

Status before the escalation of conflict, and the current situation

Status prior to October 2023

Thirty-two per cent of Gaza's land was used for agriculture (Yin *et al.* 2025), with around 33.4 per cent classified as built up/urban area reported in 2021 (UN Habitat 2023). The most recent agricultural census (PCBS 2023b) reporting 2021 data includes:

- *Vegetable crops*: production area 17,880 dunams producing 148,250 tons
- *Field crops*: production area 29,291 dunams producing 33,492 tons
- *Tree crops*: production area 32,238 dunams producing 29,206 tons
- *Honey*: 141.2 tons
- *Poultry production*: 23,704 tons of meat and 8,141 tons of eggs
- *Goats*: 606 holdings for goats primary/only for meat, 363 primarily/only for milk
- *Sheep*: 42,194 head primarily/only for meat, 14,983 primarily/only for milk
- *Cattle*: 14,578 head

The agricultural sector used around 100 MCM of water per year, primarily groundwater of generally poor quality (high nitrate, high salinity). The North Gaza Emergency Sewage Treatment (NGEST) program was being prepared to provide 35,600 m³/day (13 MCM/year) (EcoConServe 2019) of high-quality water per year, treated to unrestricted tertiary standards for use in agriculture (including use on vegetable crops).

Impact of the escalated conflict

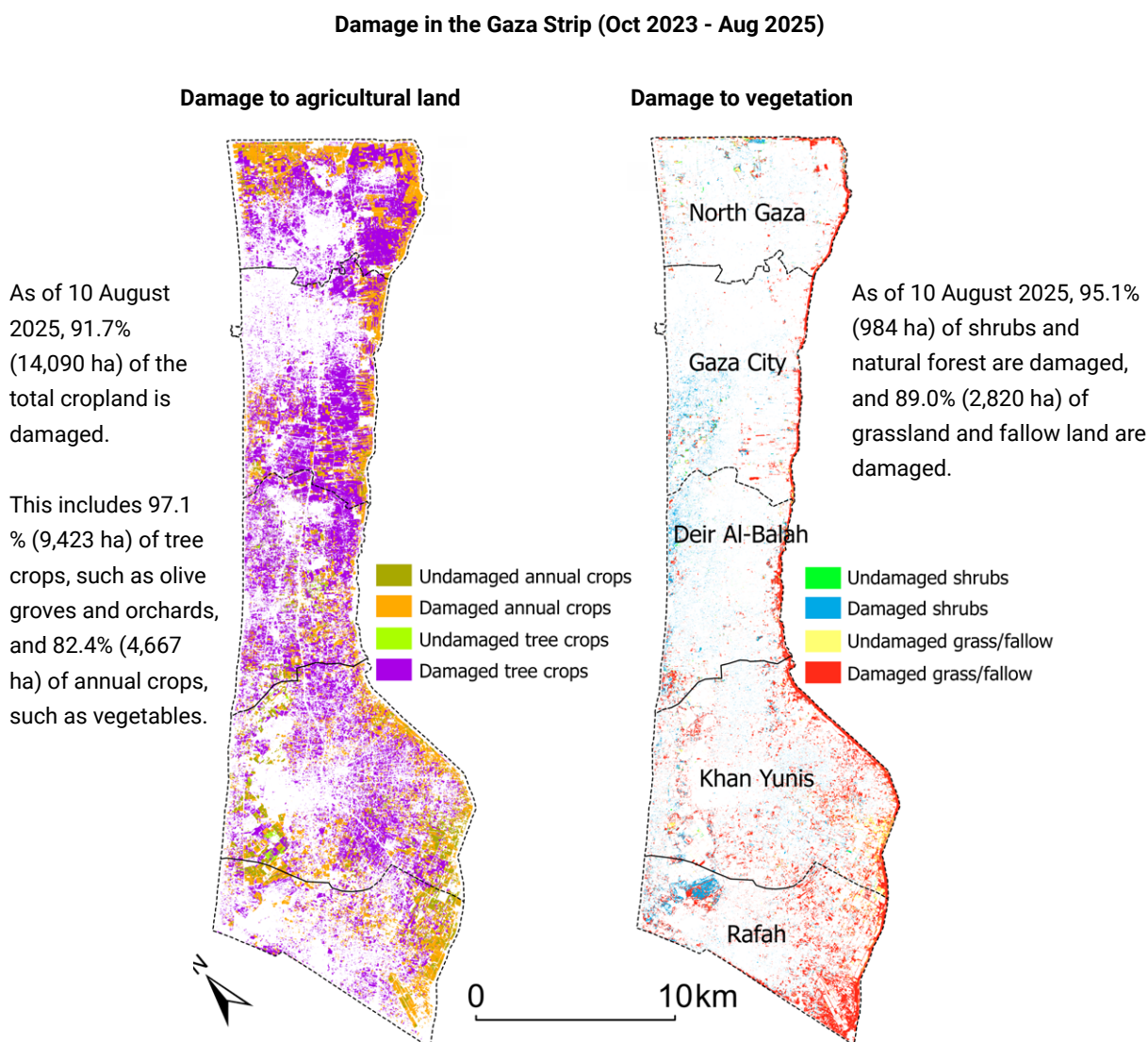
Throughout the conflict, the agricultural sector has experienced substantial damage. As of September 2024, 64–70 per cent of tree crops in Gaza were assessed to have been damaged by the conflict (Yin *et al.* 2025), and 65 per cent of greenhouses damaged or destroyed (UNEP 2024). By May 2025, the damage had increased further with damage calculated as: 97.1 per cent of tree crops, 82.4 per cent of annual crops, 95.1 per cent of shrubland and 89 per cent of grass/fallow land (Figure 5). As the conflict has progressed, less undamaged areas remain and this may account for the apparent slowing in the rate of damage (Figure 5).

