

**“We fear more war. We fear more drought.”**

How climate and conflict are fragmenting rural Syria



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## Colophon

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Cover image: A group of farmers is returning home from their fields on the Raqqa countryside, December 20, 2020. Delil Souleiman.

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# 1. Introduction

## The sabotage of the Syrian countryside

The summer of 2021 brought unprecedented difficulties for rural communities in northeast Syria as severe drought combined with new and dangerous turns in the conflict to pitch them even deeper into poverty. Across this part of the country, many livestock herds halved in size – or worse. Farmers registered drops in crop yields of up to 90 percent, if they produced anything at all. Amid soaring food prices and services and quality of life that are deteriorating in lockstep with the area’s enormous agricultural and pastoralism sectors, few rural – or even urban – Syrians in the northeast have been spared the fallout from these troubles.

It all gives rise to the question: can parts of rural Syria maintain their relative stability – and ward off humanitarian catastrophe, even as their economic lifeblood vanishes?

Much of this crisis is an extension of historic or ongoing conflict-related woes. Syrian pastoralists and farmers are accustomed to drought, albeit not ones that are coming more regularly and severely than ever due to climate change. After more than 10 years of fighting, many of these men and women are also at least partly hardened to the trials of a wartime economy in which they must scrap, hustle, and frequently adjust to distant developments in order to survive.

Seen from a pastoralist perspective, these are, arguably, just the latest aggravations in a century of turmoil, in which their numbers have fallen to two or three percent of the population, down from around 13 percent in the 1930s, and in which their nomadic, semi-nomadic, and traditional border-crossing ways have made them sources of suspicion to authorities in Damascus and other regional capitals.<sup>2</sup> Even before the war, they were among the poorest and most marginalised of rural people. Some pastoralists harbour grievances against the state and farmers for its long time reinforcement of agriculture at their expense and for the lack of support as their livelihoods have collapsed due to climate and development pressures.

But in arriving concurrently, last year’s fusion of feeble rainfall, heightened violence around northeast Syria, and a worsening macro-economic outlook has exhausted some of these communities’ few remaining coping mechanisms at their time of greatest desperation. Taken in isolation each calamity might have been manageable, yet together they overwhelmed whatever resilience many people have left.

1 iMMAP (2021) Crop Monitoring and Food Security Situation Update. North East Syria (NES) 2020/2021 Winter Season Post-Harvest Overview. [https://immap.org/wp-content/uploads/NES\\_Crop\\_Monitoring\\_and\\_Food\\_Security\\_Situation\\_V3.pdf](https://immap.org/wp-content/uploads/NES_Crop_Monitoring_and_Food_Security_Situation_V3.pdf)

2 Chatty, D., Dukhan, H. (2020) The civil war is threatening an ancient way of life in Syria. Al Jazeera, August 30, 2020. Accessed at <https://www.aljazeera.com/opinions/2020/8/30/the-civil-war-is-threatening-an-ancient-way-of-life-in-syria>

With little money and soaring import costs because of the continued collapse of the Syrian pound, now some 80 times weaker against the dollar than it was pre-war, farmers have been unable to afford or source quality seeds or fertilisers or diesel to man their pumps for irrigation as they previously did during drought. Vast tracts of prime farmland are sitting fallow as a consequence, which is fueling food insecurity and depriving pastoralists of affordable fodder. Local production of barley, a vital crop staple, is down by more than a million tons, in large part due to rainfall that has shrunk by a third in places.<sup>3</sup> And with intensifying instability as the so-called Islamic State (IS) and other armed actors regroup along the northeast' semi-arid periphery, pastoralists (also known as herders) have lost access to vital grazing land and markets.



A water well used for irrigated cropland, Tal Wardiyat, Hasakah. October 10, 2021

Since 2019, when Turkey and its Syrian proxies escalated their campaign against the Kurdish-dominated Autonomous Administration of Northeast Syria (AANES) that governs most of the northeast, some of this area has experienced its most severe violence since the war began. In agricultural terms, this operation has paralysed communities who question the wisdom of planting up fields or making any kind of investment that they might soon lose to their militarily superior adversaries. “People are holding back everywhere,” said Sultan Hamid Humada, the president of the Khamaiel village council, a community near Hasakah dam lake. “We fear more war. We fear more drought.”

3 IFRC (2021) Emergency Plan of Action Syria: Droughts. International Federation of Red Cross and Red Crescent Societies. Accessed at <https://reliefweb.int/sites/reliefweb.int/files/resources/MDRSY006do.pdf>

This all follows on from the protests against the regime of Bashar al-Assad in 2011, which were violently repressed by security forces and eventually descended into open conflict. Over the next years, control of Syria was subdivided among different groups, with mostly Kurdish political actors predominating in the northeast. Their umbrella military force, the Syrian Democratic Forces (SDF), is supported by the US-led coalition – and took the lead in fighting IS on the ground in Syria. But though the jihadists' organised presence in the northeast was extinguished in 2017, the area remains mired in tensions and periodic combat between the SDF, government troops, remnants of IS, and now forces backed by Turkey, which fears that an autonomous Syrian Kurdish-controlled territory could embolden separatists among its own Kurdish minority.



