

## Environmental Impact of the Oil Industry in Northern Syria

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The Agriculture and Irrigation Board of the [Autonomous Administration of North and East Syria](#) (AANES) announced at the end of January the establishment of “emergency committees” to deal with oil leakages from the Rumeilan and Derik (Al-Malikiah in Arabic) oil facilities into the Ar Rad and Jaghjagh rivers, tributaries of the Khabour river, local *North Press Agency* reported on February 13.

AANES authorities blamed Turkey’s airstrike campaign in [mid-January](#) that targeted oil infrastructure for this oil leakage that has polluted 200 km of rivers. Far from a rare incident, oil spills have been rather constant in northern Syria, where primitive oil extraction and refining methods have taken a toll on the environment and the local population’s health.

In a recent report titled ‘Business Responsibility towards the Environment and Human Rights in Syria,’ the UK-registered NGO The Syrian Legal Development Program (SLDP) analysed the impact of the oil industry – as well as deforestation and urban expansions – in northern Syria. Since taking control of the oil fields in the northeast in 2018, the Syrian Democratic Forces (SDF) have “contracted private businesses to run the oil fields in its territories to reduce operation costs” and these actors rely on “primitive methods” to refine oil, the report said.

In a context where the industry lacks proper safety regulations, and [three quarters](#) of AANES revenues depend on oil production, the profitability of the business comes at the expense of the health and environmental rights. The right to a clean, healthy, and sustainable environment (R2HE) was recognised as a universal human right by the United Nations General Assembly in July 2022.

The SLDP, after acknowledging that the oil sector is a key economic sector for the communities in the northeast, urged businesses and local authorities to “identify, prevent, mitigate, and account for their activities the adverse environmental impact on human rights and seek to mitigate them.” It also called on donors to “dedicate adequate funding to local civil society organisations projects and research in order to enable them to monitor the environmental and human rights impact of business activities” and fund green projects, for instance alternative energy projects that could substitute “oil derivatives that are extracted through burners.”

## Oil trade between the different areas of control

Oil extracted in AANES areas is sold in the northwest and regime areas. The SLDP report identified Khalifah Al-Juhaishi as the company that “monopolises the purchase of crude oil from the SDF and its sale to the owners of burners in the northwest.” Oil smugglers transport the oil towards the northwest through the Al-Hamran checkpoint, then onto the refineries located in Tarhin, in the eastern countryside of Aleppo, and then it is distributed across the two areas of control in the northwest: the Hayat Tahrir Al-Sham (HTS) linked Syrian Salvation Government (SSG) and the Syrian National Army (SNA) linked Syrian Interim Government (SIG).

In SNA areas, the company Imdad, established in 2020, monopolises the distribution of oil and its derivatives, SLDP reported.

In HTS areas, Watad Petroleum “was in control of importing and distributing oil and its derivatives” until October 2022, the SLDP report read. That month, the SSG did not renew the licence of Watad Petroleum, which was acquired by Tayba Petrol, a subsidiary of the HTS-linked Namaa Investments.

The northwest also relies on oil products from Turkey. A Turkish company, MT, monopolises the import of oil products and Turkish agents are in charge of the “sale of that oil to Syrian customers,” according to SLDP. Both SIG and SSG authorities “levy their own taxes over every step of the process. From taxing the production to sales to entry through checkpoints.” The further the end destination is from the origin, the more expensive the oil product is.

Oil trade between AANES and Damascus is tied to the powerful Katerji family (BS Petroleum) and the state-owned distributor of oil Mahrukat, also known as SADCOP.

In February, fuel smuggling between AANES and regime areas in Deir ez-Zor rose due to a drop in prices in the AANES areas compared to Damascus areas, local newspaper *Enab Baladi* reported on February 23.

## Oil spills

Smuggling operations along the Euphrates river, that separates SDF and regime areas, are a recurrent source of oil spills given the precarious methods used: smugglers fill old tanks with oil, put them on ferries and cross to the regime side and empty the tanks there.

The SLDP report noted that oil spillages in the Euphrates “have been reported on different occasions near the oil smuggling points” and have led to cases of poisoning among locals that drank contaminated water, and cases of the appearances of dead fish on the riverbanks.

Oil spills in “surface water and groundwater” contain a range of chemical pollutants including heavy metals such as “mercury, lead and arsenic, and cause air pollution from polycyclic aromatic hydrocarbons (PAHs) and volatile organic compounds, particulate matter and

sulphur and nitrogen oxide,” a 2021 report by the Dutch NGO PAX for Peace noted.