The assessment of damage provided in the current report has been made using a method developed by He Yin at Kent State University (Yin *et al.* 2025). The assessment is based on Planet Scope (3 m resolution) and Planet Sky Sat (50 cm resolution) imagery, by comparing a pre-war assessment of the Gaza landscape, with observations from satellite passes in the period since October 2023. These assessments are corrected for growing season (i.e. compared against the state of vegetation from the appropriate season in the pre-war assessment). The full methodology used by He Yin including correction functions is described in full by Yin *et al.* 2025. It is used here given UNEP's environmental focus, due to the higher resolution and ability to disaggregate between different vegetation types.⁹ The discrepancies between the Yin assessments and those undertaken by UNOSAT are relatively small. Both assessments indicate that the damage to vegetation and agricultural systems is extremely widespread.



⁹ UNOSAT reported that 86.1% (12,962 ha) of cropland was damaged as of 28 July 2025. Using the methods published in Science of Remote Sensing (Yin *et al.* 2025), Yin estimated that 91.7% of cropland was damaged as of 10 August 2025, based on 3-m PlanetScope imagery. This estimate is slightly higher than UNOSAT's estimate (86.1%) derived from 10-m Sentinel-2 imagery. Several factors may have contributed to the small discrepancy. First, the coarser resolution of Sentinel-2 imagery could have led to an underestimation of fine-scale damages. Second, UNOSAT grouped tree crops with other trees and shrubs, whereas Yin analysis focused specifically on tree crops. Finally, UNOSAT's area estimates appear to rely on pixel-counting, while the Yin study employed a sampling-based approach that explicitly corrected for map errors. (Olofsson *et al.* 2014; Stehman and Foody 2019).

Figure 5: Damage to trees and croplands in Gaza as of 10 August 2025 showing a) annual and tree crops and b) shrub and grassland/fallow areas (Source: Analysis conducted based on methodology of Yin *et al.* 2025)



Source: Analysis of 3 m PlanetScope imagery © 2025 Planet Labs PBC, conducted by Dr. He Yin, Kent State University, based on research published in Science of Remote Sensing (DOI: 10.1016/j.srs.2025.100199).

Conflict-related tree loss in Gaza, while primarily driven by military actions, has also been affected by acute fuel shortages. Satellite imagery confirms that civilians—facing severe fuel and energy scarcity—have resorted to cutting down trees to use as firewood for heating and cooking (Pearce 2025). As noted in the Preliminary Assessment report (UNEP 2024), damage and destruction of trees and agricultural land also damages and destroys soil structure. Given the long duration of this conflict, combined with the number and extent of weapons used, the resulting damage could also be leading to permanent loss of soil material and irreparable ecological consequences, further exacerbating Gaza’s vulnerability to climate change (Abuawad *et al.* 2025; Dardona *et al.* 2025; Hassoun, Al-Muhannadi *et al.* 2025; Hassoun, Jarrar *et al.* 2025).

Palestinian access to agricultural land has been substantially restricted during the conflict. According to the most recent UNOSAT assessment (August 2025) only 8.6 percent (1,301 ha) of cropland in the Gaza Strip is still accessible, but only 1.5 percent (232 ha) is accessible and not damaged. Another 12.4 percent of cropland (1,858 ha) is not damaged but is currently not accessible.¹⁰ Military activity has caused significant damage to agriculture and ecosystems—including contamination soil, plants and the food chain (Pearce 2025; Yin *et al.* 2025).

¹⁰ UNOSAT Cropland assessment, United Nations Satellite Centre (UNOSAT) oPt Geospatial Support, presentation to United Nations, August 2025.