Mohammed Ali's children tending the family sheep. Hasakah, September 26, 2021

Throughout northeast Syria, the human suffering from these cascading crises has been profound. Access to clean and affordable water is wavering, while health problems are being left to fester as the availability and affordability of medical care declines – to such a point that reported cases of acute diarrhoea rose 25 percent from 2020 to 2021.<sup>4</sup> Villages report record rates of suicide. In pastoralist-heavy areas, in particular, school attendance is increasingly uncommon. The sense of desperation is so acute that some rural Syrians clamour for places in displacement camps, even if their villages are safe, because they know at least they will get fed and provided with adequate clean water there. Talk of – and planning for – migration to Europe abounds.

Ultimately, though, this rural chaos threatens to bleed into even deadlier outcomes if left unaddressed because what happens in the countryside seldom remains in the countryside, particularly in a region as reliant on pastoralism and agriculture as this one. Rural crime, once rare, is surging as social cohesion frays. Dissatisfaction with the administration is mounting, in large part because of its perceived failure to meet popular needs. This is especially notable given the northeast's status as a region of relative calm within Syria. Though the country has yet to see real clashes between pastoralists and farmers, the circumstances are ripe for future tensions if the mismatch between resources and requirements continues to expand. For the time being it might just be that there's too little to fight over.

4 Ibid

**“It is hard enough to stop the call of our stomachs,”  
Mohammed Ali, a displaced pastoralist who grazes his five  
sheep outside Hasakah, told PAX. “But at the moment this is  
all we can hope for.”**

This short assessment is based on fieldwork conducted in Syria in September 2021, as well as earlier on-the-ground research, remote sensing analysis and observation, and UN and humanitarian organisation data. PAX researchers interviewed dozens of pastoralists, farmers, officials, and independent observers. This project leads on from PAX’s previous work on conflict pollution and water across Syria and the wider region.<sup>5</sup>

These findings assess the state of rural northeast Syria, with a focus on its largely overlooked pastoralist community. These people and their farming peers are struggling with a potent blend of ongoing hostilities and intensifying climate stresses, in addition to long-term resource mismanagement, which are trapping them in a vicious feedback loop of insecurity and deprivation. Their plight has largely been ignored over the war, even as they’ve emerged as one of the most vulnerable cross-sections of society. As part of PAX’s work on climate, conflict, and environmental security in the Middle East, this report explores the humanitarian and potentially peace-rupturing consequences of the crisis in rural Syria. The imperative for action is clear.



A woman with her child is fetching water from a small creek, Tal Al-Wuah, Hasakah. October 10, 2021

5 PAX (2015) *Amidst the Debris: A desktop study on the environmental and public health impact of Syria’s conflict*. Accessed at <https://paxforpeace.nl/what-we-do/publications/amidst-the-debris>; PAX (2016) *Scorched Earth and Charred Lives: Human health and environmental risks of civilian-operated makeshift oil refineries in Syria*. Accessed at <https://paxforpeace.nl/what-we-do/publications/scorched-earth-and-charred-lives>; PAX (2020) *A River of Death: How oil pollution is impacting health and livelihoods in conflict-affected north east Syria*. Accessed at <https://paxforpeace.nl/what-we-do/publications/a-river-of-death>

# 2. A Broken Agricultural Landscape

## An assessment of rural conditions in northeast Syria

Before the war, agriculture and pastoralism accounted for around 19 percent of Syria's Gross Domestic Product (GDP), much the largest economic contribution from this sector in the Middle East and a reflection of Syria's agricultural riches.<sup>6</sup> But that figure doesn't do justice to the significance of these professions in rural areas, which were home to just under half the Syrian population. Well over 50 percent of all jobs in rural Syria were centred on crop cultivation and animal herding – and the number was even higher in the northeast, the wheat and cotton-growing farming heartland, and in rural parts of Deir ez-Zor, Raqqa, and Homs governorates, where pastoralists predominated. With the conflict claiming much of the country's industrial output, agriculture has become more important to the national economy over the past decade than at any point since the early 1990s, now likely contributing more than a quarter of GDP.<sup>7</sup>

Even before 2011, many rural Syrians were floundering. For decades, the pastoralists among them had struggled as officials turned over more of their traditional grazing grounds to agriculture, which Damascus prioritised. Through years of worsening climate stresses and declining state support, area farmers had seen their profit margins vanish – to a point where even urban slums seemed preferable to rural life. Thousands had decamped to Aleppo and other major cities in the lead up to the revolution. Some villagers suggest that the outbreak of conflict – and especially the horror years in which IS terrorised northeast Syria from 2013 to 2019 – simply felt like the culmination of those collapsing fortunes.

Yet few of these hardships seemingly prepared rural residents for a year in which the rains started late, never really picked up, and then stopped abruptly in March, several months earlier than usual in the northeast. While this was one of the most debilitating droughts yet, it was also at least the fourth subpar rain year in the past 10, a streak which has left farmers saddled with frequent unrealised input costs and little ability to weather yet another lost harvest.<sup>8</sup> The AANES put northeast Syria's wheat harvest at around 400,000 tons in 2021, 60 percent less than the previous year's takings.

6 FAO (2017) Counting the Cost: Agriculture in Syria after six years of crisis. Accessed at <https://www.fao.org/emergencies/resources/documents/resources-detail/en/c/878213/#~:text=Despite%20six%20years%20of%20crisis,still%20remain%20in%20rural%20areas>

7 Ibid

8 FAO (2021) Syrian Arab Republic. Precipitation analysis 1980–2021. Accessed at <http://www.fao.org/3/cb7151en/cb7151en.pdf>

The cash-strapped authority was also only able to amass about half that amount – a third of what’s required for the territory’s estimated bread needs, seemingly due to the low price it was able to offer and some farmers’ subsequent decision to try and sell whatever crop they had elsewhere.<sup>9</sup>

“We got zero production, and I mean zero,” says Derbas Osman, a farmer who estimates that he spent about 5 million Syrian pounds (about \$1450 by late 2021 exchange rates) on seeds and tractor rental to plant up part of his 330 dunams (33 hectares) near Qarmane along the Turkish border. “My family and I have suffered badly as a consequence.”