The severity of the environmental threat depends on the “quantity of oil spilled, the composition of that oil, and the age of the released oil products,” according to a report published in November by the UK barristers chamber, Temple Garden Chambers (TG Chambers). In comparison with the Iraqi light crude oil, “Syria’s heavy crude oil has a higher proportion of potentially noxious substances, such as heavy metals” making it a “particularly problematic soil and water contaminant,” noted the TG Chambers report.

Besides spills across smuggling routes, oil leakages are also common from leaking oil pipelines or the practice of dumping oil into local waterways. The PAX report documented 530 oil spills in the Rumeilan oil fields between 2016 and 2020. It also documented spills at oil pumping stations close to the Turkish border “where crude oil from crumbling oil pipelines was flowing into the Jirih river, adjacent to the Mizgefte dam lake,” and in the Gir Zero oil storage facility it documented “oil spills from leaking pipelines and systematic dumping of waste.”

The 2021 PAX report also noted that in the Suweidiyeh gas and oil facilities, satellite imagery showed canals to dump oil waste in nearby creeks. The Suweidiyeh facility was left out of service temporarily in the latest attack by Ankara in January.

In response to the latest documented oil spill from Rumeilan and Derik, which Kurdish authorities attributed to the latest Turkey strikes, AANES authorities installed floating barriers in the Ar Rad and Jaghjagh to prevent further contamination into the Khabur river, according to *North Press Agency*. A local environmental engineer quoted in the local news agency warned that the spill could affect irrigation, reduce crop yields “by about 50 to 60 percent” and affect the fish stock in the area.

### **Air pollution and waste pollution**

The environmental cost of the oil industry goes beyond oil leakages. Since the outbreak of the conflict, the “artisanal” or “makeshift” character of the oil industry in the northeast, the lack of implementation of proper security regulations and the war-related destruction of the oil infrastructure have resulted in “harmful practices” that have led to “air, water, and soil pollution,” read the SLDP report.

The three key sources of environmental pollution from oil activities, according to the PAX report are the existing oil facilities (in place prior to the conflict), the makeshift refineries (also called ‘roadside burners’ widely used between 2013 and 2017), and the open-air oil waste storage pits.

Throughout the conflict, the artisanal oil refineries have evolved. At the beginning of the hostilities, the micro crude-oil distillery points that mushroomed consisted of “small oil barrels and a ditch with water to cool the oil vapour,” according to the PAX report. Later, they were

enhanced to include vacuum burners (larger tanks) and the use of a more controlled way of “distilling the crude oil using air pressure,” noted PAX. The tank of these burners is “heated up for 15 to 20 hours to separate the oil from other substances,” SLDP report read. Burners can be divided into two types: electric and standard. The electric ones are more efficient and have a lesser negative environmental impact than the standard burners but are more expensive, the SLDP report noted.

From 2012 till 2017, PAX estimated the northeast counted with over 30,000 refineries. Most of them were shut down in 2017 by AANES authorities due to health and environmental concerns, but hundreds remained. The 2021 PAX report estimated that around Rumeilan oil fields alone “between 170 and 200 makeshift refineries” were still active.

The refining process itself generates a “great amount of air pollution” which has been linked to “increasing cases of cancer, miscarriages, respiratory diseases” in the Hassakeh and Deir-ez-Zor governorates, the SLDP report noted. The exposure of these “noxious fumes and toxic waste” may lead to “respiratory and skin problems to carcinogenic and genotoxic effects, damaged organs and psychological impacts,” according to PAX.

Another key concern is the absence of proper processing of the oil waste (mostly consisting of bitumen), with oil waste being stored in open-air storage pits that pose “long-term risks for groundwater and surface-water sources, as well as for wildlife,” according to the PAX report.

During the oil extraction process, water – rich in radioactive elements – is also extracted. “In normal operating conditions, it is injected back into the well or gets disposed of in a safe manner,” but SLDP and PAX documented the practice of dumping this waste water in local creeks, fields, leading to the pollution of the soil with radioactive particles that could take years to be cleared.

On top of that, makeshift refineries are also more prone to oil fire incidents. Around 10 percent of the 550 fires that the Syrian Civil Defence put out between January and May in 2022 in the northwest had “broken out at makeshift refineries and fuel stations,” the TG Chambers reported. These oil fires release harmful substances like nitrogen and sulphur compounds which are associated with acid rain.