run. The use of heating alternatives, particularly firewood, have negatively impacted the environment and social cohesion. In As-Sweida, for example, the forested areas assessed by the HAT showed an 81% loss in forest cover since 2019 alone, indicating high rates of logging and deforestation, which may lead to soil degradation and desertification if not addressed. Additionally, the growing scarcity of wood due to extensive logging has become another potential conflict driver in As-Sweida on top of the pre-existing cultural and religious differences as shown by the clashes which took place in September.

The impending heating crisis in government-held areas is expected to take place as long as the government is unable to provide an affordable, sufficient, and efficient supply of diesel. Many communities across government-held areas are likely to require winterization assistance, particularly in As-Sweida governorate, due to high NFI and shelter needs, cold climates, and high diesel prices. Moreover, citizens resorting to alternatives may unintentionally lead to adverse environmental side effects and reignite social tensions, both of which have damaging long-term impacts.

# Appendix 1: Communities in the top quartile of winterization need

Community	Vulnerability	Governorate	Community	Vulnerability	Governorate	Community	Vulnerability	Governorate
Rima Hazem	Level 3	As-Sweida	Tal Abur	Level 2	Aleppo	Upper Nasriyeh	Level 1	Aleppo
Ramthan	Level 3	Ar-Raqqa	Ein Assan	Level 2	Aleppo	Big Aruda	Level 1	Aleppo
Debsi Faraj	Level 3	Ar-Raqqa	Hweijeineh	Level 2	Aleppo	Little Aruda	Level 1	Aleppo
Sheib Eldakar	Level 3	Ar-Raqqa	Tata	Level 2	Aleppo	Ajuziyeh (Al-Khafsas)	Level 1	Aleppo
Emeirats	Level 3	Ar-Raqqa	Jneid	Level 2	Aleppo	Kherbet Elkhatdhraf	Level 1	Aleppo
Eastern Ghazala	Level 3	Ar-Raqqa	Masyadeh (As-Safira)	Level 2	Aleppo	Big Rasm Elharmal	Level 1	Aleppo
Ghamamiz	Level 3	Ar-Raqqa	Kabara	Level 2	Aleppo	Big Jarrah	Level 1	Aleppo
Mashrafet Elsaab	Level 3	Ar-Raqqa	Mjeimer	Level 2	As-Sweida	Sikhni	Level 1	Aleppo
Fakhikheh	Level 3	Ar-Raqqa	Salim (As-Sweida)	Level 2	As-Sweida	Tal Aber	Level 1	Aleppo
Almajar	Level 3	Ar-Raqqa	Ora	Level 2	As-Sweida	Rasm Abbud Jaftalak	Level 1	Aleppo
Bir Elsabkhawi	Level 3	Ar-Raqqa	Raha (As-Sweida)	Level 2	As-Sweida	Atireh	Level 1	Aleppo
Bir Khattab	Level 3	Ar-Raqqa	Atil	Level 2	As-Sweida	Mahsana Khfesh	Level 1	Aleppo
Madhir	Level 3	Ar-Raqqa	Rassas	Level 2	As-Sweida	Little Habbuba	Level 1	Aleppo
Thaala	Level 3	As-Sweida	Habran	Level 2	As-Sweida	Kherbet Salameh	Level 1	Aleppo
Aslaha	Level 3	As-Sweida	Mafaala	Level 2	As-Sweida	Dreisiyeh	Level 1	Aleppo
Kafr	Level 3	As-Sweida	Qanawat	Level 2	As-Sweida	Al-Khafsas	Level 1	Aleppo
Sahwet Balata	Level 3	As-Sweida	Kanaker (As-Sweida)	Level 2	As-Sweida	Big Drubiyeh	Level 1	Aleppo
Jidya (Mazra'a)	Level 3	As-Sweida	Masad	Level 2	As-Sweida	Big Habbuba	Level 1	Aleppo
Mashnaf	Level 3	As-Sweida	Tira	Level 2	As-Sweida	Kiyariya	Level 1	Aleppo
Tarba	Level 3	As-Sweida	Mazra'a - Sijn	Level 2	As-Sweida	Big Qobab	Level 1	Aleppo
Kassib	Level 3	As-Sweida	Majdal 6	Level 2	As-Sweida	Mazyunet Eljaberi	Level 1	Aleppo
Sala	Level 3	As-Sweida	Tiba (Mashnaf)	Level 2	As-Sweida	Majmaa Mbaqer Maskana	Level 1	Aleppo
Os	Level 3	As-Sweida	Ojeilat	Level 2	As-Sweida	Little Qobab	Level 1	Aleppo
Sama Elbardan	Level 3	As-Sweida	Saana	Level 2	As-Sweida	Mashrafet Qurb Khifesh - Elhamed	Level 1	Aleppo
Tahula	Level 3	As-Sweida	Bosan	Level 2	As-Sweida	Tal Totun	Level 1	Aleppo
Mashquq (Salkhad)	Level 3	As-Sweida	Um Riwaq	Level 2	As-Sweida	Hamra (Maskana)	Level 1	Aleppo
Hot	Level 3	As-Sweida	Rashideh	Level 2	As-Sweida	Big Raddeh	Level 1	Aleppo
Gharyeh	Level 3	As-Sweida	Gheida	Level 2	As-Sweida	Southern Jdeiah	Level 1	Aleppo
Anz (Gharyeh)	Level 3	As-Sweida	Salkhad	Level 2	As-Sweida	Kherbet Salib	Level 1	Aleppo