A shepherd tending his flock of sheep near the border with Turkey, September 24, 2021

According to the most recent IPCC assessment, human-induced warming has amplified drought across the Middle East since the 1980s. Over the coming years, the report projects that the region will see less mountain snow cover in the highland ‘water towers,’ and hence less snowmelt to sustain the region’s great rivers through summers that will also only get hotter and longer.<sup>10</sup>

## Agricultural decline

Prior to the war, most drought-stricken farmers could – and would – have turned to groundwater as a partial solution instead. Syria’s economic collapse largely closed off that option. Higher diesel costs due to much diminished domestic oil extraction mean that most farmers can’t afford to operate their pumps. The poor quality of the diesel that is available is dissuading some who can.

9 iMMAP (2021) Crop Monitoring and Food Security Situation Update. North East Syria (NES) 2020/2021 Winter Season Post-Harvest Overview. [https://immap.org/wp-content/uploads/NES\\_Crop\\_Monitoring\\_and\\_Food\\_Security\\_Situation\\_V3.pdf](https://immap.org/wp-content/uploads/NES_Crop_Monitoring_and_Food_Security_Situation_V3.pdf)

10 IPCC (2021). Sixth Assessment Report Regional Fact Sheet - Asia. Accessed at [https://www.ipcc.ch/report/ar6/wg1/downloads/factsheets/IPCC\\_AR6\\_WGI\\_Regional\\_Fact\\_Sheet\\_Asia.pdf](https://www.ipcc.ch/report/ar6/wg1/downloads/factsheets/IPCC_AR6_WGI_Regional_Fact_Sheet_Asia.pdf)

They fear damaging their expensive and hard-to-fix generators. Even for those with the money and the wherewithal, years of prolific groundwater extraction, along with the impact of drought, which has reduced aquifer recharge, has ensured there's little water to be pumped anyway.<sup>11</sup> Into this already febrile situation, the war has once more frequently intruded.

Throughout 2021, the Turkish-backed Syrian National Army made frequent incursions into the northeast, heavily shelling the Tell Tamer area and terrifying farmers into inactivity well beyond the battlelines. As documented by local civil society groups, UN organisations<sup>12</sup>, and PAX, these forces have also weaponized water by damming the Khabur river and blocking the Alouk pumping station, among other sources, thereby exacerbating agricultural – and domestic – thirst.<sup>13</sup> Together with an escalated Turkish drone campaign against Kurdish administrators, who Turkey says are linked with the PKK, a mostly Turkish Kurdish militant group that has been at war with the Turkish state since the 1980s (and which is deemed a terrorist group by the US and EU), and tremendous uncertainty about Ankara's possible next steps, the situation has helped dissuade farmers from expending scarce resources on fields that they feel might be appropriated at any moment.

These fears are playing out against the backdrop of Turkey's initial invasion and subsequent occupation of part of northeast Syria in 2019 in which they displaced up to 200,000 people from the border strip around Ras al-Ayn.<sup>14</sup> In doing so, they have detached even more agrarian communities from their customers and supply chains, while also destroying or subdividing control of additional infrastructure among different armed groups. Many farmers are still suffering from IS' plundering and destruction of their homes and farms.<sup>15</sup>

## Pastoralist disaster

Despondent after their worst growing year yet, northeastern farmers express severe misgivings about the area's agricultural future. But for roving pastoralists, who are partly dependent on farmers' good fortunes, the situation is generally even more trying. They've lost access to enormous stretches of pasture due to instability in the semi-arid *badia*, where IS elements are reconstituting themselves and where some land has been so riddled with debris of war as to be effectively unusable.<sup>16</sup> This is particularly true of some of the rich grazing grounds in Deir ez-Zor and in Raqqa, a governorate where the population has shrunk at least 50 percent over the war, and where worsening insecurity is driving many of those areas' rural communities into the northeast.<sup>17</sup> That's amplifying pressure on the region's own resources.

11 UNOCHA (2021) Water Crisis in Northern and Northeast Syria - Immediate Response and Funding Requirements (9 September 2021) Accessed at <https://reliefweb.int/report/syrian-arab-republic/water-crisis-northern-and-northeast-syria-immediate-response-and-funding>; REACH/NES Forum (2021) Briefing Note: Humanitarian Situation Overview in Northeast Syria. Accessed at [https://reliefweb.int/sites/reliefweb.int/files/resources/REACH\\_SYR\\_Briefing-Note\\_Humanitarian-Situation-Overview-in-Northeast-Syria\\_June-2021.pdf](https://reliefweb.int/sites/reliefweb.int/files/resources/REACH_SYR_Briefing-Note_Humanitarian-Situation-Overview-in-Northeast-Syria_June-2021.pdf)

12 UNOCHA (2021) Syria - Alouk Water Station Flash Update. Accessed at <https://reliefweb.int/report/syrian-arab-republic/syria-alouk-water-station-flash-update-disruption-alouk-water-station>

13 PAX (2021) Killing the Khabur: How Turkish-backed armed groups blocked northeast Syria's water lifeline. <https://paxforpeace.nl/news/blogs/killing-the-khabur-how-turkish-backed-armed-groups-blocked-northeast-syrias-water-lifeline>

