

Addressing Environmental Impacts of Conflict in Syria:

Towards Environmental Remediation and Green Recovery

Context

A decade of conflict left Syria with pressing environmental security challenges. This includes both direct damages from military actions (e.g. contamination linked to huge amounts of conflict-rubble in destroyed cities and towns, damaged water infrastructure and industrial facilities, and wide-spread toxic remnants of war such as mines and unexploded ordnance), and such indirect impact as weak environmental governance and disruption of ecosystem services, including water purification and waste management. Conflict-driven deforestation, biodiversity loss, aggravated water scarcity and soil degradation, along with their impacts on agriculture, add to Syria's vulnerability to the climate crisis and weakening of the country's capacity for climate adaptation.

These issues need to be addressed to allow for Syria's economic recovery and development, strengthen its resilience in the face of the climate crisis, and enable the safe return of Syrian refugees. The fall of the Assad regime in December 2024 has opened a window of opportunity to undertake the efforts to address conflict-linked environmental challenges. However, given the limited capacities of new Syrian authorities, the country's environmental remediation and green recovery would require support from broader international community, both in terms of funding and know-hows. The latter aspect can greatly benefit from PAX's expertise on the matter, both in view of its track record of engagement in Syria and extensive experience with documentation of conflict-linked environmental degradation in the country.

PAX's Expertise on the Issue

Since 2015, PAX has been documenting the environmental and public health impacts of Syria's conflict, with the objective to bring this often overlooked yet critical issue on the UN agenda. PAX has played a pioneering role in highlighting environmental damage in Syria through original, innovative research using remote sensing methods, complemented with field research, where possible. PAX has developed a niche on this topic as it is the only organization that has published reports on various aspects of environmental security in Syria.

In particular, in 2015, PAX published a study "[Amidst the debris](#)", identifying various types of hazards with immediate and long-term impacts on the public health in Syria. In view of widespread oil pollution across Syria, PAX produced a few reports on human health and environmental risks stemming from Syria's oil industry and the rise of makeshift refining ("[Scorched Earth and Charred Lives](#)", 2016; "[A River of Death?](#)", 2020), focusing mostly on the North-East Syria. PAX also conducted studies on climate and conflict impacts on pastoralists population in Syria in [2021](#) and [2022](#), as well as an in-depth scientific study on conflict-linked deforestation and potential climate impacts in Syria in its 2023 "[Axed and Burned](#)" report. Most recently, in November 2024, PAX published a comprehensive report, "[Thirst for Peace](#)", on conflict-linked water security challenges along the Orontes River in North-West Syria.

Furthermore, PAX has conducted pilot trainings for activists in North-East Syria to introduce them to remote sensing techniques in documenting environmental damage. PAX has a longstanding working relationship with Syrian civil society groups since 2002 and, over the last two decades, has further developed its engagement with other groups across the country. This collaboration has helped document a wide range of issues related to war crimes, human rights abuses, and conflict-linked environmental degradation.

Altogether, PAX has been leading the documentation of environmental and climate challenges in the country. Through its own research and its network of partners in the country, PAX has developed an in-depth understanding of key issues that require urgent attention in planning clean-up, remediation and reconstruction efforts in Syria. For its support on addressing environmental emergencies and peacebuilding work, PAX received the 2017 UNEP/OCHA [Green Star Award](#) and the 2023 UNEP/ Environmental Peacebuilding Association's [Al Moumin Award](#).

Potential for New Environment-Focused Programs for Syria

To address the aforementioned challenges, potential new reconstruction programs for Syria should include an environmental component, earmarking contributions for environmental remediation and green recovery as part of new donor assistance. Another pathway for the international donors to support environmental work in Syria is to include training on environmental/climate issues for civil society groups as part of any potential donor programs for strengthening civic participation.

The following key environmental and climate issues need to be addressed:

- **Damage assessment of urban areas:** quantify building damages, rubble estimates, hazardous facilities, energy and water infrastructure and affected green spaces.
- Mapping of **affected agricultural areas and other land types** from shelling, UXO contamination and pollution from fossil fuels.
- The state of **solid waste management** and wider public health and environmental risks.
- Impact of **illegal logging** on forest and nature reserves.
- **Damage to the fossil fuel infrastructure** throughout Syria, including makeshift refineries in northwest and northeast, the larger refineries in Hasakah and Deir ez-Zor, and the state of oil infrastructure in the coastal region.

- **Affected water infrastructure and usage** throughout Syria, with analysis of compounding impacts of the climate change on existing water shortages.
- **Capacity building and training for local and national civil society groups** with an interest in environmental and climate issues.

PAX's Capacity to Support Environment-Focused Programs in Syria

In the framework of such potential projects, **PAX can provide wide-ranging support**, building on 16 years of work around environment, peace and security:

- 1) Conduct the identification and mapping of environmental issues that should be prioritized for clean-up, remediation, rehabilitation, and reconstruction with the use of remote sensing and environmental open-source investigation. This includes documentation of urban destruction, risks identification from hazardous facilities; conflict-linked land degradation; and affected water resources including coastal areas, rivers and other water sources. The combination of various research methods that PAX utilizes is essential for ground-truthing and mapping, and functions both as triangulation and visualization of impacts.
- 2) Support the work around the use of nature-based solution for environmental peacebuilding through PAX's collaboration with the UN Environmental Programme (UNEP) on the matter.
- 3) Set-up coordination across Syria between relevant stakeholder including international organisations and local civil society groups to work towards green recovery and through nature-based solutions.
- 4) Provide training for civil society groups on documenting and monitoring environmental and climate challenges throughout the country through the use of open-source analysis, earth observation and citizen science, in order to strengthen both domestic and international advocacy from Syrian groups in relevant national political debates and international forums. Such efforts can draw inspiration from PAX's experience in other countries such as in Iraq through its "[Strengthening Collective Environment Action](#)" program, which aims to empower local communities to address environmental challenges they are facing through a combination of capacity strengthening, data-driven approaches, and advocacy.
- 5) Lead on advocacy around the importance of research on conflict, climate, and the environment in relevant international forums, including the UN Security Council, the UN Environment Assembly, and the UN Human Rights Council.

Contact:

Wim Zwijnenburg, Project Lead Environment, Peace and Security,
zwijnenburg@paxforpeace.nl

<https://paxforpeace.nl>