Community	Vulnerability	Governorate	Community	Vulnerability	Governorate	Community	Vulnerability	Governorate
Maghir (Gharyeh)	Level 3	As-Sweida	Karis	Level 2	As-Sweida	Neimiyeh (Maskana)	Level 1	Aleppo
Thibeen	Level 3	As-Sweida	Arman	Level 2	As-Sweida	Muftahiyeh	Level 1	Aleppo
Baka	Level 3	As-Sweida	Amtan	Level 2	As-Sweida	Hurriyeh (Maskana)	Level 1	Aleppo
Um Elrumman (Thibeen)	Level 3	As-Sweida	Rafqa	Level 2	As-Sweida	Shahda	Level 1	Aleppo
Mtuna	Level 3	As-Sweida	Anat	Level 2	As-Sweida	Samuqet Manbaj	Level 1	Aleppo
Um Dbeib	Level 3	As-Sweida	Mneithreh	Level 2	As-Sweida	Jeb Elhamam Jtala	Level 1	Aleppo
Tima	Level 3	As-Sweida	Oyun	Level 2	As-Sweida	Rajm Elaqlaa	Level 1	Aleppo
Shahba (Shahba)	Level 3	As-Sweida	Shannireh	Level 2	As-Sweida	Khan Elshaar	Level 1	Aleppo
Um Elzaytun	Level 3	As-Sweida	Afineh	Level 2	As-Sweida	Ras El Ein Bumane	Level 1	Aleppo
Sweimreh	Level 3	As-Sweida	Qarayya	Level 2	As-Sweida	Babiri - Lower Babiri	Level 1	Aleppo
Majadel	Level 3	As-Sweida	Kherbet Awad	Level 2	As-Sweida	Maskana - Onaiza	Level 1	Aleppo
Nemreh	Level 3	As-Sweida	Sheab	Level 2	As-Sweida	Qawas	Level 1	Aleppo
Shaqa	Level 3	As-Sweida	Hoya	Level 2	As-Sweida	Madinet Elghar	Level 1	Aleppo
Taala (Shaqa)	Level 3	As-Sweida	Um Shama	Level 2	As-Sweida	Zabad	Level 1	Aleppo
Hayat (Shaqa)	Level 3	As-Sweida	Khazmeh	Level 2	As-Sweida	Buwayda (Babella)	Level 1	Rural Damascus
Hit (Shaqa)	Level 3	As-Sweida	Abu Zreik	Level 2	As-Sweida	Kafr Batna	Level 1	Rural Damascus
Kharsa	Level 3	As-Sweida	Behem	Level 2	As-Sweida	Lower Hfeir	Level 1	Rural Damascus
Waqm	Level 3	As-Sweida	Tleilin	Level 2	As-Sweida	Bzeineh	Level 1	Rural Damascus
Salmiyeh (Little Sura)	Level 3	As-Sweida	Hreiseh	Level 2	As-Sweida	Otayba	Level 1	Rural Damascus
Thakir	Level 3	As-Sweida	Tal Elloz	Level 2	As-Sweida	Bahariya	Level 1	Rural Damascus
Hazm (Little Sura)	Level 3	As-Sweida	Shaaf	Level 2	As-Sweida	Otaya	Level 1	Rural Damascus
Little Sura	Level 3	As-Sweida	Qaysama	Level 2	As-Sweida	Qisa	Level 1	Rural Damascus
Haqf	Level 3	As-Sweida	Millh	Level 2	As-Sweida	Harasta Elqantara	Level 1	Rural Damascus
Um Hartein (Little Sura)	Level 3	As-Sweida	Breika	Level 2	As-Sweida	Ahmadia (Nash- abiyeh)	Level 1	Rural Damascus
Lahetheh	Level 3	As-Sweida	Salakhed	Level 2	As-Sweida	Balaliyeh	Level 1	Rural Damascus
Hettin - Yarmuk (ne)	Level 3	Damascus	Amra	Level 2	As-Sweida	Nashabiyeh	Level 1	Rural Damascus
Mazra'a (ne)	Level 3	As-Sweida	Mardak	Level 2	As-Sweida	Qasemiyeh (Nash- abiyeh)	Level 1	Rural Damascus
Nahda - As-Sweida (ne)	Level 3	As-Sweida	Bothaina	Level 2	As-Sweida	Obada	Level 1	Rural Damascus
Al- Thawrah - As-Sweida (ne)	Level 3	As-Sweida	Araja	Level 2	As-Sweida	Deir Salman	Level 1	Rural Damascus
			Barek	Level 2	As-Sweida	Jarba	Level 1	Rural Damascus
			Qasr	Level 2	As-Sweida	Zamaniyeh	Level 1	Rural Damascus
			Rdeimeh	Level 2	As-Sweida	Beit Nayem	Level 1	Rural Damascus
			Jneineh (Shaqa)	Level 2	As-Sweida	Marj Elsultan	Level 1	Rural Damascus
			Ariqa	Level 2	As-Sweida	Haran Al'awameed	Level 1	Rural Damascus