14 Refugee International (2019) Displacement and Despair: The Turkish Invasion of Northeast Syria. Accessed at <https://reliefweb.int/report/syrian-arab-republic/displacement-and-despair-turkish-invasion-northeast-syria>

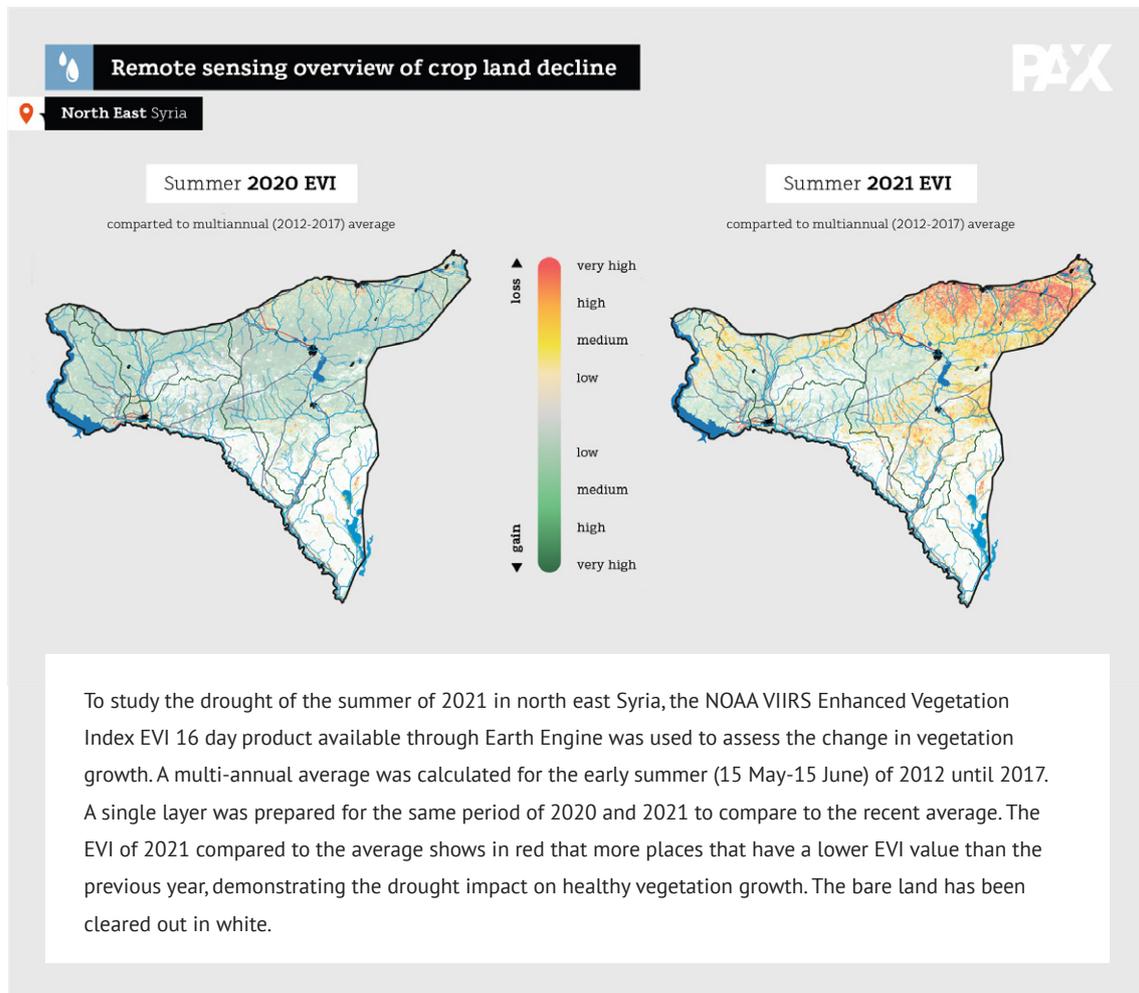
15 International Crisis Group (2021) Syria: Shoring Up Raqqa's Shaky Recovery. Accessed at <https://reliefweb.int/sites/reliefweb.int/files/resources/229-raqqas-shaky-recovery.pdf>

16 Fahmi, G. *et al* (2021) The remnants of the Islamic State in Syria: military action alone cannot defeat it, European University Institute. Accessed at <https://cadmus.eui.eu/handle/1814/71001>

17 IDMC (2021) Internal Displacement - Syria overview. Accessed at <https://www.internal-displacement.org/countries/syria>

Pastoralists have lost much of their fodder within the areas they can frequent. Ordinarily, they fatten livestock among the desert scrub for much of the year, before guiding them towards population centres for slaughter. But with minimal greenery in the *badia* this year due to drought, there's little free vegetation to go around. And with negligible crop production, farmers have much less wheat chaff and other agricultural waste to sell on. It's all created a situation where some farmers are able to charge desperate herders big money – up to 50,000 Syrian pounds per dunam (1/10th hectare) – for their very slim field pickings.

Imports of animal feed have been unviable for all but the wealthiest herders since the Syrian pound (SYP) lost much of its value. From around 45 SYP to the dollar before the war, the currency has weakened to roughly 3500 SYP to the dollar in late 2021, with much of the collapse coming since 2019. The worsening economic outlook has also reduced farmers' capacity to buy more resilient seeds, which is especially problematic in the northeast due to many agro-humanitarian organisations' unwillingness or inability to operate beyond government-controlled areas.<sup>18</sup> Dependence on these old seeds threatens to drastically reduce yields in the years to come.



