

THE  
EPICENTER CART



d  
Syrians

8 Unexploded Ordnance Threatens Food Security in Syria

[facing](#) food insecurity and another 2.6 million on the brink of hunger, Syria ranks sixth globally for food security. Despite increased stability and reduced



Figure 2: Syrian Land Cover and Land Use Compared to UXO Model<sup>2</sup>

Before the war, Syria was one of the Middle East's key agricultural producers, and in 2020, agriculture [contributed](#) to roughly 33% of Syria's gross domestic product compared to 23% in 2012. The Euphrates and Jazira regions in the east have the human and natural resource capacities to meet [about](#) 60% of Syria's food supply needs. Yet, the Jazira region has witnessed a serious decline in agricultural production because of conflict, with some regions [reporting](#) losses as high as 90% of critical crops, including wheat and barley. As Figure 2 shows, agricultural areas—highlighted in yellow—are saturated with UXO (marked in black), particularly in the agriculturally rich northeast region.

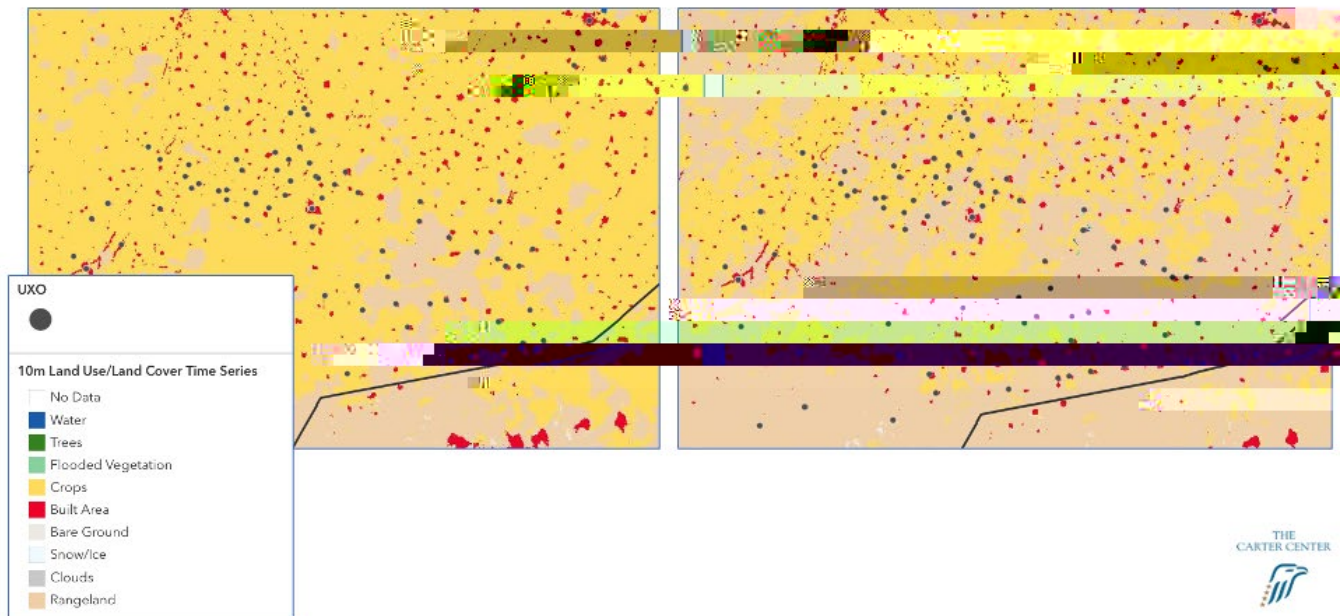


Figure 3: Land Use and Land Cover changes from 01/01/2020 - 08/07/2020 to 08/07/2020 - 03/14/2021<sup>3</sup>

Recent evidence of the fear that UXO instill agricultural areas is highlighted in the Conflict Events Database. On 6 January 2023, an unexploded shell from previous clashes exploded in farmlands in the vicinity of Zardana Mashehad town in Idlib countryside, killing an IDP [internally displaced person] child.”<sup>4</sup>

<sup>3</sup> Figure 3 depicts changes in LULC from 01/01/2020 to 08/07/2022 compared to the UXO model. Again, land use/land cover is derived from ESA Sentinel-2 imagery at 10-meter resolution. Reduction in crop cover in culmination with UXO presence is suggestive of reduced crop production. Movement in crop cover because of UXO presence shifts crop production from high yielding areas to areas that are likely not as productive. Furthermore, UXO presence can significantly hinder a region's food system performance by reducing crop land to work with.

<sup>4</sup> The Carter Center's Data and Analysis Unit relies on reported conflict events, independent media analysis, information from partners (ACLED), and interlocutors in Syria to form a [database of conflict events in Syria](#). Conflict events can be leveraged to determine areas of control, actors, or specific types of events. In this case, the database is filtered for evidence of unexploded ordnance detonation in agriculture areas. These are two examples of many.

*Figure 4: Northeast Syria Infrastructure and Land Use/Land Cover Compared to UXO Model<sup>5</sup>*

---

<sup>5</sup> Figure 4 depicts northeast Syria's infrastructure and LULC compared to UXO model. The country level view is

## Water Resources and Food Systems

The impact of unexploded ordnance on water resources also harms Syria's food system by damaging the agricultural irrigation system. When chemicals from dormant UXO seep into soil and water, it contaminates surrounding resources.