Community	Vulnerability	Governorate	Community	Vulnerability	Governorate	Community	Vulnerability	Governorate
			Smeid	Level 2	As-Sweida	Monin	Level 1	Rural Damascus
			Khalkhaleh	Level 2	As-Sweida	Yabroud	Level 1	Rural Damascus
			Kalidiyeh (Little Sura)	Level 2	As-Sweida	Qastal (An Nabk)	Level 1	Rural Damascus
			Radimeh Ellewa	Level 2	As-Sweida	Deir Maqran	Level 1	Rural Damascus
			Khribet ad Diyath	Level 2	As-Sweida	Hamrit	Level 1	Rural Damascus
			Al Aziziyah (As-Safira)	Level 2	Aleppo	Darayya	Level 1	Rural Damascus
			Turaydim	Level 2	Aleppo	Madamiyet Elsham	Level 1	Rural Damascus
			Sakia	Level 2	As-Sweida	Ashrafiet Sahnaya	Level 1	Rural Damascus
			Banat Baeir	Level 2	As-Sweida	Sahnaya	Level 1	Rural Damascus
			Shinwan	Level 2	As-Sweida	Hajar Aswad	Level 1	Rural Damascus
			Tal Asfar	Level 2	As-Sweida	Hishmeh	Level 1	Homs
			Andnaniyeh	Level 2	Aleppo	Taldu	Level 1	Homs
			Nasriyeh (As-Safira)	Level 2	Aleppo	Hadatha	Level 1	Homs
			Al-Bajaa	Level 2	As-Sweida	Zaybaq	Level 1	Homs
			Al Homerah	Level 2	Aleppo	Hmeimeh (Taldu)	Level 1	Homs
			El Faloujeh (ne)	Level 2	Damascus	Jarnaya	Level 1	Homs
			Wihdeh - As-Sweida (ne)	Level 2	As-Sweida	Western Tiba	Level 1	Homs
			Hurriyeh - As-Sweida (ne)	Level 2	As-Sweida	Tal Dahab (Taldu)	Level 1	Homs
			Joulan (ne)	Level 2	As-Sweida	Burj Qaei	Level 1	Homs
			Jihad (ne)	Level 2	As-Sweida	Samalil	Level 1	Homs
			Shuhada - As-Sweida (ne)	Level 2	As-Sweida	Heisa (Taldu)	Level 1	Homs
			Fursan (ne)	Level 2	As-Sweida	Kafr Laha (Taldu)	Level 1	Homs
			Istiqlal (ne)	Level 2	As-Sweida	Hiraql	Level 1	Homs
			Zanyan	Level 2	Aleppo			
			Fajdan	Level 2	Aleppo			
			Alamein	Level 2	Hama			
			Tumine	Level 2	Hama			
			Sahwet Elkhodar	Level 2	As-Sweida			
			Walgha	Level 2	As-Sweida			
			Mayamas	Level 2	As-Sweida			
			Kafr Ellahaf	Level 2	As-Sweida			
			Rima Ellahf	Level 2	As-Sweida			
			Shrehi	Level 2	As-Sweida			
			Rami (Mashnaf)	Level 2	As-Sweida			
			Shabki	Level 2	As-Sweida			
			Duma (Shaqqa)	Level 2	As-Sweida			
			Al Qadam (ne)	Level 2	Damascus			

Community	Vulnerability	Governorate	Community	Vulnerability	Governorate	Community	Vulnerability	Governorate
			Jarajir	Level 2	Rural Damascus			
			Qarra (Deir Attiyeh)	Level 2	Rural Damascus			
			Jawalek	Level 2	Homs			
			Rafeen	Level 2	Homs			
			Shama - Krad Dasniyeh	Level 2	Homs			
			Sensil	Level 2	Homs			
			Harbanifse	Level 2	Hama			
			Biyeh	Level 2	Hama			
			Jarjisa	Level 2	Hama			
			Deir Elfardis	Level 2	Hama			
			Maksam al Dahr	Level 2	Homs			
			Al-Braikah	Level 2	Rural Damascus			

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The Humanitarian Access Team (HAT) was established in Beirut in March 2015 in response to the collective challenges facing the remote humanitarian response in Syria. HAT's most important function is to collect and analyze disparate data and information. Since 2015, HAT analysis has provided a forward-looking template for international interventions in Syria, and facilitated an increasingly adaptive, integrated, and ultimately impactful international response to the conflict.