18 iMMAP (2021) Crop Monitoring and Food Security Situation Update. North East Syria (NES) 2020/2021 Winter Season Post-Harvest Overview. [https://immap.org/wp-content/uploads/NES\\_Crop\\_Monitoring\\_and\\_Food\\_Security\\_Situation\\_V3.pdf](https://immap.org/wp-content/uploads/NES_Crop_Monitoring_and_Food_Security_Situation_V3.pdf)

Syria's pastoralists, who were some half-million strong before the war, are concentrated in the north and east of the country, with limited numbers in the far south as well. Most of them graze sheep, goats, some camels, and a fast-shrinking volume of cattle, which many deem too needy for today's parched desert environment, between tented encampments or around new village homes, in the case of the sedentarised among them. These men and women have often struggled to adapt their lifestyles to a modern Middle East, which has contributed to longstanding poverty. But as communities with generally close tribal links to Iraq, Jordan, among other countries – and a historic tendency to migrate near and far, they've also been discriminated against by distrustful regional regimes.

To compound pastoralists' woes, the livestock industry is also losing much of its custom as financially strained Syrians reduce or cut out meat consumption altogether. Despite a significant increase in their city's population due to displaced people, butchers in Hasakah say sales have at least halved over the past year. Many are going out of business; those that remain keep limited stock for fear of spoilage at a time of rampant electricity – and hence refrigeration – outages. Another bad few months and Ali Hassan, 42, who owns a small butchery near the rubbish-clogged Jaghjagh river, says that he too will have to shut down, likely for good. "The [native] residents cannot afford fruit. The displaced people cannot afford rent, so of course the fact that there are more people does nothing for us," he says.

Snarled in this cruel web, pastoralists have tried to offload livestock. Here, too, though they've been stifled at almost every turn. Spindly, underweight sheep and goats command such low prices at local markets as to be barely worth selling. This kind of livestock is of no interest to traders in neighbouring Iraq, who must pay up to \$30 per animal in import taxes and so prioritise heftier ones, or to cross-border smugglers who doubt these skinny beasts would survive the arduous trip. In these circumstances, shepherds are watching their herd sizes fall by at least half, if not considerably more, due to starvation and disease, agricultural officials say.



Local herders with sheep on the Raqqa countryside, December 20, 2020.

"I had 150 sheep. Now I have 70," said Abdelaziz Abdelrahman, a herder in Ow al-Kubr about 30 km west of Hasakah, whose remaining sheep were coughing and bleeding from their noses, telltale signs of malnutrition. "But they are so thin, all skin and bones. None will survive the [winter] cold."

Syria has experienced almost every imaginable horror over the past decade. Yet, here in rural parts of the heavily agrarian northeast, there are the makings of a slow-moving disaster that could ultimately match or perhaps surpass previous crises. A particularly bad drought year has bled into the consequences of extended conflict, grimmer macroeconomics, and other non-climate environmental challenges to hobble pastoralism and agriculture, the livelihoods that had arguably withstood the war better than most – and that have assumed a greater economic significance as a result. This rural misery, which has been amplified by a near-total lack of state capacity after so much fighting, is fragmenting some of the few areas of comparative normality the country has left.



A water truck is used to provide for the sheep. Tal Wardiyat, October 10, 2021

# 3. The Great Peril

## Human insecurity and violence: at the coalface of climate change

These crises have left an extraordinary humanitarian toll in their wake, one which has sometimes been neglected in much of the coverage of the war. Rural northeast Syria – and the many people who depend on its productivity – are trapped in a cycle of deep poverty from which they appear unable to extricate themselves. Without assistance, pastoralism and farming-reliant families are likely to suffer from even worse economic, health, educational, and other outcomes. However, as circumstances deteriorate, there's every chance that this crisis will spill into additional instability and violence, too. The warning signs are already flashing loud and clear. What does rural disaster mean for the northeast?

When droughts strike agriculture-dependent regions, few are spared the fallout. So it has proven in Syria, especially its northeast. With less domestic crop production and generally prohibitive import costs, food prices have soared across the country, aggravating hunger among those who were already struggling to feed themselves, and pushing others into food insecurity for the first time. The cost of flour in the northeast increased by 86 percent from April to September, according to the Administration, all part of a nationwide 247 percent year-on-year surge in food prices, as recorded by WFP, and the prelude to a possible quarter million ton shortage of flour for northeastern bakeries over the coming year.<sup>19</sup> At least 13 percent of children in Raqqa governorate are suffering from some form of malnutrition.<sup>20</sup> From villages to cities, interviewees recounted deprivation on a scale they say they've never previously encountered.

The same goes for the water situation. Amid that potent combination of drought, severed rivers, and reduced groundwater, many people have had no choice but to turn to more expensive tanker water to cater to their most basic needs. These trucks, many of which are owned and operated by displaced Syrians, deliver non-potable deep well water and are frequently accused of exploiting customers, a charge that AANES officials say is true but that they lack the capacity to stop. The businessmen reject these allegations, saying they must hike prices to reflect increasing costs. Yet, with few other options and fearful of being abandoned by the truckers were they to complain, families pay up. At an average of 1000-1200 SYP per 200-litre barrel, 30 percent more than in 2020, it's another unwelcome strain on popular finances.

In recent years, Syria has experienced a steady reduction in its water resources, with diminishing rainfall, depleted aquifers, and reduced surface water flow, which is hammering parts of the northeast. Last summer, the flow of the Euphrates, the largest of the area's rivers, fell to around 40 percent of its January volume, while many of its tributaries have run completely dry due to drought and expansive Turkish dam construction.<sup>21</sup> Upstream Turkey has an enormous agricultural sector of its own and is itself suffering from drought. The impact of these shortages has been magnified by oil pollution, solid-waste dumps, and inadequate agricultural and industrial wastewater disposal, which have sullied much of the water that is still available.

19 iMMAP (2021) Crop Monitoring and Food Security Situation Update. North East Syria (NES) 2020/2021 Winter Season Post-Harvest Overview. [https://immap.org/wp-content/uploads/NES\\_Crop\\_Monitoring\\_and\\_Food\\_Security\\_Situation\\_V3.pdf](https://immap.org/wp-content/uploads/NES_Crop_Monitoring_and_Food_Security_Situation_V3.pdf)

20 ibid

21 IFRC (2021) Emergency Plan of Action Syria: Droughts. International Federation of Red Cross and Red Crescent Societies. Accessed at <https://reliefweb.int/sites/reliefweb.int/files/resources/MDRSY006do.pdf>

Throughout the region, severely curtailed crop production has also slashed employment opportunities for day labourers and the landless IDPs (internally displaced persons) in agriculture. These days, only half of the northeastern workforce is in agriculture, according to AANES officials, down from about 80 percent before the war. Without meaningful cultivation, farmers are wary of hiring much-needed help, knowing that they'll have to pay no matter whether they have anything to sell or not. In this job market, even more people are turning to armed groups as employers of last resort. Around Rmelan, the centre of Syria's oil industry and the focus of a previous PAX report on pollution, agricultural collapse has fueled particularly dramatic recruitment by the Syrian Democratic Forces (SDF), the AANES' military force.

As recounted in *The River of Death* report, intense climate-linked extreme weather events are fueling rampant flooding and spreading oil-soaked waterways across farmland.<sup>22</sup> (Even in places where climate change is cutting rainfall, flooding is becoming increasingly common because that precipitation is falling within more condensed time periods.) In Suwaydiah, a small oil town near the far northeastern tip of Syria, layers of thick black crude have made most of its land uncultivable, leaving residents with few choices beyond military service, according to village administrators. Around 40 percent of its young men and women have since joined the SDF. 12 have died fighting ISIS, their names and faces emblazoned across village lampposts and billboards.

### A 'new' violence?

Nowhere, however, is the impact of 2021's turbulence more acute than among the isolated rural communities where there are zero options beyond pastoralism and agriculture and where residents were already living hand-to-mouth before the war. In these villages, fewer parents have the money to clothe, transport, or equip their children with textbooks for school. Fewer families have the funds to seek out whatever medical care still exists, which means more physical – and mental – health woes are going untreated or undiagnosed. Village mayors describe frequent suicides, a previously rare phenomenon and part of a startling upsurge in psychological ailments.



Sheep traders at a bustling livestock market near Darbasiyah, September 24, 2021

22 PAX (2020) *A River of Death*. How oil pollution is impacting health and livelihoods in conflict-affected north east Syria <https://paxforpeace.nl/what-we-do/publications/a-river-of-death>

Crime is on the up. Sheep rustling, which was also largely unheard of until recently, is proliferating, particularly among communities near major roads. Since early summer 2021, passers-by have stolen at least 25 sheep from Al-Sallaliah to the east of Hasakah, according to villagers, which has fueled distrust of strangers in areas where personal security was once an afterthought – while also adding to residents' financial difficulties. "If I can't eat, I will steal from someone. This is how people are thinking," says Ali Sallaliah, the mayor. "We understand, of course, but if things continue like this we will just end up fighting each other."

Mired in financial desperation and other pressures, even previously tight social cohesion is unravelling within villages. Many farmers and pastoralists have borrowed money from friends and family to rebuild lost herds and plant their fields anew, but with more drought and more violence, they're struggling to repay their debts, to the lenders' consternation. Unprecedented numbers of villagers, particularly young men, have migrated near or far, particularly to Europe, despite an apparently widespread understanding of the dangers and difficulties. The corresponding increase in unmarried young women, along with an influx of IDPs in some communities, has sparked further unease in conservative society. Community solidarity, many interviewees said, is simply breaking down.

The Islamic State's massed attack on a prison in Hasakah in January 2022 highlighted the threat the group continues to pose to regional, and particularly northeast Syrian, stability.

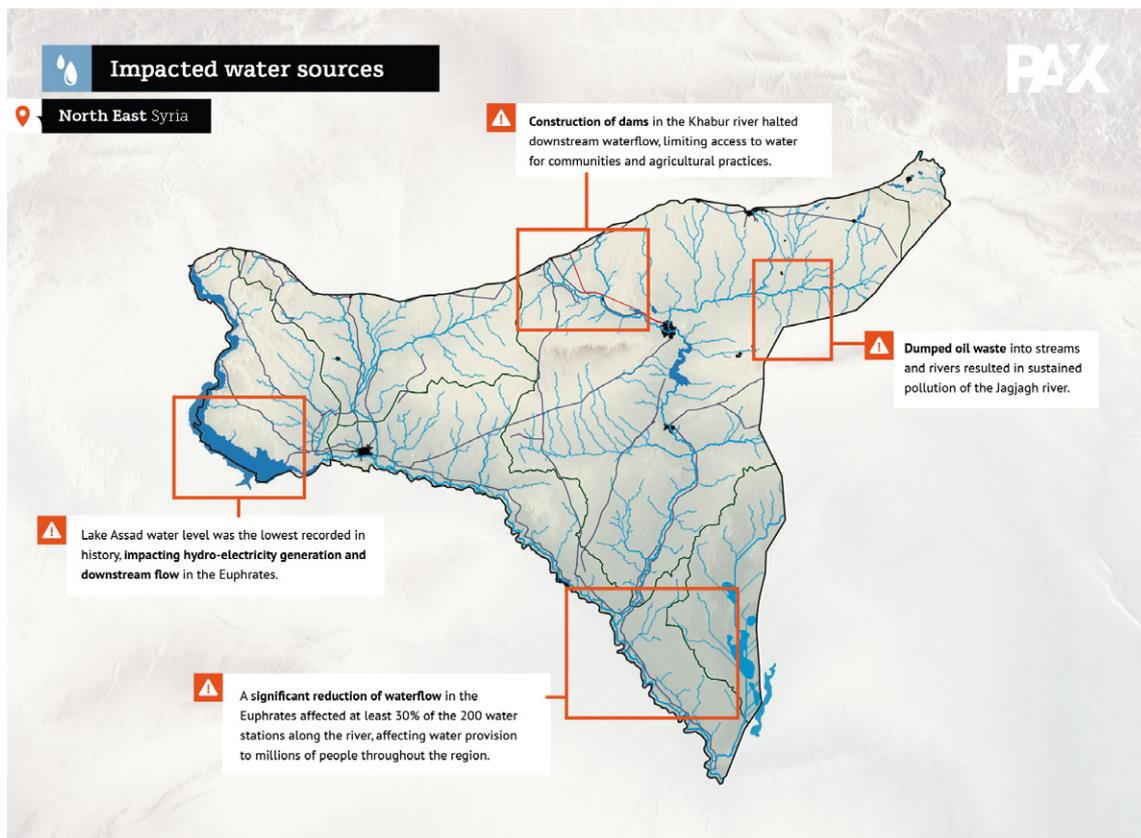
However, there might be worse to come if conditions in rural Syria continue to ebb. Because although the AANES' own personnel and some independent analysts dispute its capacity to alleviate challenges of this magnitude, deteriorating service provision and security is contributing to anti-administration sentiment, especially in some Arab-majority areas, where locals question the Kurdish-dominated body's right to govern – and where IS and other groups are looking to win over dissatisfied locals. By cutting off water and sabotaging the economy, Turkey is trying to stoke unrest, senior administration officials allege.

There's every possibility, too, of serious farmer-herder clashes of the kind that have roiled parts of the Sahel and other environmentally battered regions. Relations between the two communities, long symbiotic if sometimes tense throughout the country, are being complicated by resource shortages. Farmers resent what they see as the herders' flexible attitude towards land ownership, occasionally reacting to encroachments by dotting their fields with poison traps. For their part, many pastoralists feel aggrieved about farmers' historic state-endorsed seizure of traditional grazing land and generally higher socio-economic status.

There are additional questions about the sustainability of Middle Eastern pastoralism across even peaceful parts of the region due to drought, the expansion of population centres and agriculture into pasture, and sometimes unsustainable grazing patterns, which can degrade land and exacerbate desertification. That immiseration, combined with resentment of the state, appears to have fueled disproportionate non-state armed group recruitment within herder communities.

In this tense climate of fury and despair, where more people are armed than ever before and where some traditional conflict resolution mechanisms have broken down over the war, there are the makings of yet more violence.

This short briefing paper speaks to the fast-declining human and physical security across northeast Syria – and, by extension, other rural parts of the country. The northeast is a powerful illustration of how environment and climate crises can merge with other drivers of instability to hobble the most vulnerable of livelihoods, notably agriculture and pastoralism. It also speaks to the ways in which these troubles can, in areas with large agrarian populations and severe pre-existing challenges, spill into and merge with deeper region-wide crises. As in other parts of the world, responsive or effective governance here could temper some of the impact of climate change and environmental degradation. But in its absence, there appears to be little to prevent drought or similar phenomena from snowballing into deeper suffering and perhaps exacerbated violence. This is the story of the climate crisis writ small.



22 PAX (2020) A River of Death. How oil pollution is impacting health and livelihoods in conflict-affected north east Syria <https://paxforpeace.nl/what-we-do/publications/a-river-of-death>

# 4. A Way Forward?

## Finding solutions for rural communities

Having avoided much of the worst of the Syrian war, even securing a stability of sorts at times and in some places, northeast Syria's relative calm and partial recent insulation from the wider conflict has sometimes been taken for granted. That can no longer be the case, if it ever could be. This territory, currently home to more than 700,000 IDPs, is tottering, its rural areas some of the primary nodes of discontent. If it's to avoid becoming yet another disaster zone, it – and its all-important agricultural industry – need help fast.

There are clear signs that this fusion of climate and conflict-linked water and wider agricultural and pastoralist issues are fueling further tensions, a short step in this highly charged socio-political environment from increased conflict. What can be done to prevent and minimise these?

In the short-term, rural Syrians in the northeast and beyond will need significant basic assistance. 2021 was such a bad year that most farmers didn't even cultivate enough to produce seeds to plant again next season, their usual practice, while many pastoralists have far too few animals to turn a profit. In both instances, these communities largely lack the money or access to credit to rebuild lost herds or purchase expensive farming inputs.

After the last severe drought – in 2018/19, farmers and pastoralists were partly bailed out by strong rains over the following winter. But with relatively little precipitation in December 2021, there can be no guarantee of similar bounty on this or other occasions.

In the longer run, pastoralists and farmers will need considerably deeper help in re-working a crumbling agricultural supply chain and natural landscape. Though long range rainfall projections are deeply uncertain, most forecasts anticipate even less precipitation throughout the Middle East in the years to come. At the same time, drought appears to be fueling more 'water nationalism,' with comparatively water-rich upstream states, such as Turkey, holding back more river flow. For downstream northeast Syria, with its heavy agricultural dependence, limited prospects of diversifying its economy, and inability to address internal threats to its withering water supply, such as solid-waste and oil pollution, all this spells even deeper future trouble.

There is some hope. A diverse group of international organisations, local academics, community representatives, and civil society groups met at the first International Water Forum in North and East Syria in Hasakah in September 2021 to discuss causes of and solutions to water insecurity, declining agriculture, and pollution. A number of communities across the northeast have launched or expanded successful tree planting projects, and there is growing interest from local activists in environmental research and climate change. These initiatives and interested parties could provide useful entry points to deeper and more meaningful environmental and food and water security action if effectively supported.

23 Schwartzstein, P. (2021) A Recipe for Perpetual Insecurity? The Case of a Syrian Protected Area. The Center for Climate and Security. Accessed at: <https://climateandsecurity.org/2021/11/a-recipe-for-perpetual-insecurity-the-case-of-a-syrian-protected-area/>

In order to address or temper this crisis both now and in the years to come, PAX presents the following recommendations:

### **To the Autonomous Administration of North and East Syria and NGOs working on water, pollution, and agricultural issues.**

- ◆ Pastoralists may need assistance from iNGOs in securing animal fodder during future droughts. This must be managed carefully and according to the international humanitarian principle of 'do no harm.' Unevenly distributed aid has prompted intra-village and inter-village tension in the past, with some residents receiving help and others not.
- ◆ Moving forward, pastoralists' needs must be better understood and managed by regional (and national) Syrian authorities if this community is to be more effectively integrated into the country. They're among the poorest of the rural poor and a cohort of society whose concerns have often been ignored – to sometimes dangerous effect.
- ◆ Develop an early warning system for potential future farmer-herder conflict, and include mechanisms for de-escalation through environmental peacebuilding practices.
- ◆ Both international actors and local authorities should conduct systematic monitoring and assessment of surface and groundwater sources within northeast Syria – and integrate those results into their policymaking. Rapid identification and consistent monitoring of these water sources (through remote sensing and local citizen science tools) can help prevent aquifer depletion and address pollution and other water quality and quantity threats.
- ◆ In the long run, consider reworking agricultural systems to incentivize the cultivation of grains and other foods over non-edible and water-intensive crops, such as cotton.
- ◆ Push for afforestation and reforestation in suitable locations . As a solution to herder woes, this has its limitations. But the Jebel Abdelaziz tree planting programme, which has provided some vegetation and shade for local livestock, shows how even deeply flawed schemes can benefit pastoralist communities. These areas will need to be protected, though, and planters must be mindful of both species selection – mostly native trees, and of water access. Only parts of the northeast are water-rich enough to support additional vegetation.<sup>23</sup>
- ◆ Minimise the impact of flooding in oil-saturated river basins by constructing earth barriers along affected waterways. This could protect some of the most vulnerable agricultural land.
- ◆ Construct safe landfills and bioremediation ponds for wastewater from the northeast's oil fields, rather than dumping it into waterways.
- ◆ Underscore the importance of materials and capacity for upgrading oil infrastructure in engagement with international partners, particularly the US government.
- ◆ Improve solid-waste collection and management practices. As things stand, many Syrians in the northeast suffer from the health consequences of burning waste and groundwater pollution from leachates. But pastoralists are especially vulnerable due to prolific livestock consumption of plastic. The construction of safe landfill sites outside urban areas could temper some of the worst damage.

## To the international community:

- ◆ Building on Hasakah's International Water Forum in 2021, establish a regional diplomatic initiative to prevent and mitigate conflict over the use of transboundary water resources, including the Euphrates and other relevant rivers.
- ◆ Step-up international pressure to find a political solution for northeast Syria that accounts for regional security concerns. Such a solution could bolster stability, boost donor investment, and facilitate more rapid wartime reconstruction, particularly for the agricultural sector, and in the areas of environmental infrastructure and natural resource exploitation.
- ◆ Assess the current status of international sanctions regimes, including humanitarian, agricultural, and clean water access exemptions, to ensure that aid to rural communities is not impeded. Many international businesses are so wary of falling afoul of sanctions that they won't do business with Syria, even in areas that are permissible. This can be particularly true of the northeast, which is doubly isolated.
- ◆ The UN Security Council (UNSC) should reauthorize cross-border humanitarian aid operations to northern Syria through the Bab al-Hawa crossing, and reopen the closed al-Yarubiyah crossing, ensuring that vital food and water assistance can get to those who most need it. This is particularly important in times of drought and/or when authorities are unable or unwilling to accommodate the needs of these communities.
- ◆ Systematise regular monitoring and reporting of the impacts of climate change and food and water insecurity in annual UN and other iNGO country assessments on Syria, as well as within monthly briefings to the UNSC and OCHA situation reports.

